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The overall purpose of this study was to explore the influences that traditional martial arts may have on the self-perceptions of children with ADHD. Specifically, two foci were examined. First, this research study explored and described the aspect of self-perceptions of competence that children with ADHD experience. Second, it explored and described the process of participation in a traditional martial arts program of training by children with ADHD and what influences the program had on the children and their feelings regarding ability and success.

Using a case study design, seven students with ADHD from grades 3, 4, and 5 participated in the 15-week study. Through pre-intervention and post-intervention parent and student interviews, weekly verbal debriefings, weekly observational protocols, and bi-weekly parent phone contacts, insight was gained about the influences of traditional martial arts on the self-perceptions of competence of children with ADHD.

While results indicated that many characteristics seemed to be present in most of the students that participated in the study, more specific themes linked all of the students with regard to their individual levels of self-perceptions of competence. Additional outcomes regarding students' personal feelings and increased skill development during the training were also demonstrated and observed.

TRADITIONAL MARTIAL ARTS AND CHILDREN WITH ADHD:

SELF-PERCEPTIONS OF COMPETENCE

by

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This dissertation is dedicated with great love and appreciation to my mother, Sarah Grubb Graham for her ongoing love, support, prayers, and sense of family.

APPROVAL PAGE

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CHAPTER I

INTRODUCTION

In the quest for viable, alternative, complementary interventions for the treatment of children with Attention-Deficit/Attention-Deficit Hyperactivity Disorder (denoted hereafter as ADHD) various methods and strategies of treatment have been explored. ADHD has been described in most professional venues as a neurologically based disorder that may affect an individual's capacity to control and self-monitor attention and behaviors (Parker, 2001). The development of viable self-perceptions seems to be internalized during the approximate developmental stage when ADHD is usually diagnosed which, according to Harter (1993), is prior to age seven. The lack of positive self-perceptions in children with ADHD has been a co-existing trait in many discussions of ADHD (Barkley, 2006; Parker, 2001).

The traditional martial arts have been regarded as a means for developing self-perceptions of competence in various areas of ability and function, self-confidence, physical conditioning/flexibility, and emotional balance/well-being (Kim, 2005). They have been used as physical activity for community recreational facilities and general populations, physical education endeavors for colleges and universities, and general physical conditioning for the public at privately-owned facilities and gyms. Traditional martial arts focus on philosophy, mind/body balance, positive self-perceptions, and the development of natural movements, and thus may be viewed as a complementary

intervention to other prescribed treatments for children with ADHD. Weiser, Kutz, Kutz, and Weiser (1995) reported that the benefits from participation in the traditional martial arts are shown over a longer period of participation. They determined that those who practice for the longest period demonstrate the greatest increase of positive self-perception (Kim, 2005; Weiser et al., 1995).

Statement of the Problem

ADHD is the most common behavioral disorder in children (Kidd, 2000). ADHD can be characterized by inattention, impulsivity, or hyperactive behavior, or a combination of these characteristics, with no objective confirmation available from laboratory measures (Valente, 2000). The exact etiology is unknown. Many causal factors have been implicated in the development and treatment of ADHD including neurological, hereditary, pre and post natal care, and various toxic influences (Barkley, 2006; Brown, 2000).The most recent explanations of ADHD have emphasized behavioral inhibitions as the central impairment of the disorder (Barkley, 2006; Parker, 2001).

ADHD occurs in 3-7% of the total childhood population. Boys are more likely to have ADHD in a clinical gender ratio of 3 to 1 (Barkley, 2006; Parker, 2001). In comparison with children without ADHD, children with ADHD tend to engage in higher rates of activity, are more aggressive, and are more negative in self-perceptions (Lopez-Williams et al., 2005). These characteristics are theorized to lead to difficulties in social relationships in general. Specifically, these characteristics are also theorized to cause difficulties in peer relationships (Gonzalez & Sellers, 2005). Children with ADHD are also thought to be at risk for rejection due to poor basic motor skill development, poor

coordination, and low levels of athletic skill, thus affecting their self-perceptions of competence in specific areas of ability (Lopez-Williams et al., 2005; Pelham et al., 2000). Research efforts have focused on formulating methods and treatments that can effectively assist with the management of ADHD. Interventions from specific domains of discipline such as behavioral, pharmacological, educational, cognitive-behavioral, physical activity, and multimodal domains have produced varying levels of success in ameliorating behaviors in children with ADHD. It appears that interventions for ADHD are often combined and maintained over extended periods to sustain the initial treatment effects (Barkley, 2006).

It was from the behavioral (psychosocial) and physical activity domains of intervention that the self-perceptions of competence of children with ADHD were explored in this research study. In the social context of traditional martial arts training, interpersonal relationships and the resultant intrapersonal actions and reactions that occur were observed. These conditions may help to shape personal well-being, peer acceptance, and skill performance in or for the child with ADHD (Wells et al., 2000; Lopez-Williams et al., 2005).

Rationale for the Study

The concerns facing children with ADHD are many. Limited self-control, lack of focus, poor concentration, behavior, and attention issues exist as deterrents to developing strong self-perceptions of competence in dealing with the challenges that the world presents. Many approaches addressing children's competence have been explored (e.g., educational, behavioral, social, psychological). Another approach could be traditional

martial arts as it presents an organized regimen of philosophical, psychological, physical, and spiritual tenets that may facilitate more positive self-perceptions of competence in children with ADHD.

Research Questions

The primary purpose of this multiple case study was to explore the influence of traditional martial arts on the self-perceptions of competence in children with ADHD. More specifically, the following questions were examined:

1. How did traditional martial arts influence the self-perceptions of competence in children with ADHD?
2. How did children with ADHD feel when they participate in traditional martial arts with regard to ability and success?

Theoretical Framework

The research problem, which focused on exploring and examining the influences that traditional martial arts programming might have on the self-perceptions of competence of children with ADHD, was based on a psychosocial theoretical perspective with a physical activity influence. This theoretical framework denoted that with inattention, hyperactivity, and impulsivity, there are social factors affecting children with ADHD. These factors focus on social contexts, relationships with others, interactions, and participant responses and feelings that influence a sense of personal well being (Wells et al., 2000).

The psychosocial perspective views problematic social functioning of children with ADHD as interplay between factors not fully remedied by other interventions

(Abikoff et al., 2004). Poor social skills, inappropriate behaviors, and limited interpersonal skills are assumed to adversely affect positive self-perceptions as evidenced in a variety of settings for children with ADHD (Abikoff et al., 2004; Barkley, 2006). Psychosocial therapeutic interventions can involve parent/family therapy, organizational skills training, individualized academic assistance, social skills training, and individual and group methods in psychotherapy (Klein, Abikoff, Hechtman, & Weiss, 2004) and sports skills training (Wells et al., 2000). Traditional martial arts link favorably to a psychosocial theoretical framework because they combine aspects of individualized instruction, social skills training, individual and group process techniques, and building knowledge and mastery in sports skills training (Kim, 2005).

The psychosocial view provided an interpretation of the events and the influences on the participants in the traditional martial arts as building blocks for stronger self-perceptions of competence in other areas such as self-control, self-confidence, and emotional balance and well being (Nosanchuk & MacNeil, 1989). Observations of actions, interactions, and reactions in varying social settings can authenticate events with students. Together with semi-structured interviews, the observations served as a source of description and understanding for the emerging themes of personal feeling, behavior, and life process. In combination with the physical activity of the traditional martial arts, the psychosocial perspective provided a multimodal strategy to deal with ADHD. This is in contrast to defining causal relationships, which comprise one effective treatment to alter or extinguish the condition of ADHD through scientific interventions (McBurnett, Lahey, & Pfiffner, 1993).

The psychosocial view does not just dwell on the remediation of children with ADHD. It seeks to understand the social influences/events that affect children with ADHD (Barkley, 2002). Together with the physical activity of traditional martial arts (Kim, 2005), a connection is made with the psychosocial overtones for gradual, individually constructed interpretations of student participation. This occurs in social environments and interactions with others and in the actualization of individual potential through physical activity. The psychosocial theoretical framework documents the influences of traditional martial arts programming on the self-perceptions of competence of students with ADHD as methods for exploring new ways of developing positive behaviors. These exploration strategies can help to provide therapeutic, naturally constructed solutions that can enable children with ADHD to actualize their own potentials through participation in the traditional martial arts as hypothesized by Columbus and Rice (1998) and Kim (2005).

One of the key concepts framing the research study is what differentiated traditional martial arts training from modern methods of training and why it was chosen as the intervention (Nosanchuk & MacNeil, 1989). In traditional martial arts, there is stronger focus on the development of the total self perception (mind and body) and respect for self and others (Kim, 2005). Modern martial arts focus on fighting, physical prowess, and extreme competition (Kim, 2005; Nosanchuk & MacNeil, 1989). Traditional martial arts do not merely center on the individual, but are cognizant of helping and giving to others in the learning process (Kim, 1990).

Traditional martial arts, though physical in nature, also provided a psychosocial means for improving self-perceptions of competence in other areas and developing an inner calm that makes life experiences more meaningful (Kim, 2005). Viewing the influences of the traditional martial arts on students with ADHD and their self-perceptions of competence was a logical extension of psychosocial philosophy. Traditional martial arts endeavor to interpret and explore more than remedies and cures. Success outside the environment of participation is also considered for all who train, regardless of physical or behavioral challenge (Kim, 2005; Konzak & Boudreau, 1984; Wells et al., 2000).

Comparisons were drawn in connecting the psychosocial perspective and the traditional martial arts through specific behavioral interventions, which were delineated in both domains. Qualities that characterize the two areas were clear instructions, specific rules for behavioral goals and objectives, and realistic, attainable progress. As the participation of the individual is pivotal in each environment, the shared goal was for influencing change across multiple symptoms, settings, and domains of personal function, including interactions with other individuals (Wells et al., 2000).

CHAPTER II

REVIEW OF THE LITERATURE

In order to explore the influences of traditional martial arts on children with ADHD, several areas of study must be considered. These areas of study provided explanations of what the concerns are for children with ADHD and how they are dealt with in life situations. These areas included the self-perceptions of competence that children with ADHD experience about themselves, the characteristics of ADHD (e.g., etiology, qualifying subtypes, etc.), associated conditions with ADHD, interventions for ADHD, traditional martial arts, including a comparison to modern styles, and a rationale for traditional martial arts as the intervention.

Self-Perceptions of Competence in Children with ADHD

Self-perception of competence is the opinion or perception of ability in specific areas of activity, applied here specifically to children with ADHD. It has been viewed conceptually as an outcome and a motive of self-feeling (Cast & Burke, 2002). This overview of the multidimensional quality includes feelings about an individual's abilities in specific areas of function (Westervelt, Johnson, Westervelt, & Murrill, 1998). An individual's self-perception is embodied by the domains of social competence and acceptance, physical appearance and performance, academic competence, and behavioral adroitness (Westervelt et al., 1998). It also has been viewed conceptually as an outcome quality against traumatic social contextual events (Cast & Burke, 2002). Cast and Burke

investigated the subject of self-perception and determined that self-perceptions in a generalized population have been developed by bringing together various conceptualizations of self into the foundation of the basic identity theory.

The perspective utilized for this study will explore how changes in self-perceptions of competence might alter feelings an individual might have in varying situations while performing different tasks (Crocker, Eklund, & Kowalski, 2000). When self is verified in social groups and contextual environments, the role behaviors developed in the different contexts facilitate and maintain social arrangements that can promote positive mental health. As a by-product, the role behaviors created build up viable self-perceptions through viewing self as effective and competent in a variety of situations (Cast & Burke, 2002) and can serve as safeguards against negative feelings that emerge from disorganized, disruptive, or threatening experiences (Walters & Martin, 2000). These role behaviors can help individuals to stay engaged while they struggle to discover new paths to verification of self-identity through their own role performance in events (Westervelt et al., 1998; Cast & Burke, 2002). Thus, self-perceptions of competence in individuals are in a constant state of change and transition.

Baldwin and Hoffman (2002), in a longitudinal study of 601 subjects from early adolescence to early adulthood, determined that the development of self-perceptions of competence is a dynamic process rather than static particularly in adolescents. Consistent with theories of child development, changes in self-perception and feelings of self-worth were related to a number of factors such as experiencing life events and family cohesion concerns (Baldwin & Hoffman, 2002).

Harter (1993) theorized that self-perceptions are internalized during the same developmental period as when ADHD is typically diagnosed (prior to age seven). Seemingly, the determination of the strength of this self-perception development and its resiliency parallels the dimensions and social contexts that are extremely relevant and oftentimes troublesome to children with ADHD, such as behavior problems, school performance, and peer relationships (Bussing, Zima, & Perwien, 2000). Bussing et al. (2000) also found in their study of 143 elementary children at high risk for ADHD that demographic comparisons and self-concept scale scores for the children indicated that ethnicity, gender, and socioeconomic status influenced the overall level of self-perception of competence and ability. Through subsequent interviews with the children, it was determined that the social factors and social contexts affected the outcomes significantly. Children with ADHD tend to show more concerns with self-perception issues than children without ADHD.

In comparative studies by Treuting and Hinshaw (2001), pre-adolescent boys with ADHD were determined to display more depressive symptoms than their typical peers. The studies examined 141 preadolescent boys and their responses to hypothetical behavioral vignettes and how the situations might be resolved. Treuting and Hinshaw discovered that boys in the comparison groups without ADHD scored higher on their global (general social function) and behavioral self-perception than peers with ADHD and nonaggression. However, the children with ADHD and nonaggression tendencies in turn scored significantly higher than children with ADHD and aggressive tendencies. In the comparison group of boys with ADHD and aggressive tendencies, there was also a

reporting of lower self-perceptions of competence regarding academics, lower social self-perceptions, less general and specific happiness, higher incidences of anxiety and chronic feelings of illness and discontent (Treuting & Hinshaw, 2001).

These findings concur with information determined by Tabassam and Grainger (2002) in a study of self-concept, attribution style, and beliefs of self-efficacy of students with specific learning disabilities with and without ADHD. In a study of 172 elementary students, Tabassam and Grainger found that the academic self-perceptions relating to students with learning disabilities with the co-existence of ADHD were significantly influenced by the presence of ADHD tendencies. The subjects were administered three specific measures focusing on self-perception. Differences were analyzed using multiple analyses of variance (MANOVA), and it was found that the co-existence of ADHD with the learning concerns might affect nonacademic areas like social and peer relations and the overall self-perception of competence in these areas.

Because poor social self-perception may be characteristic of children with ADHD, the connection with regard to overall self-perception development also must be noted. The influence of positive statements and responses made by parents, educational professionals, and peers and the possible reduction of negative statements made are pivotal (Burnett & McCrindle, 1999). Interestingly, Bussing et al. (2000) found little support for the argument that increased self-perception is related to common intervention practices such as medication use and special education placement. The connection to self-perception of competence of children with ADHD is related and mediated by other factors such as efficacy of methodology and treatment duration (Valente, 2000). Thus,

greater success may be observed with more extensive and prolonged applications of treatment.

According to Slomkowski, Klein, and Mannuzza (1995), children with ADHD who responded to questionnaires listing areas of self-perception (health, IQ, creativity, athleticism, etc.) were characterized by lower self-perceptions of competence in specific areas of functioning. Subsequently, these same participants appeared to demonstrate lower levels of psychosocial adjustment in early and late adolescence (Slomkowski et al.). Perceptions of competence for children with ADHD are vital areas of concern with regard to feelings about perceived ability and success in a multitude of contexts (Crocker et al., 2000). Self-perceptions of competence of children with ADHD have not been fully examined from the point of view of physical activity, such as traditional martial arts as a complementary intervention.

Summary

ADHD in children and its effects on self-perceptions of competence in multiple domains are invariably linked. Primarily, the connection manifests itself in the social sense in actions dealing with peers, relationships with others, and total level of functioning in the social sphere of experiencing (Crocker et al., 2000). Self-perception and feelings of competence in children with ADHD can be seen as efforts of individuals seeking acceptance and affirmation in a variety of social settings (Westervelt et al., 1998). This self-perception of competence development can be facilitated by involvement in numerous activities such as sports skills training, social interactions dealing with authority and peers, and special personal interest exploration (Wells et al., 2000). Efforts

and activities such as academic assistance, parent training, group, and individual therapy, participation in organized sports activities serve as interventions to ameliorate the behaviors manifested by ADHD (Wells et al., 2000)

Attention Deficit/Hyperactivity Disorder (ADHD)

Typically, children with ADHD have trouble with impulsivity, attention, and hyperactivity (Valente, 2000). From descriptive perspectives, many children also experience problems that range from aggressive, excitable displays of behavior to a total lack of activity (hypoactivity), and appearing lethargic, uninterested, and uninvolved in anything (Paasche, Gorrill, & Strom, 1990). The *Diagnostic and Statistical Manual of Mental Disorders IV-Text Revision* (*DSM-IV-TR*) denotes that conservative ranges of ADHD exist in 3 to 7% of the population (American Psychiatric Association, 2000). ADHD is more commonly diagnosed in boys than girls with girls being diagnosed at later ages due to their lack of aggressive and disruptive behavior (Parker, 2001).

Parker (2001) identified ADHD as a neurologically based disorder that affects an individual's ability to control attention and behaviors. Individuals with ADHD display a specific number of behavioral tendencies (APA, 2000). The behaviors must be extant for at least six months to a particular intensity that is inconsistent, inappropriate, and uncharacteristic of the individual's typical developmental progressions. Though purely descriptive, these characteristics must (a) be obvious prior to age of seven, (b) be evident in at least two or more settings, and (c) not be due to any other existing or pre-existing condition or disability (Barkley, 2006; Hinshaw, 1994; Parker, 2001).

Individuals with ADHD have difficulties controlling activity, managing impulses, and maintaining sustained attention on activities and processes. These difficulties arise from the brain's inability to self-regulate more complex behaviors of organization, planning, and behavioral manifestation (Parker, 2001; Barkley, 2006). Barkley (1997) described these activities as executive functions. He proposed that these functions evolve from birth through childhood at the same time that an individual developed language to communicate with self and others, memory patterns to recall events, a sense of time comprehension, and a variety of other skills that facilitate behavior regulation in normal day to day function.

Parker (2001) and Reeve and Schandler (2001) reported that these executive functions are carried out in a part of the brain called the orbital-frontal cortex. This part of the brain may not be as active in individuals with ADHD. Barkley (2006) and Parker (2001) suggest that there exists a deficit in behavioral inhibition in individuals with ADHD and that these deficits can be associated with increased propensity for later symptoms of ADHD. They can be manifested as hyperactivity, reduced resistance to distraction, and observable poor task completion. With the ascribed importance of the frontal cortex of the brain considered the prefrontal areas control goal-directed behavior, voluntary attention, self-regulation, and emotion control, there is a connection to ADHD which influences similar domains of behavior (Woods & Ploof, 1997; Reeves & Schandler, 2001). The brain regions mentioned are richer in brain cells which depend on dopamine (a neurotransmitter) to perform properly (Parker, 2001). Hence, there might exist a tendency to administer stimulant medications to increase production of dopamine,

foster better behavioral inhibition control, and improve executive functioning (Snider, Busch, & Arrowood, 2003).There are varying opinions about the occurrence of the behaviors and conditions that characterize the phenomenon of ADHD. The prevalence depends particularly on the diagnostic tools utilized and the parties involved in making decisions about the existence of behavioral tendencies (Barkley, 1997; Shore, 1998; Wilding, 2003).

Etiology

Though the precise causes for ADHD are unknown, the greatest potential seems in the realm of biological factors, which are related to or are associated in some direct fashion to brain development and its multi-faceted processes of function (Barkley, 1997; Barkley, Edwards, Laneri, Fletcher, & Metevia, 2001; Biederman & Faraone, 2005; Barkley, 2006). From a biological perspective, there is also the issue of low birth weight as a risk factor for individuals with ADHD (Mick, Biederman, Prince, Fischer, & Faraone, 2002). The association of low birth weight with ADHD is also affected by various social factors, such as income level, ethnic background, and child development strategies. Therefore, low birth rate is one of the lesser points of consideration for causality (Mick et al., 2002).

The most common theories surrounding a biological basis as a cause of ADHD have been those that focus on genetic factors (Barkley, 1997; Biederman & Faraone, 2005; Faraone, 2000), organic factors (Barkley, 1997, 2006), environmental toxins (Barkley, 1997), dietary and food concerns (Hinshaw, 1994; Barkley, 1997, 2006), and

poor and inappropriate child development (Hinshaw, 1994; Mick et al., 2002; Scahill et al., 1999).

Research of biological factors as a cause of ADHD has focused on genetics and the process of heredity (Brown, 2000; Barkley, 2006). Studies dealing with molecular genetics have produced information to support the idea that ADHD can be a genetic disorder for many (Parker, 2001). Data that accentuates the evidence for genetic involvement in ADHD have been obvious in discussion and research of adopted children with ADHD (Barkley, 2006), and their propensity to resemble characteristics of their biological parents who manifest similar characteristics, as opposed to their adoptive parents. Though there is evidence to support a genetic link, it probably accounts for only a small proportion of the clinical cases of the disorder reported, and, thus warrants more research effort in the combination of this factor and environmental influences in many cases (Hinshaw, 1994; Brown, 2000). Investigations of biological factors have also included studies on the questions of prenatal care (Barkley, 1997; Purdie, Hattie, & Carroll, 2002; Salend & Rohena, 2003) and physical concerns, including delays in developmental milestones (Barkley, 1997; Brodeur & Pond, 2001) and chronic diseases, injuries, and traumatic intrusions on the individual (Gerring et al., 1998).

In the quest for causality of ADHD, various concerns have emerged as points of contention and disagreement. If a characteristic arises and is found to be linked to the disorder, it usually cannot be generalized to the whole population that is affected (Barkley, 1997; Salend & Rohena, 2003). Hinshaw (1994) suggested that there is little evidence for uniformity in determining causality for the disorder. So, from a historical

and research perspective, factors have emerged from organic, medical, and pathological areas to sociological, educational, and psychodynamic perspectives.

Presently, theory and research regard the etiology of ADHD as one that focuses on neurobiological, neuroanatomical, neurophysiological, and neuropsychiatric factors with the brain and its functions (Barkley, 2006; Oosterloan, Scheres, & Sergeant, 2005; Parker, 2001; Place, Wilson, Martin, & Hulsmeier, 1999; Riccio, Hynd, Cohen, & Gonzalez, 1993). Though not inclusive in scope, this emphasis, with its multiple applications, primarily views the brain and its development as the hub of behavioral control and thus serves as a viable link. ADHD has numerous characteristics and is diagnosed using a variety of assessment tools and interpretations (Batsche & Knoff, 1994; Brown, 2000; Valente, 2000). The disorder can also be divided into subtypes with characteristics that are specific to each group.

Subtypes and Characteristics

According to the *DSM-IV-TR* (APA, 2000), there are three definitive subtypes of ADHD. The subtypes include (a) inattentive type; (b) hyperactive-impulsive type, and (c) combined type.

***Inattentive Type*.** A child with ADHD inattentive subtype displays six or more of the eight noted symptoms (APA, 2000). These are as follows:1) the child fails to give close attention to details or makes careless mistakes in various contexts, 2) the child fails to sustain attention in tasks or play, 3) the child fails to listen when spoken to for some activity, 4) the child fails to organize tasks, 5) the child fails to maintain activities that require effort, 6) the child fails to remember and keep up with things, 7) the child fails to

maintain attention due to distractions, and 8) the child fails to remember and complete a daily regimen of activities. .

In a study by Brodeur and Pond (2001), the development of selective attention (one of the inattention components) was analyzed utilizing the influence of age at onset in children with and without ADHD and the subsequent effect of drug therapy for them. The results indicated that there were no overall age effects for the selective attention consideration, but children with ADHD were less efficient on the tasks studied. That is, children without ADHD were more influenced by the nature of distracters than those with ADHD, and medication seemed to have the greatest impact for those with the disorder. Therefore, medication was successful in treatment for children with the inattentive type. Barkley (1997) determined that those children with inattentive type are not bombarded and overwhelmed by stimulation and the flow of information. Barkley (1997) suggested it was more a condition where the individual cannot persist in their effort and attention and are consistently drawn away by factors that seem more intriguing or interesting. Brown (2000) reported that children with inattentive type are often described as daydreaming and involved in tasks other than those assigned.

Hyperactive/Impulsive Type. The *DSM-IV-TR* (APA, 2000) characterizes the subtype of hyperactive/impulsive as: 1) fidgeting with extremities in seat, 2) leaving seat in classroom or in other situations where being seated is an expectation, 3) running or climbing excessively in inappropriate situations, 4) experiencing difficulty playing or engaging quietly in leisure activities, 5) responding to an internal or some unseen power or force, 6) talking excessively, 7) blurting out responses before full focus of inquiry has

been established, 8) having difficulty waiting their turn, and 9) intruding on others' activities or interrupting their activities. Barkley (1997) reported those studies of objective measures or behavior ratings of hyperactivity have not, for the most part, formed a separate factor or component apart from impulsivity.

ADHD factors or characteristics that exhibit excessive activity usually match up with other factors depicting impulsive behavior (Parker, 2001). For example, Gaub and Carlson (1997) determined that children in this subgroup displaying hyperactivity-impulsivity behaviors and rated by teacher evaluations and a *DSM-IV-TR* based diagnostic checklist for ADHD were seemingly more challenged than the inattentive type. That is, they displayed more evidences of externalizing and socializing difficulties but, surprisingly, scored significantly higher in academic performance (Gaub & Carlson, 1997). Hart, Lahey, Loeber, Applegate, and Frick (1995) found through a series of cross-sectional and longitudinal studies that hyperactivity-impulsivity declines with age, especially during later stages of childhood into the adolescent developmental stage.

***Combined Type*.** ADHD-combined type is characterized by behaviors comprising both of the other subtypes (Salend & Rohena, 2003). Inattentiveness may be accompanied by hyperactivity, impulsivity; distractibility, disorganization, and symptomatology. The combined subtype seems to make up the largest group of individuals with ADHD (Salend & Rohena, 2003). All of the subtypes have several characteristics in common. Therefore, children exhibiting behaviors from the subtypes experience problems across various domains of life, school, community, and personal endeavors (Barkley, 1997; Brown, 2000; Valente, 2000; Purdie et al., 2002).

Summary. In consideration of etiological factors surrounding ADHD, the potential for generalizability appears to be in the area of biological factors, which are invariably linked to neurological development of the brain and its multi-faceted center of executive functioning and inhibition control (Barkley, 1997, 2006; Parker, 2001). The biological focus centers on genetic characteristics (Brown, 2000; Faraone, 2000; Valente, 2000), organic conditions (Barkley, 2006), environmental toxins (Barkley, 1997; Hinshaw, 1994; Parker, 2001), dietary and food concerns (Hinshaw, 1994; Nick, 2003), and poor child development techniques utilized by families (Scahill et al., 1999).

The *DSM-IV-TR* (APA, 2000) identifies three subtypes of ADHD which are characterized by specific behaviors. Subtypes and characteristics identified include predominantly inattentive type, predominantly hyperactive-impulsive type, and combined type (Barkley, 1997, 2006; Biederman & Faraone, 2005; Faraone, Biederman, Weber, & Russell, 1998; Hinshaw, 1994; Parker, 2001). Coexisting conditions and associated problems can be manifested in children with ADHD.

Comorbidity

Two types of problems often exist with ADHD. First, Hinshaw (1994) related that in very simplistic analyses, aggression and particular types of antisocial behavior coexist with hyperactivity and deficits in attention areas. The second domain that creates difficulties for the individual with ADHD is one that exists in more of a social context and pervades various function areas such as academic achievement, socialization, relationship areas, feelings of self-worth, and familial influence (Brown, 2000; Hinshaw, 1994; Kidd, 2000; Parker, 2001).

The idea of coexisting conditions is defined as comorbidity and has served as an index for severity of diagnosis and establishment of an intervention regimen to help ameliorate the behaviors (Barkley, 2006). In fact, comorbidity serves as an aid in actual subtyping, classification, and establishing profiles of core ADHD symptoms (Newcorn et al., 2001). Children with ADHD are likely to experience problems with learning, behavior, and mood (Parker, 2001).

Hinshaw (1994) suggested that many children and teens with ADHD have other behavioral concerns such as being strong willed, being difficult to manage, displaying temper outbursts, and demonstrating irritability in mood states. Other behavioral concerns may include oppositional defiant disorder, or in more abrupt and severe cases, conduct disorder.

Children with ADHD are likely to exhibit forms of underachievement, which might manifest themselves in the form of true and formal learning disabilities. Learning disabilities are marked disparities between functioning achievement and actual intelligence (Hinshaw, 1994; Kidd, 2000). Tabassam and Grainger (2002) found that students with ADHD and the co-existing condition of being learning disabled exhibited significantly lower peer-relation self-perception and feelings of competence, which may, in turn affect many nonacademic domains like peer relationships, social relations, and life functioning. Parker (2001) related that specific learning disabilities affect possibly one-fourth of children diagnosed with ADHD and can cause moderate to severe problems across the core academics (reading, mathematics, and writing).Parker also related that

specific learning disabilities can affect appropriate generalization of skills to other academic areas.

Summary

Barkley (2006) reported that coexisting conditions are characteristic of children with ADHD. He stated that children with the disorder are hampered in organizing and developing problem-solving skills and memory recall in order to develop appropriate and adequate reactions to problematic situations.

Associated problems that are linked to ADHD include aggression and antisocial behavior (Conner et al., 2003; Hinshaw, 1994; Kidd, 2000). Also indicated in the discussion of comorbidity is the connection to concerns in the area of social factors such as academic progression and achievement, relationships and influences of peers and authority figures, and familial background, such as rearing techniques and their influences (Hinshaw, 1994; Kidd, 2000; McCormick, 2003; Parker, 2001). Coexisting with ADHD is the identifying self-perception of competence where the individual sees personal strengths and weaknesses in comparison with those of their peers (Frame, Kelly, & Bayley, 2003).

Comorbidity, or the coexistence of related factors with ADHD, has served as an indicator for severity of diagnostic classification and development of a viable intervention plan (Barkley, 2006). Comorbidity has also served as an aid in subtyping and symptomology of individuals with ADHD (Newcorn et al., 2001).

Interventions for ADHD

Many interventions have been proposed for ADHD. Those of particular interest include pharmacological, behavioral, cognitive-behavioral, educational, physical activity, and multimodal interventions. These interventions can be analyzed in terms of their perceived effectiveness for individuals with ADHD.

Pharmacological Interventions

Evidence suggests that certain psycho-stimulant medications (e.g., Ritalin, Dexedrine, etc.) facilitate the production of norepinephrine, a vital neurotransmitter responsible for message transfer from region to region of the brain (Valente, 2000). Researchers determined that increased availability of these chemical neurotransmitters aids brain function, which includes focus and attention as well as providing the ability of inhibition control and function (Barkley, 2006; Brown, 2000). Because research has pointed to a lack of dopamine and norepinephrine production as one possibility of the cause of ADHD, there is evidence of the benefit of stimulant drugs as pharmacological interventions (Austin, 2003; Barkley, 2006; Brown, 2000).

The four most prominent and common stimulant drugs for treating ADHD are methylphenidate (e.g., Ritalin, Concerta), d-amphetamines (e.g., Dexedrine), amphetamines (e.g., Adderall, Adderall XR) and pemolines (e.g., Cylert) (Parker, 2001). The greatest benefit of these stimulants seems to be that they work in conjunction with other strategies and methods and create a multimodal approach to treatment. They do not rate as the singular method for behavior amelioration. Clinical benefits of stimulant medication treatment have been documented and positive response ranges estimated from

60% to 90% (Barkley, 2006). However, there is still concern as to whether the stimulants effect improvement in the domains of attention, impulse control, and reduction of hyperactivity over the long-term (Hinshaw, 1994).

Austin (2003) reported that stimulant medications can decrease motor activity, vocalization, noise, classroom disruption, distractibility, off-task behavior, behavior intensity, defiant behavior, and impulsivity. Parker (2001) reported that particular tricyclic antidepressant medications such as despiramine, imipramine, and buproprin have been minimally studied compared to most other stimulants. They have been shown to be effective agents for behavior change in children with ADHD. Certain anti-hypertensive agonists (i.e., beta-blockers), such as clonidine, have also demonstrated effectiveness in managing hyperactivity, aggression, and impulsivity (Parker, 2001). The anti-depressant and anti-hypertensive medications serve as secondary options when choosing a medication regimen.

Most recently, research has moved into other domains of pharmacological interventions to ameliorate concurrent side effects that come with stimulant medications. According to Brown (2000) and Austin (2003), stimulants tend to suppress appetite, disrupt sleep patterns, create stomachaches and headaches, increase heart rate, and manifest involuntary motor and vocal behaviors.

Another consideration for side effects of stimulant and non-stimulant medications exits in the area of attribution theory. The concern is whether individuals begin to attribute their positive behavior change to external agents like medication rather than their own concerted, personal efforts to stay in control (Hinshaw, 1994). Children with

ADHD and on a particular stimulant medication regimen can develop a learned helplessness when the medication has not been administered and ADHD takes control. All of their internal will and ability to control their behavior is determined by the presence of the medication as theorized by Parker (2001).Thus; an external attribution is created to assign causality of the lack of control in behavior to an outside agent or force. Borkowski and Allen (2003) reported that an external attribution claims that some outside force as in lack of medication for ADHD motivated the behavior or lack of it. By contrast, an internal attribution assigns causality and control to factors within the person (Borkowski & Allen, 2003).

Study of long-term stimulant benefit is warranted due to a discontinuity between short-term gains and basic long-term improvement (Austin, 2003; Barkley, 1997, 2006; Brown, 2000; Hinshaw, 1994). That is dramatic and obvious improvement is noted for the short-term, no substantive definitive long-term trial of stimulant medications has been investigated. Concern for the side effects issue is pivotal with focus on the physiological and psychological domains being the most prominent areas of consideration. Continual information for all involved individuals is requisite for practical purposes such as the pharmacology of treating, not curing ADHD in children, understanding the ambiguities associated with ADHD, and providing more opportunities for involved individuals to read and evaluate related information and research (Snider et al., 2003). Though pharmacological interventions may improve symptomology, it is imperative to denote that side effects are possible as a result and that most drug interventions are most

efficacious when combined with other interventions, such as behavioral therapy (Austin, 2003; Hinshaw, 1994).

Behavioral Interventions

Behavioral interventions include behavior therapy, contingency management, behavior management, and response cost. These interventions are typically based on established principles of reinforcement and punishment to ameliorate behavior problems and in turn increase the prevalence of desirable behaviors (Damico & Armstrong, 1996). The most common techniques utilized include positive reinforcement, punishment, and response cost, which can be useful in creating controlled classroom behaviors that facilitate function and process (Fiore, Becker, & Nero, 1993; Purdie et al., 2002).

Hinshaw (1994) related that the most immediate and effective behavior changes for children with ADHD involved direct contingency modifications in the classroom or other specified setting. Direct contingency management involved the implementation of a strong reinforcement system with clear guidelines for earning and losing points through completion of activities and tasks (Hinshaw, 1994). Limitations for contingency management programs could be program duration issues. Also, the contrived, elaborate nature of planned, continuously delivered, external reinforcers is likely to be quite discontinuous with the typical program of rewards and punishment (Hinshaw, 1994).

Behavior therapy for children with ADHD involves a more structured setting with a particular and strict set of procedures. Professionals provide individual and/or group strategies to support persons, parents, and teachers, who interact most with the child with ADHD in order to modify the environment where the problem behaviors occur (Hinshaw,

1994). Behavior therapy can also serve as a complementary intervention when effects of other interventions such as medication (Brown, 2000; Valente, 2000) have lessened.

Cognitive-Behavioral Interventions

In cognitive-behavioral interventions, children with ADHD are taught to use self-talk, self-instruction, self-monitoring, self-regulation, and self-reinforcement as problem-solving and motivational strategies to develop self-control of their attention and impulse behavior (Purdie et al., 2002). When the stimulus person for the behavioral plan or strategy is not a part of the intervention, the children are taught to conduct themselves through techniques as their own voice of therapy. Self-talk serves as an example of a cognitive–behavioral intervention. These interventions are most effective when combined with behavioral contingencies in a natural environment and are concentrated on specific training or response sets that align favorably with the desired behavior. This combination of self-behavior factors and contingency management is actualized when implemented at the time when the problem behavior occurs. For example, it is implemented in the home or classroom, rather than the clinic (Barkley, 1997, 2006; Reid, Trout, & Schartz, 2005).

Winsler, Diaz, Atencio, McCarthy, and Chabay (2000) determined through a longitudinal comparative study of self-talk and self-regulation in preschool children with and without behavioral problems that those with problems are more apt to talk to themselves in task-relevant ways than those without problems. This self-talk is obvious at the point of occurrence and does not occur in clinical settings. Though the study included relatively limited measures of executive functioning, data supported the contention that children identified with behavior problems, at a very early age, are at risk for later

behavioral concerns during their kindergarten year and beyond (Winsler et al., 2000). Cognitive-behavioral interventions have greater flexibility than behavioral methods and/or pharmacological interventions but they have not shown long-term efficacy (Barabasz & Barabasz, 2000). As children with ADHD prepare to enter the educational environment, the school environment provides for strategies and methods that might incorporate some of the previously mentioned types in conjunction with interventions focused on school success and competence.

Educational Interventions

Interventions of an educational nature consist primarily of classroom academic/behavioral management strategies, and physical manipulation of the learning environment in specific ways such as structuring classrooms formally with preferential seating for children with ADHD, reducing noise levels, and providing frequent rest periods between learning tasks (Purdie et al., 2002). McMullen, Painter, and Casey (1994) presented an array of school-based interventions. These included general school environment, continual family involvement, and regular continuous assessment and teacher activities such as inclusive practices, team approaches, and service plans like Individual Education Plans (IEPs) and Regular Education Plans (REPs). School-based techniques also include behavior management in the classroom, social skill instruction and training, peer tutoring, and cooperative learning involving the child with ADHD and their typical peers (Salend & Rohena, 2003).

Educators and parents are aware of the importance of assisting students with ADHD who need it (Parker, 2001). Specific federal legislation, such as Individuals with

Disabilities Education Improvement Act, 2004 (IDEA, 2004); Individuals with Disabilities Education Act, 1997 (IDEA 1997); Americans with Disabilities Act (1990); and the Rehabilitation Act of 1973 (Section 504); ensures that individuals with ADHD will receive accommodations, if needed, in regular education placement across all academic areas. The legislation also ensures that individuals with ADHD will not be denied participation in physical education and sport activities (French, Henderson, Kinnison, & Sherrill, 1998; Parker, 2001). Sport skills training and activities incorporate physical activity interventions that facilitate the connection of mind and body for the child with ADHD who might be at risk (Putnam, Tette, & Wendt, 2004).

Physical Activity Interventions

Physical activity interventions provide opportunities for improving sports competence, skills, and rules (Edwards, 2002). The physical activity interventions encourage sportsmanship, sharing, and values development (Martinek & Hellinson, 1998). They can also help the child with ADHD model appropriate social behaviors from individual and team perspectives. Typically, children with ADHD do not know or follow rules of games (Wells et al., 2000). They tend to have poor motor skills which tend to contribute to their rejection in the social domain and to lower their self-esteem levels (Wells et al., 2000).

Wells and her colleagues (2000) reported in their multimodal study that sport skills training was a viable venue of intervention for children with ADHD. They discovered that results supported previous research that children who have coaches and instructors that employ positive, effective methods of teaching showed greater and more

consistent increases in self-perceptions of competence. As self-perceptions increased, self-confidence/self-efficacy had a stronger environment to flourish and skills could improve incrementally (Wells et al., 2000) After instructors and coaches facilitated ending discussions on skills, rules, and viable applications for practice and mastery, students had better feelings about themselves and the activity (Lopez-Williams et al., 2005; Pelham et al., 2000; Wells et al., 2000). Edwards (2002) reported that encouraging participation in areas of competence in physical activity endeavors is a helpful intervention for children with ADHD. Increasing the level of self-perception of competence in skill areas affords children with ADHD the opportunity for developing effective social skills in interactions with their peers, coaches, teachers, and families (Frame et al., 2003; Lopez-Williams et al., 2005; Walters & Martin, 2000; Wells et al., 2000). Children with ADHD might not respond to one type of intervention or strategy. Therefore, it might be necessary to employ an approach to intervention that links various strategies together in order to deal with individual differences in children and their specific needs.

Multimodal Interventions

Batsche and Knoff (1994) suggested that with the profusion of problems surrounding ADHD, a need for a multimodal approach to maximize therapeutic worth was indicated. Taken collectively or in combination, two particular classes of interventions could combine to produce additive strength for a particular domain of behavior. They might act in unison so that the strength or influence of the joint intervention is stronger than the individual components (Hinshaw, 2000). Conversely,

Hinshaw also suggested that the combination effects might be no greater than the single modalities. Multimodal interventions might include pharmacological in conjunction with the behavioral where the child is in need of the drug for control, but in need of a planned program of rewards and reinforcements to approach the desired target behavior (Purdie et al., 2002; Wells et al., 2000). Cognitive-behavioral interventions might be matched with pharmacological and physical activity interventions where the child is learning self-regulating strategies that might facilitate success in an athletic endeavor (Wells et al., 2000). Multimodal interventions could include pharmacological strategies matched with psychosocial interventions which include parent and teacher training in child behavior contingency management strategies (Barkley, 2002; Pelham & Gnagy, 1999). Multimodal interventions vary according to strength and efficacy of the primary intervention (Brown, 2000; Hinshaw, 2000; Valente, 2000).

Summary

Intervention type is symptom-specific. Interventions for children with ADHD include pharmacological, behavioral, cognitive-behavioral, educational/sociological, psychological/psychosocial, physical activity, and multimodal strategies. Each intervention type has qualities that make it a short-term success or a long-term program of improvement. Stimulant drugs facilitate the production of neurotransmitters that are vital to information transfer from region to region in the brain, thus providing the function of inhibition control in children with ADHD (Brown 2000; Hinshaw, 2000; Barkley, 2006). The pharmacological interventions have the potential to maximize behavioral control and facilitate academic success, but have the coexisting capability of

creating physical side effects (Austin, 2003). According to Damico and Armstrong (1996), behavioral interventions include clinical behavior therapy, contingency management, and response cost. Behavioral interventions have the potential to be successful when they are utilized in conjunction with a pharmacological intervention which deals with focus, on-task behaviors, and completion of work (Valente, 2000).

With cognitive-behavioral interventions, children with ADHD are taught to use self-monitoring techniques as problem-solving and motivational strategies to develop self-control of their attention and impulse behavior (Purdie et al., 2002).
This includes self-talk, self-regulation, and eventual self-control of internal behavioral inhibitions (Barkley, 2006; Hinshaw, 2000; Winsler et al., 2000). Educational interventions for children with ADHD are far-reaching and consist of a multitude of strategies for management and manipulation of physical, sociological, and learning behavior domains (Purdie et al., 2002). From planning and presentation of curricular components and behavioral expectations to social skills training, all parties involved are consistently made aware of the importance of providing assistance (Parker, 2001). Efforts are made to ensure that all children are exposed to curricular goals and are accountable for adequate growth in academic domains. In physical activity intervention domains, children with ADHD are encouraged to develop motor skills (gross and fine), knowledge of the rules of games, and sportsmanship to engender stronger feelings of self-esteem (Martinek, 1997; Pelham et al., 2000).There are also opportunities for improved coordination, skill mastery, and success in group situations (Walters & Martin, 2000). With the profusion of comorbidity in problems of children with ADHD, there is a

stronger focus to use a combination of strategies in dealing with amelioration of behaviors (Barkley, 2002; Hinshaw, 2000; Pelham et al., 2000; Wells et al., 2000). Combination effects may be positive or negative, strictly complementary of one another, or simply provide an effect in the joint intervention that is stronger than the component individual parts (Hinshaw, 2000). Traditional martial arts provide a multimodal approach to developing proficiency in a physical activity endeavor that is oftentimes limited in children with ADHD. Taken collectively, they present concepts and activities which could be helpful in the monitoring of behaviors of children with ADHD (Pelham et al., 2000; Kim, 2005). The traditional martial arts provide more controlled, less aggressive strategies and techniques than modern martial arts styles (Nosanchuk & MacNeil, 1989; Kim, 2005)

Traditional vs. Modern Martial Arts

Introduction

Traditional martial arts training and modern training modes afford similar benefits in the areas of physical conditioning, flexibility, and balance. Contrasts are drawn when the philosophies of the disciplines are delineated. Training focuses vary in program objectives for the two types of training.

Philosophy

Traditional martial arts' training facilitates the development of self and strong self-perception (Konzak & Boudreau, 1984). Within this context, there is greater emphasis on the artistic and meditative benefits of the practiced art. Also, there is stronger concentration in the regular training regimen on values such as personal

responsibility, perseverance, honor, respect for self and others, wisdom, and humility (Kim, 1990; Weiser et al., 1995).

Within the traditional martial arts there is greater emphasis on substantive issues to be explored, including self-discipline, self-control, mental strength and acuity, relaxation, mind-body balance, and harmonious function (Columbus & Rice, 1998; Kim, 1990, 2005). In the traditional martial arts there is a focused perspective on management of energy, both physical and mental. Seitz, Olson, Locke, and Quam (1990) determined that participation in the traditional martial arts reaches every area of mental health within the individual. Specifically, the energy level within the body, the energy of the human psyche, the energy that encompasses relationships of an interpersonal level and the energy source of a universal nature are all influenced by conscientious participation in traditional martial arts activities (Seitz et al., 1990).

Traditional martial arts training philosophy is also comparable to the Zen tenet of Mushin wherein the last and most perfect level of participation that is reached is when the technique or activity has been studied or practiced to the point of being mastered (Fromm, 1992). If a technique is eventually mastered, it can be performed reflexively (Fromm, 1992). Thus, ultimate control and knowledge is enacted when the participant has practiced the technique to the proficiency level where the mind can let go and allow the body to respond naturally and instantaneously to a stimulus that can be perceived as harmful or threatening. Mushin embodies the traditional martial arts idea that the body, if prepared through training and practice, will respond according to the reflex capacity of the brain to handle the situation in the most immediate and efficient way (Fromm, 1992).

Moving to this level of mastery or enlightenment (Kim, 2005), the participant in traditional martial arts training achieves self-awareness, knowledge, and self-perception of competence. This is accomplished through systematic practice, individually phased progression, and personal internalization of specific skilled routines of physical techniques (Fuller, 1988). With increased levels of self-awareness and enlightenment, participants can work for greater understanding of the world around them. This perception of self-awareness enables the participants to develop strong values such as social support, personal responsibility, and effective levels of self-discipline (Kim, 2005). Therefore, participants develop a familial sense for fellow participants (American Alliance for Health, Physical Education, Recreation, and Dance, 2000; Kim, 2005). Individual participants involved in this group activity, though leveled by individual proficiency, grow personally through support and involvement (Funakoshi, 1973; Kim, 2005; Weiser et al., 1995).

In modern martial arts training, there is greater concentration on the physical perspective of training (Konzak & Boudreau, 1984). Competition between participants is advocated and encouraged and the focus on self-development and self- perception of competence may be denigrated to a series or combination of acrobatically perfected motions infused with an aggressive philosophy (Kim, 2005). Nosanchuk and MacNeil (1989) reported that length of time spent in modern martial arts training increased levels of aggressive behavior in participants. As proficiency level increased, the level of negative behavior became more evident. These forms of modern interpretation for martial arts endeavor can possibly have destructive and negative effects on participants (Kim,

2005). This can lead to hostility and violence, which might be perceived as evidence of martial arts prowess and strength (Konzak & Boudreau, 1984).

Training Regimen

In the traditional martial arts training regimen various stages of proficiency and accomplishment exist. The stages of martial arts training include physical techniques and exercises, philosophical precepts, and actual practical applications of the techniques (Kim, 2005). The initial stage of physical prowess is usually the only stage accomplished in modern martial arts, unless the instructor is skilled in moving the participant toward more enlivened and enlightened domains of martial arts. The regimen of traditional martial arts training is more than merely demonstrating through physical performance a particular skill in synchronized movements while filtering out all non-pertinent stimuli (Housner & Griffey, 1994).Training in traditional martial arts does not predicate itself on predominantly physical overtones (Konzak & Boudreau, 1984).

Within the tenets of discovery, assimilation, and progression toward mastery in traditional martial arts techniques lies a strong focus on philosophy and mental strength values (Kim, 2005; Konzak & Boudreau, 1984; Twemlow, Lerma, & Twemlow, 1996). These values, though alluded to in various modern martial arts endeavors, are not held in such high esteem and purpose as in the traditional martial arts. With the emphasis on philosophical values, traditional martial arts training and practice is grounded in integration and development of the whole participant. Kim (1981) and Nosanchuk (1981) related that philosophy training in unison with the physical regimen has provided opportunities for traditional martial artists to actually develop a positive attitude, self-

esteem, self-confidence, control, responsibility, skills in leadership, and a better understanding of one's presence in the world and in a greater perspective of the universe as a whole. The participant grasps the significance of a harmonious balance of mind and body function. According to Kim (1981), the meaning of human purpose is viewed philosophically through the practice and mastery of forms, such as coordinated combinations of techniques, breathing, concentration, and focus. These forms are founded on the framework of basic, natural movements.

It is not brute force, aggressive attacks, and counter force that embody traditional martial arts training regimens. It is developing response sets of dealing with the happenings and situations that are presented in training and then generalized to life experiences that differentiates the approach from its modern counterpart. Continued practice and recollection of these response sets provide greater understanding and enlightened insights of past philosophies of the masters (Kim, 2005). Greater vision and realization of self-potential is also a by-product of training in traditional martial arts.

Lastly, there is the process or level in traditional martial arts training wherein the participant discerns relevance for utilizing the tenets or principles studied and assimilated. The participant sees the worth of traditional martial arts training as not only a means to protect or defend self in a threatening situation but as a strategy for life processing. The participant sees life experiences as opportunities for applying skills learned in traditional martial arts as valid techniques for successful completion or accomplishment of specific activities or tasks in their life (Columbus & Rice, 1998; Kim, 2005).

In the modern, more competition-focused martial arts training regimens, the principle of philosophical thought (self-awareness/self-perception) is absent. There is greater consideration for honing the physical nature of the body as a weapon as opposed to honing mental strength and values (Twemlow & Sacco, 1998). In the majority of modern martial arts venues, it is all about application, demonstration, observable increases in aggression levels of participants (Nosanchuk & MacNeil, 1989) from novice to advanced levels of proficiency. Modern martial arts training efforts fall victim to graphic notions and techniques which advocate mere punching, kicking, and tossing bodies around the room (Seitz et al., 1990).

Role of the Instructor

In the traditional martial arts, the role of the instructor is pivotal in helping students with methods of organizing and understanding the tenets and philosophy of the world (Twemlow & Sacco, 1998). The instructor understands that training is more than physicality and sees the worth of incorporating philosophy in teaching and practice (Kim, 2005). An instructor realizes that mental and physical balance is the ultimate by-product of positive training. An instructor also grasps that the realization of human potential is accomplished through practice, openness, and eventual comprehension of one's true purpose (Kim, 2005). The instructor in traditional martial arts training environments is very much in tune with the needs and interests of the participants in the process and is compatible and flexible in conveying knowledge and the need for focus and control. An instructor can also demonstrate respect for participants (Kim, 2005).

In modern martial arts training environments, the instructor seems more focused on providing students with hard physical training and strictly autocratic teaching methods (McBratney, 1993). Granted, there is a need for concerted, dedicated, and physical training to prepare participants for self-defense scenarios and competition experiences. However, the traditional instructor, who conveys positive guidance, is one that seeks to aid the participant in developing his inner self as well as their physical strength and prowess. As Kim (2005) relates, the instructor in traditional martial arts has studied the masters of the arts, their philosophy, and the intent and purpose of their forms and techniques which were born of necessity and utility, as opposed to physical force and superiority in strength.

Philosophy of Chayon-Ryu Traditional Martial Arts

Chayon-Ryu (Korean for "The Natural Way") traditional martial arts system was developed and formulated by Grandmaster Kim, Pyung Soo after much study, effort, and practice of focal techniques. Through thoughtful organization and evolution as an art, Chayon-Ryu has emerged as an eclectic, viable system and draws from five traditional systems of martial arts (Kim, 2005). The components of Chayon-Ryu traditional martial arts are established on the natural movements embedded within the parent styles of Chinese Chu'an fa; Korean Hapkido; Japanese/Okinawan Shudokan Karate; Japanese Aiki/jujitsu/judo; and Korean Taekwondo (see Appendix A).

The focus of Chayon-Ryu traditional martial arts is concentration on natural body motion as the locus of control for all techniques and basic principles. This emphasis on natural, non-contrived movement and common sense promotes qualities and techniques

that can be practiced for a lifetime (Kim, 1975, 1981, 1990). Kim (1990) related that natural motion and movement flows in smoother and more efficient routines so that the power created is greater than and superior to that from contrived techniques. Participants who allow the body to proceed naturally through a movement or technique are less apt to experience injury, whether sudden or progressive (Kim, 1990). According to Kim (2005), a participant of Chayon-Ryu traditional martial arts will undoubtedly enhance their sense of self-esteem, self-confidence, and will power, which pervades every aspect of an individual's life. An individual will become more independent and will realize their respective role as a participant in a group that revels in the accomplishments of others. Though a sense of personal self worth is enhanced, the participant training is facilitated by a knowledgeable and caring instructor and a compassionate group of fellow students.

The Instructor's Role in Chayon-Ryu Traditional Marital Arts

Trust, tolerance, and training serve as blocks in the foundation of the student/instructor relationship in Chayon-Ryu traditional martial arts. These qualities serve as roots from which information, learning, practice, mastery, and mind/body harmony can spring with meticulous, watchful care and understanding of the conscientious Chayon-Ryu instructor. They also embody the progression of traditional martial artists as they encounter the ever-evolving world of Chayon-Ryu martial arts and the world as a whole. These instructors are truly gifted in their array of educational delivery methods and techniques and leadership skills.

First, trust is a belief that an individual has for a process or person that they experience (Graham, 1995). In the Chayon-Ryu traditional martial arts, trust is bilateral

in the sense that students have a trust in their instructor as knowledgeable individuals, and instructors believe in their students. The instructor knows that the conscientious participant will not extract particular precepts and ideas to justify their own actions and attitudes. The instructor also trusts that participants will never inflict intentional harm and injury to fellow participants in the training regimen because they understand and embrace the conceptual philosophy of the traditional martial arts (Kim, 2005; Konzak & Boudreau, 1984).

Tolerance, which is conceptualized as indulgence or forbearance in judging the actions of self and others, emerges as the second vital quality of an instructor in Chayon-Ryu traditional martial arts. An instructor's tolerance is demonstrated when they are able to impart the knowledge and philosophy of Chayon-Ryu traditional martial arts to participants from novice to advanced levels. Though, the instructor is of superior rank and ability, there is a realization that everyone must find their own meaning within the framework of this particular traditional martial arts system (Funakoshi, 1973; Kim, 2005; Konzak & Boudreau, 1984). They now serve as a guide to someone else in their training regimen.

The true learning phase of Chayon-Ryu traditional martial arts is the training level. In a controlled and focused environment, the instructor presents the history, techniques, movements, breathing methods, and system philosophy to the student (Kim, 2005). The training enhances the development of stronger self-perception of competence and body awareness of the whole person by working the body and disciplining the mind. Chayon-Ryu traditional martial arts are authoritative, not authoritarian, or autocratic. The

instructor uses many modalities to reach the student and brings together numerous domains of learning to further knowledge and promote maintenance of an individual's progression in the system (Graham, 1995). The instructor realizes that development is individualistic and that students ascend to different levels at different paces as they grow as martial artists (Kim, 2005). The instructor is there to answer questions, model techniques, and provide support. Effective instructors can powerfully impact the life of a student in a well-organized and established program (Graham, 1995; Kim, 1990, 2000; Konzak & Boudreau, 1984).

A traditional martial arts instructor is an exemplary symbol of control, restraint, and non-aggressive behavior (Nosanchuk & MacNeil, 1989). To be an instructor in Chayon-Ryu traditional martial arts is to realize one's responsibility for instructing and guiding participants on a path, not only less traveled but also less keenly observed. The individual martial artist must appreciate the journey's experience. The path for an individual student enlightened by a traditional martial arts instructor is one of superlative meaning, yet raises no undue furor, focus, or attention on the instructor (Merrill, 1961). Instead, the individual student must experience the path and its application for their own life (Kim, 2005).

Helpful Aspects of the Traditional Martial Arts

Many participants, instructors, and observers of the traditional martial arts have stated that training in the arts has promoted observable, positive change in the physiological, sociological, spiritual, and psychological domains of their life (Fuller, 1988; Funakoshi, 1973; Kim, 2005). From an obvious perspective, a rationale exists that

the traditional martial arts should be experienced for lifetime if the greatest effects are to be observed (Kim, 1975, 1981, 1990, 2005; Nosanchuk & MacNeil, 1989).

Physical Effects

From a physical perspective, traditional martial arts training can actually assist the individual in everyday functions of the human organism. Utilizing basic techniques and principles from traditional martial arts training in movement, body shifting, and balance can afford facility in ordinary activities of life (Kim, 2005). Concomitant with the focus on improved movement and balance is concentrated, controlled, abdominal breathing. This breathing improves the physical performance of the student (Kim, 1981, 1990, 2005). Facilitating this type of deep, almost meditative process is constant focus. Combining the breathing with the progression of movement and balance helps the participant to move to new levels of health and well being (Kim, 2005). The meditative aspect of traditional martial arts training appears to involve a deliberate enhancement of some of the inhibitory mechanisms that are also basic to brain function and organizational framework of the human organism (Fromm, 1992). The Zen-like techniques that are observable in the practice and mastering of the traditional martial arts can be seen to have a physiological basis connected to brain processes (Fromm, 1992). Though it is only one stage of training, the physical view seems to be the most obvious aspect of development with its emphasis on movement and reflexive techniques. Honing physical skills through controlled regimens of traditional martial arts provide greater opportunity for avoiding injuries (Wilfley & Kunce, 1986).

Working out in a suitable and safe physical environment and progressively working on more challenging and intricate combinations of movements facilitates the individual's ability to move reflexively and develop means for self-monitoring in the process (Wilfley & Kunce, 1986). Moving at one's own pace allows the participant to keep in touch with the body and how it is responding to the training regimen. Ultimately, this new awareness of physical body function leads to an ability to control the physical self within the confines of existing nature (Seitz et al., 1990).

The physical aspects of traditional martial arts that are beneficial to many have been noted by authorities in the field. The benefits that have been attributed to continued, consistent training include coordination, flexibility, increased strength, and decreased healing time (Funakoshi, 1973; Hogan, 1989; Kim, 2005).

Social Effects

From social perspectives, traditional martial arts provide the participant with various and numerous opportunities for belonging to a group of participants, equally focused on similar goals. Within the closed domain of the workout area, the focus on respect, discipline, training, constant reinforcement from other participants greatly increase the meaningfulness of the classes and lessons learned (Kim, 2005; Konzak & Boudreau, 1984).A sense of belonging is created, and so the participant feels a part of a family. Within this family, a sharing of philosophy, ideals, questions, enjoyable times, and positive training are enjoyed (Kim, 2005).The concentration is on training, working together, mutual help, and respect, and, when the need arises, constructive criticism, which serves as a teaching/learning method that helps to mold the participant (Konzak &

Boudreau, 1984). The family/community perspective embodied by the traditional martial arts environment can lend organization, goals, and a philosophy of being for participants. This is perhaps opposite to the social disorganization and controlled chaos that maybe extant in the real world (Kim, 1990, 2005; Konzak & Boudreau, 1984).

Spiritual Effects

In discussing the effects of traditional martial arts on a participant's spirituality one is immediately struck with the lack of substantive studies on the topic of development of the spirit. Most of the literature is of a theoretical nature based predominantly on the idea of psychic energy (Seitz et al., 1990).

This psychic energy/spirit is an extremely hard concept for people of Western thought to comprehend (Columbus & Rice, 1998; Seitz et al., 1990). This energy is thought to be the force behind all living things and is similar to the process whereby participants in traditional martial arts begin and maintain their training and practice regimens (Kim, 2005).

As participants in traditional martial arts initiate their training, the focus is on imitating and then mastering physical techniques. As they progress, there is greater emphasis on maturation of the psychic energy/spirit. This energy/spirit helps to develop more constructive, positive, intra/interpersonally effective, and socially appropriate methods (Kim, 2005; Seitz et al., 1990). When energy is managed appropriately and applications for life are made, then the psychic energy/spirit may be seen as an agent of behavioral change (Kim, 2005). Participation in the traditional martial arts moves individuals toward closer realization of self-fulfillment, self-actualization, self-perception

of competence, increased alertness, and personal awareness of actual social and spiritual responsibilities (Kim, 2005).

Psychological Effects

In addition to all of the aforementioned effects of traditional martial arts training, psychological benefits are important as well. Twemlow et al. (1996) reported that many individuals choose traditional martial arts as a means for developing self-confidence, stronger self-perceptions of competence, and self-discipline. In a study of martial arts participants readying for competition, Richman and Rehberg (1986) determined that self-esteem and self- perception of competence is directly related to time spent in training. With the acquisition of new physical skills and fitness comes the emergence of an increased sense of well being in the world (Kim, 2005). Interestingly, this increase in self-confidence and competence in self-perception is not accompanied by a boasting inflation of self-importance and ego misdirection (King & Williams, 1997). Kim (1990) denoted that a lack of emphasis on the individual ego can facilitate one's progression in the traditional martial arts. Konzak and Boudreau's study (1984) reported a widespread use of martial arts training programs in residential facilities for individuals with physical and mental disabilities and in staff development courses in psychiatric hospitals, prisons, and businesses was beneficial to practitioners.

According to Weiser et al. (1995) traditional martial arts are viewed less as methods of aggression and more as techniques for self-defense and strategies for developing a strong self-perception of competence, self-confidence, and self-discipline. As evidenced by numerous sources (Kim, 1990; Konzak & Boudreau, 1984; Weiser et

al., 1995), the Zen-like method of instruction in the traditional martial arts can parallel particular psychotherapeutic methods, particularly with relatively healthy participants. The process is more of a self-search which provides opportunities for growth in intrapersonal well being, aggression control, problem identification, and resolution.

The traditional martial arts can enhance self-perceptions and help to build a strong sense of competence through experiencing controlled physical activity and experiencing group activities, as well as improving concentration, relaxation, assertiveness, and open communication (Weiser et al., 1995). Using personality inventories and objective interviews of participants of varying levels and at different training sites, Konzak and Boudreau (1984) determined that participants in the traditional martial arts saw their lives enhanced by the training in the areas of mental well being and alertness. Hogan (1989) determined that people who maintain a particular level of physical fitness tend to be more psychologically resilient, self-disciplined, and self-confident. They also display a healthy sense of competition both intrapersonal and interpersonal. Though good physical and mental fitness are by-products of traditional martial arts training programs, there is still no substantive research to support a causal relationship between programs of fitness and good mental or psychological health (Hogan, 1989). Positions could be presented which connect physical exercise to healthy self-perceptions of competence, self-confidence, and feelings of resiliency. Conversely, it could be argued that participants who are self-assured, assertive, and somewhat achievement-oriented also partake in exercise to enhance an already strong self-perception (Hogan, 1989; Kim, 2005).

Summary

The positive effects of training in the traditional martial arts have been documented in numerous studies and articles (Fromm, 1992; Kim, 1975, 1981, 1990, 2005; Konzak & Boudreau, 1984; Nosanchuk, 1981; Nosanchuk & MacNeil, 1989; Richman & Rehberg, 1986; Twemlow & Sacco, 1998; Weiser et al., 1995). The effects range from physical domains (Fromm, 1992) to the development of psychic energy/spirit (Seitz et al., 1990). From a social perspective, the training area and the community of fellow participants serve as a social framework for all in attendance (Konzak & Boudreau, 1984; Martinek & Hellinson, 1998). Though much of the research in the emotional, psychological domain is theoretical due to differences in Western thought and Zen-like philosophy (Columbus & Rice, 1991), there is still merit in examining the changes that participants experience in their training.

In a study by Nosanchuk and MacNeil (1989), the presence of the traditional martial arts instructor as a good example, the teaching of the way (ethics and philosophy) and the importance of form served as methods for reduction of negative, aggressive behavior. According to Trulson (1986), similar conditions are integral for positive behavioral change in juvenile delinquents. In a comparative study of 34 juvenile delinquents with aggressive tendencies and those without the aggressive tendencies, Trulson determined that traditional martial arts served as a viable intervention for the juvenile delinquents. Shapiro (2002) theorized that the value of the traditional martial arts particularly taekwondo could serve as a vehicle for intervention with children with ADHD. In the course of training, there was the opportunity for reorganization of the

chaotic world of a child with ADHD. This reorganization may create a sense of greater self-perception of competence in multiple areas of ability and functioning and more positive psychological growth. Traditional martial arts instructors, within the confines of the safe learning environment, serve as role models and authority figures (Kim, 2005; Trulson, 1986). They integrate philosophy into the environment of the training hall as a part of the routine. Through form practice, participants move to greater realization of philosophical lessons for dealing with real life complexities (Kim, 1981, 2005).

Over the past three decades, traditional martial arts endeavors have moved into a new arena of consideration. Instead of the warring, aggressive attitude conjectured by Western thought, they are viewed in many learned circles as invitations and avenues to mental and physical health (Weiser et al., 1995; Kim, 2005). Traditional martial arts have meshed the physical and mental components of relaxation and control of the body and mind. This aspect of harmonious balance leads to increased levels of self-perception of competence in multiple areas, and overall self-confidence (Kim, 1981). It is essential to note that those receiving greatest benefits from the traditional martial arts are those who practice them over a long period. Therefore, students have a better possibility of reduction of mood disturbance, tension, depression, anger, and mental confusion (Weiser et al., 1995). Though comparison studies are the source of information (Nosanchuk & MacNeil, 1989; Trulson, 1986), there is substantive information to warrant consideration of the traditional martial arts as an agent of behavioral and psychological change. More exactly, though the research tends to be rather descriptive with more theory than data, merit for utilization can be viable depending on the research design.

Preliminary Findings/Results

The pilot study conducted by the lead researcher in the fall of 2004 utilized an experimental methodology with a pretest/posttest design. The hypothesis was focused on whether participation in a traditional martial arts program would change a participant's level of self-concept as measured by a scale that separated self-concept into specific domains. The domains were behavioral adjustment, intellectual and school status, physical appearance and attributes, freedom from anxiety, popularity, and happiness and satisfaction (Piers, Harris, & Herzberg, 2002).

The sample was small and did not indicate statistical significance in the student scores on the pretest/post test administrations of the *Piers-Harris Children's Self-Concept Scale, 2nd ed.* (Piers et al., 2002).The sample included two participants, students in grades 3 and 4. The traditional martial arts program (Chayon-Ryu) followed the guidelines of the system. However, the eight weeks (16-hours) of intervention was not long enough to move participants to observational and behavioral goals for the program. A typical time limit for students in the traditional martial arts program to reach the first level of proficiency is 15 weeks. For the present research study, the entire methodology process was changed to a qualitative, multiple case study design. This afforded greater understanding of the student's self-perceptions of competence as they took part in the traditional martial arts programming. The number of participants increased to seven. The increase in participants allowed the researcher to compare similarities between students and if the similarities persisted across cases. The length of the research study increased to 15 weeks to give participants more time to learn techniques and movements.

Supportive Empirical Studies

Traditional martial arts' training has seen a gradual and consistent rise to prominence in the last 25 to 30 years. In order to ascribe meaning to the programming as a successful, therapeutic experience, numerous efforts have been enacted to determine the merit of utilizing traditional martial arts in dealing with various populations. The following accounts of research and current practice denote successful and positive behavioral and attitudinal changes which have occurred in sample populations such as juvenile delinquents, college students, adolescents, and adult students which utilized traditional martial arts training as a component in behavioral change regimens. In this collective case of examples, positive behavioral change includes a lowered anxiety level, a decrease in aggression, an increase in socially appropriate and adroit behavior, an increase in value orthodoxy (Trulson, 1986). Self-perceptions of competence can also be bolstered by the contact with fellow practitioners.

Twemlow and his colleagues (1996) analyzed responses to their questionnaire study of 170 students as to why they studied the martial arts. Of the students 48 were aged 18 or under; the range of ages was from 5 to 63 years. The researchers determined that physical fitness and self-defense were prominent factors for involvement. Twemlow et al. (1996) also found that many participants were drawn to the traditional regimen for nonphysical reasons. The data supported the idea that the participants wanted to grow personally in the philosophical, nurturing atmosphere of a socially responsible discipline such as traditional martial arts training.

Though focused on more performance-based results, Richman and Rehberg (1986) assessed the self-esteem levels of 60 martial artists prior to a regional competition in Atlanta. The age range for the group was 5 to 34 years of age. Richman and Rehberg determined through their exploration in the form of interviews and evaluative self-esteem scales that increased self-esteem and levels of competence in self- perception was predictive of achievement. Richman and Rehberg found that self-perceptions of competence, success in physical conditioning, and the self-discipline required in training regimens are of considerable importance in personal development via the martial arts in typical students. The traditional martial arts might even serve as therapeutic measures for those in need of nurturing and self development (Kim, 2005).

Trulson (1986) described a unique study where the traditional martial art of taekwondo was an effective method for dealing with the problem behaviors of juvenile delinquents. Trulson suggested in a study of 34 high school students between the ages of 13-17 with the administration of personality inventories, that the participants who received traditional martial arts instruction experienced positive personality changes as opposed to modern martial arts training or merely physical activity (e.g., jogging) with the instructor. There were multiple reasons for the successful emergence of positive behavioral change. The role of the instructor as authority figure and role model was vital to changes in behavior for the students. Intense physical conditioning and the integration of psychological/philosophical conditioning into the training regimen also engendered positive personality traits (Trulson, 1986). The traditional martial arts facilitated bridging the gap from personal, physical conditioning to intrapersonal domains and development

such as self-perceptions of competence and behavioral stability (Kim, 1990, 2005; Weiser et al., 1995).

Weiser et al. (1995) found that martial arts of a traditional nature were a strategy for developing positive self-perceptions and getting in touch with volatile emotions. A case study indicated that a young man came to conventional psychotherapy because of depression, existential confusion, a sense of social inadequacy, and repeated difficulties in forming heterosexual relationships. Weiser et al. (1995) reported that after a year of conventional psychotherapy the young man joined a traditional Shotokan Karate class and began a regular training regimen in conjunction with his regular psychotherapy. Eventually, through the combination of traditional martial arts and psychotherapy, the young man developed confidence in the training atmosphere of the martial arts, was able to verbalize and own emotions from previous traumas and bring them to the psychotherapy environment. Thus, it seemed that coordinating and combining strategies helped to make a break through in the therapeutic process. Similar combinations of intervention strategies may facilitate amelioration of undesired behaviors in children with ADHD (Hinshaw, 2000; Pelham et al., 2000).

Columbus and Rice (1998) determined through the phenomenological analysis of written narratives of traditional martial arts participants that there are four experiential dimensions used to describe martial arts training as a meaningful endeavor. The four contexts established included: (a) criminal victimization, (b) growth and discovery, (c) life transition, and (d) task performance. All of the four areas denote distinct sets of meanings for the participants. The themes clustered across all four contexts involved

meaning/knowledge of body/self, knowledge of others, and knowledge of feelings, situation outcomes, and the adaptive functions of the martial arts practice (Columbus & Rice, 1998). Results indicated that from an obvious perspective, traditional martial arts training is not one-dimensional (Columbus & Rice, 1998; Kim, 2005).

Nosanchuk and MacNeil (1989) found that participants involved in regular training in traditional martial arts showed decreases in their aggression levels as opposed to those in modern training programs. In their comparative study of 38 students ranging in age from 13 to 40 years old there were qualities in the observed programs which might have facilitated positive behavioral change and increased the chance that the subjects might stay in the traditional program The qualities in the traditional programs included an instructor (exhibiting aggression control and restraint), the teaching of philosophy with the physical conditioning, and focusing on the pivotal nature of form as opposed to competitive fighting. (Kim, 1981; Nosanchuk & MacNeil, 1989).

Twemlow and Sacco (1998) explored the viability and feasibility of incorporating traditional martial arts programming in the treatment of violent adolescents. Three traditional martial arts program applications were established. They included (a) a specific school for traditional martial arts, (b) a special public class for martial arts, and (c) a residential program where the traditional martial arts are taught (Twemlow & Sacco, 1998). In each of the research scenarios, Twemlow and Sacco (1998) determined that the traditional martial arts, if taught in an accepting, responsive, therapeutic environment with properly prepared instructors, can be a complementary intervention in helping to build self-confidence, strengthen the ego, and bolster self-perceptions of competence.

This strengthening of self-perceptions can happen in many venues and many domains of a participant's life.

In a study by Konzak and Boudreau (1984) utilizing both quantitative and qualitative measures and analysis, traditional martial arts training was examined in 84 individuals who studied at martial arts schools in Canada.. Though the study population included children and adults, age range from preteen to older adults, results indicated that in general, participants reported a significant affect on their physical and mental well-being. Deeper issues pertaining to self-awareness, self-discipline, self-perceptions of competence, control, mental strength, mind/body balance and harmony, relaxation, and personal development were the tenets considered (Konzak & Boudreau, 1984). Using test results of personality inventories and extensive personal interviews by independent researchers it was determined that participants went through a process of re-socialization and self-emergence. They embraced the ever-present etiquette of traditional martial arts training which created benefits for the individual (Kim, 2005; Konzak & Boudreau, 1984). Experiencing the traditional martial arts as a destination to one's own personal development helped the participants to experience a sense of well-being, self-confidence, self-esteem, and control that can rival the most adept mental health regimens (Konzak & Boudreau, 1984).

The aforementioned studies present data to support the idea that traditional martial arts may influence self-perceptions of competence in various areas of function in various populations (Trulson, 1986; Twemlow & Sacco, 1998). Subsequently, physical

activity and skills have been conjectured as an intervention for children with ADHD in combination with other strategies (Pelham et al., 2000; Wells et al., 2000).

There are studies and observations of martial arts programs that show success in effecting positive behavioral change in children with ADHD, particularly in the areas of improving focus, concentration, and increasing on-task behaviors (Shapiro, 2002; Morand, 2004). Morand (2004) measured the effects of a martial arts program as an intervention for 18 boys ages 8 to 11 who had ADHD and were not on medication for a 12-week period. The study was centered on academic and behavioral performance. Though the focus was on children with ADHD, the programs and studies have not centered on the self-perceptions of competence in areas of personal function as their research topic and observation.

Shapiro (2002) wrote about the successful participation of children and adolescents in a Tae Kwon Do (a traditional Korean martial art) school that he operates. He hypothesized that there are vital lessons and skills that are learned by participants with ADHD and are all based on a mastery learning technique. The mastery learning technique includes phases where tasks and concepts are broken down into manageable parts and the rewards or reinforcements are in the form of belts and proficiency level. This belt rank system strategy is characteristic of viable methods utilized in working with individuals with ADHD according to Fiore et al. (1993). Self-control and self-restraint are also among the Tae Kwon Do skills that are valuable content for children with children with ADHD to learn and eventually generalize to daily functioning (Shapiro, 2002). Observations showed that in working with children with ADHD, the traditional martial

arts can be integral in counteracting the problems with compliance, attention to tasks, and goal attainment that are experienced.

Theorists have emphasized multiple conceptions of self-perception and that children do not view themselves equally competent in all areas of perception and ability (Bogan, 1988; Frame et al., 2003). In a longitudinal study of 67 typical children from grades 3, 4, and 5 involved in aerobic exercise versus those not involved in exercise, Walters and Martin (2000) determined that children are able to make meaningful distinctions between various areas of experience such as social competence with peers, athletic competence in sports, physical appearance, and behavioral conduct. The same connections can be made by children with ADHD (Putnam et al., 2004; Morand, 2004).

Research Questions

This research explored the phenomenon of self-perceptions of competence in children with ADHD and how they were influenced by participation in an organized physical activity intervention program of traditional martial arts. Research and theoretical information have centered on improving focus, concentration, and changing undesirable behaviors in children with ADHD through a variety of interventions (Austin, 2003; Barkley, 2006; Biederman & Faraone, 2005; Brown, 2000; Edwards, 2002; Wells et al., 2000). A need existed for focusing more exclusively on self-perceptions of competence in children with ADHD and exploring how involvement in a physical activity program like traditional martial arts program will influence self-perceptions of competence across their component parts viewed in different contexts to bridge the gap in the literature. The following research questions examined those influences.

The research questions were:

1. How did traditional martial arts influence the self-perceptions of competence in children with ADHD? and
2. How did children with ADHD feel when they participate in traditional martial arts regarding ability and success?

CHAPTER III

METHODOLOGY

Rationale and Design

A qualitative research design was utilized in exploring the phenomenon of self-perceptions of competence in children with ADHD who were involved in an organized program of traditional martial arts. Qualitative research design, particularly multiple case studies, was chosen as the method directed by the research questions. Qualitative research was chosen because little information was known of the variables influencing the research problem of self-perceptions of competence in children with ADHD (Creswell, 2005). Specifically, minimal data was available concerning the participation of children with ADHD in traditional martial arts training and how they may be affected. In qualitative research, the researcher becomes intensely involved in the experiences of the participants. For this study the researcher actively participated in the research as the lead instructor of the traditional martial arts and in the interviewing (Mertens, 2005). Qualitative research also uses multiple methods that tend to be more interactive (e.g., observations, interviews), provide interpretive, unfolding processes as the researcher seeks to describe participants, analyze data for emerging themes, and eventually draw substantive conclusions about lessons learned coupled with personal and theoretical understanding (Creswell, 2005; Mertens, 2005; Rossman & Rallis, 1998). In the qualitative research process, there was the opportunity to move back and forth from data

collection to the analysis of the data is existent (Rossman & Rallis, 1998). This cyclical characteristic echoed similar processing and exploration stages in the traditional martial arts, where advanced techniques, philosophical understanding and growth, and enlightenment cycle back to previous stages of personal involvement, and proficiency (Kim, 2005).

Multiple case studies were chosen in order to explore the impact that involvement in the traditional martial arts training program had on students with ADHD over a specific period of time (Creswell, 2003). Each case was comprised of multiple sources of information on each individual subject.

Participants

Participants in each case were seven elementary school children diagnosed with ADHD from grades 3, 4, and 5. The information concerning the diagnosis was provided by the parents or guardians of the participants. The elementary schools are part of a medium-sized school system located in Rowan County, North Carolina. The county has a population of approximately 130,000. Parents of the participants also served as sources of information through interviews concerning the self-perceptions of competence of their children with ADHD.

The research study utilized purposeful sampling. Because the researcher was seeking to understand the central phenomenon of the influences of traditional martial arts on the self-perceptions of competence of children with ADHD, the site was intentionally selected since the researcher also conducts martial arts classes for the county recreation department. The selection process was two-fold. First, information about the researcher's

proposed study was disseminated to all elementary schools via e-mail and given to gatekeepers at particular schools (Creswell, 2005). In this school system, the gatekeepers were campus designated ADHD specialists (usually guidance counselors) who enabled the location of subjects, thereby assisting in facilitating the research process (Creswell, 2005). Second, gatekeepers forwarded information about the study to prospective subjects. The first 10 students that responded to the researcher were selected as subjects. Of those, three students dropped out. Two were due to family illnesses and one was due to a family concern about the type of program presented.

Research Site/Environmental Constructs

The site of the research was a meeting/training hall area of a local parks and recreation facility located in a rural setting in the piedmont region of North Carolina. The facility is regularly used as a training area for gymnastics during the summer, aerobics during the fall and winter months, and a traditional martial arts training school two nights a week, year round (for the past nine years). The workout area was moderately sized, well lighted, and had the luxury of climate control for all seasons. According to the park director, the area could accommodate up to 30 students. The facility is centrally located in the county and is a focal point of civic/community meetings, satellite church services, and youth athletic programming.

Role of the Researcher

In order to protect confidentiality, all participants were assigned numbers denoting their identity during the course of the study then were given fictitious names when the results were presented in order to present the data more genuinely and warmly.

Only the lead researcher and university advisor had access to this information. The researcher conducted the pre and post-intervention interviews of the participants. The researcher also conducted bi-weekly phone contacts with parents to monitor student progress and completed weekly observational protocols on each student.

Because the researcher had 23 years of knowledge and experience in the Chayon-Ryu form of martial arts he served as lead instructor of the program for the 15-week research period. The lead researcher is also an educator in the area of instructing elementary children with behavioral disabilities. As part of the instructor's role in teaching the traditional martial arts, the researcher trained assistant black belt instructors who conducted weekly one-on-one verbal debriefings of the students. The lead researcher monitored the assistant instructors as they developed skills for the debriefing process. The questions utilized in the verbal debriefings by the assistant instructors were field tested in the lead researcher's elementary special education classroom and at the end of regular meetings of the martial arts classes held at the park facility by the assistant instructors.

Measures

The measures used in this research study included student and parent audiotaped interviews, observational protocols, audiotaped verbal debriefings, and bi-weekly phone contacts with parents. These measures created the database for each of the case studies. Audiotapes, transcriptions, observational protocols, and field notes on phone contacts were kept in a locked file at the lead researcher's residence and will be destroyed three years after the study is completed.

Audiotaped Interviews

Interviews consisted of two types, student, and parent. Each student and parent was interviewed at least twice, with the same structured set of questions for each session (See Appendix B and Appendix C). Audiotapes of all interviews were transcribed verbatim.

Observational Protocols

The researcher observed each participant weekly, using an observational protocol created for the study (See Appendix D). It was a framework of traditional martial arts techniques, philosophy, and training. The observational protocol, used throughout the study, was developed based on the Chayon-Ryu rank exam form (See Appendix E) and helped to monitor student progress. The lead researcher denoted the occurrence of behaviors and the level of proficiency by students on the observational protocol. The Chayon-Ryu rank test form was used as the final observational format to denote skill proficiency and belt attainment.

Audiotaped Debriefings

Debriefings were spontaneous records of participants' conversation on particular sessions of training in traditional martial arts programming. These debriefings were audiotaped and transcribed. General questions were the focus of these one-on-one debriefings (see Appendix F). The debriefings consisted of five to ten minutes and were conducted weekly by the assistant black belt instructors. The assistant black belt instructors were trained in interview sessions with students from the lead researcher's special education classroom and with students from the ongoing martial arts class at the

park facility. Students waited with their parents or guardians until they were interviewed in a separate room at the park immediately following the training sessions.

Phone Contacts with Parents

Phone contacts involved bi-weekly telephone conversations with parents in order to discuss perceptions of the traditional martial arts program and their child's self-perceptions of competence. The conversations consisted of five to ten minutes of informal phone discussion during the evening with the lead researcher (See Appendix G). Detailed field notes were written based on the phone conversations. These phone contacts provided parents a voice in the research process as they related insights into students' behaviors in other settings during the study.

Research Protocol/Data Collection

Pre- intervention and Organization

At the initial meeting each parent or guardian were presented a consent form that provided a description of the study portray the purpose, procedures, risks and discomforts, and benefits of having their child involved in the research study (See Appendix H). Parents also signed forms created by the park facility as a waiver of action against the karate school respecting any injury that may occur because of the student's participation in the traditional martial arts program, in or outside of the training sessions. This waiver form was required of all students participating in the research study and classes outside of the study as well.

At this first meeting, parents also filled out demographic sheets on their children who were participants. Though this information was not used as defining characteristics

of the study population, it was required of all participants in any programming at the park facility. Assistant black belt instructors who served as facilitators during the study ensured that materials were given out while the researcher did the oral presentation. At this initial meeting, confirmation of the diagnosis of ADHD for the child participants was provided by parent report. Consent forms from parents who participated in pre and post interviews about their child were signed (See Appendix I). Children with ADHD, who served as participants completed assent forms at this meeting as well (See Appendix J). Appointments were set up at the first meeting with students and parents to conduct initial interviews. Several types of interviews were conducted. Beginning interviews for students (five questions) and parents (ten questions) took approximately one hour to complete per individual interview (See Appendix…). The interview sessions were audiotaped to ensure genuineness of the sessions. These interviews were completed the weekend before the study commenced and took place at the research site. Students were provided uniforms for participating in the research study. Assistant black belt instructors assisted in proper belt tying and uniform wear. Rules of etiquette for the Chayon-Ryu traditional martial arts system were discussed at the actual first training session. Illustrations of proper behaviors were presented by the lead instructor and assistant instructors.

Procedures of attendance for the participants were kept in a roster book. As mentioned, the data collection period was 15 weeks in duration with each student expected to attend a minimum of 27 out of 30 sessions (90%). The 15 week period was an appropriate span of time for the Chayon-Ryu traditional martial arts program to

determine if techniques, basic movements, and philosophy, were being integrated. Likewise, students were effectively monitored for influences on their levels of self-perception of competence. Several studies have confirmed this information. For example, Morand (2004) conducted research using martial arts with children who have ADHD. In just 12 weeks, he noted significant results in the children's increasing focus and concentration with a decrease in inappropriate behaviors. A multimodal intervention research study by Wells et al. (2000) included children with ADHD who participated in a summer program that involved physical activity in conjunction with medication use. Results indicated success in just an eight-week summer program. Pelham et al. (2000) utilized a multimodal approach in a summer program lasting eight-weeks and achieved significant success with behavioral/pharmacological interventions versus primarily behavioral strategies and pharmacological strategies as solitary approaches. Hence, given the scope of this current proposed study, the 15-week period was appropriate.

Intervention (Traditional Martial Arts Training)

Each session began with the repeating of the training program oath "Dojang Hun" (See Appendix K) which accentuated respect for the instructor, respect for others, and respect for self. Within the training oath there is a pledge to refrain from violent behavior which adheres to the traditional purpose for the martial arts. The oath was followed by a period of silent meditation where the students prepare themselves mentally for the training. A class lasted 60 minutes, with 5 to 10 minutes of warm-up and cool down for each session in order to facilitate stretching and flexibility, proper breathing, and preparation techniques in order to avoid injury. Basic movements practice followed the

warm up. These techniques included eye, hand, and foot coordination, body balance, controlled and comfortable weight shifting, and proper breath control. The lesson plan for the first ten lessons was very specific and then the student moved to more advanced techniques. A verbal debriefing period was conducted weekly to reflect on student reactions and feelings during training. During the one-on-one debriefing sessions with the assistant instructors, responses were audiotaped. The questions asked by the assistant instructors were general in scope but allowed the student to expand the meaning on a personal level with possible prompts and input from assistant instructors (See Appendix K). The verbal debriefings took place in a separate meeting room at the park facility. An observational protocol was completed on a weekly basis with respect to basic movements, response to philosophical discussions, proper breathing techniques, hand and foot techniques, body shifting, and interactions with fellow participants. Occurrence of students' behaviors and levels of proficiency were denoted on the observational protocol. Comments and descriptions about the observations were provided by the lead researcher.

As the midpoint of the study approached, participants began learning form. A form is a combination of blocks and other hand techniques in an organized pattern coupled with movement in prescribed stances. When learned, the form also served as a means of moving meditation, meshing mind and body in purposeful physical and mental endeavor. Assistant instructors gave more individualized instruction to participants if students struggled with the understanding and performance of techniques. Bi-weekly phone contacts with parents were conducted by the lead researcher (See Appendix…).

These phone contacts provided parents an opportunity to relate insights into students' behaviors during the study and in other environments.

If at any point the program became too arduous or if the students had trepidations about continuing, there was opportunity for one-on-one discussions with students and parents. If a student wanted to drop out of the training, or if a parent wished to remove their child from the study that would have been permitted without question. Termination of participation would not have affected relationships with the researcher, the traditional martial arts system, or the county recreational facility.

Post -intervention

At the end of the 15 week program, another observational format for rank promotion was conducted in accordance with the Chayon-Ryu system (See Appendix…) The Chayon-Ryu rank exam form is the framework developed by Grandmaster Kim Soo to monitor student proficiencies in the traditional martial arts as created in his system. This observational protocol reflected upon an observed proficiency of basic hand and foot techniques, proper breathing, stances, self-defense, avoiding techniques, form, and attitude/spirit. Results of the final rank exam (final observational protocol) was considered in the data analysis phase. Students and parents were interviewed again with the same set of questions with variations on the prompts to denote the passage of time for the study.

Data Analysis

Data gathered in this study was analyzed using content analysis and pattern matching to determine changes in self-perceptions of competence levels of the

participants. Yin (2003) reports that the idea of pattern matching is appropriate in a descriptive, exploratory study where the pattern is defined before collection of data commences. In this study, the questions developed for the interviews (Konzak & Boudreau, 1984) and the observational protocols (Kim, 2005) were developed based on previous research. If discerned patterns match, the internal validity of the study will be bolstered.

If the patterns of influence on the levels of self-perceptions of competence were similar in the seven individual cases, then the idea of literal replication was illustrated (Yin, 2003). In literal or direct replication, similar results for each of the seven cases were predictable if the conditions observed remained consistent. If the results of the data had produced contrasting findings, but for predictable reasons, then there was opportunity for them to be explained by theoretical replication perspectives (Yin, 2003). That is, differences occurred due to varying outcomes that the researcher considered in exploring dissimilar conditions and the desire to have subgroups of cases covering each type (Yin, 2003).

Before analysis, data on each participant was organized into individual cases of participant interviews, parent interviews, observational protocols, and phone contact field notes. Written transcripts of the interviews and debriefings, notes on the observational formats, and notes on the phone contacts with parents were read and were transcribed by a contracted consultant. Notes were made to denote similar content and influences of the traditional martial arts for each individual case. Content similarities were organized and codes were developed. Codes are labels used to describe a segment of text (Creswell,

2005). Codes were then collapsed or merged into themes. Themes are similar codes that are aggregated to formulate a major thread or idea in the database (Creswell, 2005; Mertens, 2005). A second reader screened the data independently for commonality in emerging themes. If the interpretation of the data varied and if themes seemed to develop independently of each other, or if differences emerged between the lead researcher and the second reader in content chunking and theme identification, then there was deliberation. The lead researcher and second reader compared and discussed the results until agreement was reached. Following the development of a list of emerging themes, participants were contacted to confirm specific responses to questions in the interviews, verbal debriefings, or phone contacts.

Once themes for each individual case were identified, the next stage of analysis was to examine across case similarities. The individual cases were scrutinized again and similarities and differences in themes were compared across the seven cases. Themes that were similar and consistent across all seven cases were identified.

Verification

In order to verify the accuracy of the information and whether it truly matched reality, triangulation and member checking were utilized in the process. Triangulation is the process of corroborating forms of evidence from types of data (e.g., interviews and observational field notes), different individuals (e.g., children and parents), or methods for data collection (e.g., interviews and documents) in developing themes and providing descriptive explanations in qualitative research (Creswell, 2005; Mertens, 2005). In triangulation, accuracy is facilitated by reliance on multiple information sources such as

processes, individuals, or forms of data. In this study, the researcher relied on different individuals (children and parents) and different data sources (interviews, verbal debriefings, phone contacts, and observational protocols).

Member checking is a process in which the researcher will ask participants in the study if the accuracy of their accounting is valid (Creswell, 2005). The findings, descriptions, and actual transcripts were shared with the participants. They were asked by the lead researcher to verify accuracy, and if not confirmed, the lead researcher made changes accordingly. Questions and individual comments were shared. The participants were asked about the responses and observations, and whether the descriptions recorded by the researcher were comprehensive, realistic, accurate, fair, and representative of their account (Creswell, 2003, 2005).

CHAPTER IV

RESULTS

Individual Cases

As previously discussed in Chapter III, the data were analyzed using a content analysis and pattern matching. After organization and analysis of the data, similar threads of content were segmented and themes were developed for each case. The cases were individually analyzed and then across case comparisons were noted. Influences of participation in the traditional martial arts program on the self-perceptions of competence of children with ADHD were described by the main themes that emerged for the individual students. These themes and the feelings they experienced were supported through his or her words (interviews, debriefings) and the parents' own words (interviews). Observational protocols completed by the lead researcher which contained spontaneous comments from students and descriptions of their training performance and field notes from bi-weekly phone contacts with parents were also utilized as supporting data. In the first part of the analysis, each case was analyzed individually and therefore, will be described individually describing the identified themes. After all seven cases are individually discussed an analysis across cases will be presented.

The Students

Seven students participated in this study: April, Jimmy, Nathan, Greg, Joseph, Jack, and Terry. (These names are fictitious.) All students were from elementary grades

three, four, and five. All students were Caucasian. Originally, ten students were selected as subjects for the study, but three dropped out due to various personal problems (family, medical issues, etc.). Greg and Terry were in third grade, April and Jack were in the fourth grade, and Jimmy, Nathan, and Joshua were in fifth grade. Mothers of each student served as respondents for all students in initial and final interviews as well as the phone contact inquiries. Each individual student and his or her emergent themes will be presented first followed by data supporting each theme.

April

April was a fourth grade student who lived with her parents and an older sister. According to her mother in the Initial Parent Interview, April was a bit withdrawn and somewhat intimidated by authority figures and peers and perceives herself as a knowledgeable authority on issues which particularly affect her life at home and at school. April reported, “I enjoy outside time at school and home and I feel like that I use my physical skills as much as my thinking skills to be successful in games. I am a nice person that gets along with everyone” (Initial Child Interview). April had a good attendance record for the study missing only two classes. She displayed a positive, respectful attitude toward instructors and classmates in the traditional martial arts program over the course of the study (Observational Protocols 5 and 7).

As a result of the content analysis, five themes emerged from the data sources (interviews, weekly verbal debriefings with students, weekly observational protocols, and bi-weekly phone contacts with parents): (a) April’s need for realistic order and organization seemed to be nurtured with her participation in the traditional martial arts

program; (b) April's perceptions of competence in the area of peer and personal relationships improved as a result of her participation in the traditional martial arts program; (c) The consistency of several aspects of the traditional martial arts training, genuine praise, attention, and realistic expectations enhanced April's perceptions of her own competence; (d) Considering all of the components of the traditional martial arts program physical activity appeared to be an area where April was more engaged; and (e) Though April enjoyed the physical aspect of the traditional martial arts training she also valued the combination approach of mental and physical abilities for maximized success. Each of these themes will be discussed individually followed by supporting with evidence.

April's need for realistic order and organization seemed to be nurtured with her participation in the traditional martial arts program.

The traditional martial arts program provided a schedule that was regular, organized, and contained specific components. The preliminary stages of physical activities were followed by more involved and intricate procedures. Traditional martial arts recommend a specific routine for techniques as they are presented, explained, and demonstrated. In some instances, April seemed to enjoy the order and control of the various components as they seemed to provide her with a sense of accomplishment.

> Because all you have to do is stay focused and keep your eyes completely on the instructors and listen and look to do it just right is what is important for the karate class and my training. It doesn't seem to be too hard. (Verbal Debriefing 3).

> It all just takes practice to get better at it. And it is better when I talk when it is time to talk and be quiet when Mr. Graham, Mr. Davidson, and Mr. Martin are

> talking or showing us the right way to do things. Sometimes it's hard to see but I can still listen. It feels great to do it just right and follow along (Verbal Debriefing 5).

April displayed strong attention skills in the general warm-up and preparation stage of training. Consistently, after simple stretches, controlled breathing activities and basic movements, she queried, "Am I doing this right? Can you help me do it?" (Observational Protocol 3).

Initially, she occasionally exhibited withdrawal tendencies when asked to demonstrate techniques with the black belt instructors in front of her classmates; however, she felt more comfortable after the class dismissed or in a smaller group setting (one to three students). Eventually, as she became more confident in the presentation of the presentation of the Chayon-Ryu skills and techniques, her confidence level grew so she was less anxious when demonstrating to the larger group of fellow students (Observational Protocols 2 and 3). She remarked, "Like I said, I just want to get it right and show I can do it (Verbal debriefing 7).

In the initial interview, April's mother described her need for order and organization in a different context. In particular, that it supports April's sense of confidence.

> Her teacher last year was so organized and realized that organization was pivotal to April's feeling positive about herself. April needed the support and her teacher let her know what was expected everyday and that things would be in order a certain way everyday. This followed April home and the expectations and order really helped her. (Parent Initial Interview)

As varying levels of skills were presented in small increments, she realized that the whole process was segmented to facilitate learning and relative mastery. Consistently, she would say, “If I learn this technique, it will help me when I practice the H-pattern, punching, or falling” (Observational protocol 7).

The assistant black belts who participated in conducting the final observational protocol (rank exam format) denoted that though a bit tentative in the beginning, April demonstrated order in the outward display of techniques, attention, and attitude. As she progressed through the routines of basic movement practice, practical self-defense techniques, and forms demonstration April had ready, realistic recall of movements that flowed from activity to activity (Observational protocol 15). At the end of the rank exam, she exclaimed, “I knew I could do it. It was a lot of stuff, but I kept it straight in my head” (Verbal Debriefing 15).

> Getting ready for the rank test is hard, but it’s everything that we go over every night . . . kicking, punching, and moving and the forms put everything together. It’s all planned and I like that. I can show what I know. (Verbal Debriefing 15)

April functioned best when expectations, routines, and schedules were delineated. To a realistic degree, the traditional martial arts provided order and balance to techniques that seemed to increase April’s perception of competence in following a planned order of activity.

<u>April’s perceptions of competence in the area of peer and personal relationships improved as a result of her participation in the traditional martial arts program.</u>

The traditional martial arts program provided regular opportunities for students to interact with students and with instructors. These interactions were not only verbal, but physical such as a pat of approval on the back or a handshake, as the students were learning the techniques and practicing together. The interactions took place in small group, large group, and one-on-one exchanges.

In the Initial Parent Interview, April's mother was very concerned about April's problems with personal and peer relationships. After awhile she stopped trying to interact. April's mother related, "She might try to interact and her actions were seen as inappropriate by the individual or group and the she would pull back and not try. It seems to happen some at home, too …interacting with her sister. April has trouble controlling her actions and it can end up bad. And she might pull away. But, they do love each other". The traditional martial arts program provided an inviting, consistent, and positive environment where all were involved in a common goal of learning new skills.

With respect to peers at school, April exhibited withdrawn behaviors. Interventions have been utilized in attempts to provide her more opportunities for socialization and interaction. Her mother recounted that April's interactions with peers were varied.

> She's fairly withdrawn there also. They've tried to do quite a bit of intervention with her, umm, trying to pull her into the group situation . . . I think her socialization skills are still not where they need to be . . . She feels a need to be invited by others to be a part of groups. And really she doesn't have any special friend or friends, to get her through certain situations . . . at times, when she does interact, she does inappropriate things, gets inappropriate reactions, or a reaction that's appropriate for the situation, but not one she wants, so she withdraws. (Initial Parent Interview)

Socialization with all of the other students in the traditional martial arts programming was facilitated by consistently pairing April with different participants. Also, there was opportunity for variation in activities so that attention to tasks was as vital as who her partners were in the process.

> I get along pretty good with all of the students. I'm the only girl, but that's good. I just have to follow directions with everyone else and work with everyone. Doesn't matter who I work with, I have fun and learn with them. (Verbal Debriefing 10)

On occasion when April was absent from class, her presence was definitely missed. The attitude expressed by fellow students in the study was that April would challenge them. Terry and Greg said, "She pays such good attention, follows directions, is respectful, and brings out the best in everyone. We miss her when she's not here!" (Observational Protocol 4).

Demonstration of techniques requiring coordinated movement and balanced performance in skills with peers was exemplary from the first aspects of training. No problems were exhibited regardless of who the training partners were in the activities (Observational Protocol 5). April's mother stated with compassionate support that, "April is becoming more and more involved in the group, not hanging back. That's truly what I wanted out of it, improved socialization" (Final Parent Interview). For April, her least favorite part of class was leaving. She said, "I just hate that part. Training with the other students is fun and I get along good with them" (Verbal Debriefing 14).

At the end of the study, April's mother remarked, "The program gave her what she needed. The opportunities to interact with others at the same level were positive and being a member of the class was a plus" (Final Parent Interview).

The traditional martial arts program seemed to influence April's effort in socializing and being a part of the class. Interaction is advocated as a tenet of the program. By program's end, April was displaying a willingness to work with all students and seemingly realized that she could learn from others and be helpful in return.

The consistency of several aspects of the traditional martial arts training, genuine praise, attention, and realistic expectations enhanced April's perceptions of her own competence.

Meaningful feedback was a basic concept in the traditional martial arts program. Feedback could be from verbal, visual, or physical cues and came from instructors and fellow students. Individual progress was genuinely monitored and responses reflected thoughtful consideration of demonstrated skills. Students knew where their functioning level was and were made aware of their progress regularly in a professional and calm manner. For example, April mentioned in a debriefing how the training made her feel.

> I feel good about the training in karate. The instructors tell me I'm doing good and that makes me feel good; maybe the things we do are not so hard. Probably 50/50 hard and easy, but, I can do it and practice and my body moves a little and it gets easier. (Verbal Debriefing 9)

April demonstrated good focus and attention after verbal cues, continuous episodes of eye contact, and physical display of techniques through demonstration

teaching. She remarked on numerous occasions of the sessions that “Doing well is tougher than I thought but once you know these things you can do anything” (Observational Protocol 3 and Verbal Debriefing 7).

April’s mother related that April can discern if attention and praise are exaggerated, as evidenced in the Initial Parent Interview:

> I try to praise her and show her positive response to her behaviors when they are appropriate. She knows when it’s empty and meaningless. Honestly, I think that children with ADHD start to devalue good behavior if you reward it too often. So, in April’s case, she needs to know that there are expectations, and rewards. Praise and notice don’t come every minute or even every day.

April’s participation and efforts were never contrived or showy in the respect of seeking attention and unnecessary focus from the instructors. Position in the workout line or wanting to be first in the activity was never a consideration for April. She realized that comments from instructors were constructive and warranted.

> Sometimes I can see but I can always use my ears to pay attention and have the instructors notice me, if I’m doing it right or if we’re moving on to something else. They let me know if I’m moving the right way or if what I’m doing is wrong. They don’t scream, but I do understand them fine. (Verbal Debriefing 5)

April’s mother reemphasized at the final interview that April has sincere gratitude for caregivers when she is helped using a positive perspective. She said, “April’s trying hard to do a good job no matter what she is doing. In the classroom at school, at home, and in the karate room at the park. April feels that her effort has been worthwhile when she gets a hug or a pat on the back, words are not always needed” (Final Parent

Interview). Verbal remarks, physical cues, and contact like a pat on the shoulder seemed to influence April's understanding.

> During class, I see the instructors nod at me or give a smile when I do something. Sometimes they don't even talk; they just step up beside me and do the technique with me again. All of the instructors seem to like me. They answer my questions or come over when I raise my hand. They tell me I can do it or just show me. It's good to have three teachers. They see things and show me things that help me and the others all the time. It's fun when we train. (Verbal Debriefing 7)

Few verbal cues were warranted as delineated by observational protocols. April reciprocated with focused behavior and physical positions. Visual, demonstrative displays of techniques and principles were enough to bring April back to central focus. Because of her response to verbal, visual cues, April came to realize that expectations (personal and teacher) could be realized (Observational Protocol 13).

Demonstrating techniques and movements created situations where April received realistic feedback about her performance. The traditional martial arts were facilitated by instructor response, teaching, and re-teaching through demonstration. April seemed to realize she could respond adequately if she saw the techniques and had them reinforced in a positive, attentive, and accepting environment.

Considering all of the components of the traditional martial arts program, physical activity appeared to be an area where April was more engaged.

Participation in the physical aspect of the traditional martial arts was monitored through observational protocols. Physical activity was the first stage of training and provided visual evidences of controlled engagement and student involvement. Activities

included stretching, exercises, basic techniques, and movement. April remarked about the variety of activities and was readily involved in everything.

> Everything, breathing, punching, falling, stances, doing things hard and easy are fun, 50/50 for being hard and easy. Moving is the easiest I guess for me. I like to be moving and up and doing things. There are so many things to do, it's always changing. But, I like that fine and I can follow along OK. (Verbal Debriefing 6)

Listening to philosophy that served as the foundation of the techniques proved to be one of April's least favorite activities. This involved sitting, watching, and listening to supportive rationale for movements such as falls, blocks, hand movements, as a small group during or at the conclusion of class sessions. Toward the end of the study, April related, "By the end of the program I didn't have many problems sitting and listening; besides sitting is something I do well anyway. Really, I would rather be moving and doing the techniques, but sitting is OK" (Verbal Debriefing 14).

Also, the practicality of the physical activity according to April was evidenced when she said, "By sliding and moving in a different, strong way I can protect myself and feel good that I can. That feels so good, I can't tell you how it really feels" (Verbal Debriefing 3). April liked the continuous flow of activities and was always ready to move to new techniques.

> The moves like roundhouse kicks, down blocking are a lot of fun. We move from one activity to another which makes it better. I really don't like to stop what we're doing when we sit. It keeps me from learning more things. But we don't take a break sometimes, so I guess it's good. (Verbal Debriefing 10)

Consistently, April seemed more engaged when physical activity was present. During warm-up and beginning stages of training, though still involved in flexibility activities and stretching, April seemed at times bored and a bit distracted (Observational Protocols 1, 4, and 5).

April's mother said the active routine and pace of the martial arts class regarding consistent controlled physical activity played into April's need for order. She said, "Once she gets used to the plan or routine, she really gets into it. She enjoys the activity because it offers something new with every class" (Final Parent Interview).

April's physical activity level also helped with her need for order and control. She seemed to enjoy all aspects of the movements and techniques as they were demonstrated. Eventually, she appeared to be more motivated when asked to demonstrate for the whole group. The physical activity became an opportunity for her move away from her previous withdrawal tendencies and be more engaged with her peers (Observational Protocol 11).

Though April enjoyed the physical aspect of the traditional martial arts training she also valued the combination approach of mental and physical abilities for maximized success.

The traditional martial arts training required a meshing of mental and physical abilities to show balanced results of skills. Proficiency was monitored through physical skills observations and demonstrations of attitudinal philosophy.

April describes how the traditional martial arts helped her to go places in thought and movement.

> I probably do more thinking in what I do, but in the karate, you've got to think and move together. The instructors say the movements have meaning like words in a book. The words can take you somewhere. Karate can take you to a place where you think and move, learn stuff to protect yourself and get better to learn more. (Final Student Interview)

According to April, the program required a balanced approach when queried about how she used her mental and physical ability in the movements and activities. She said, "It's mostly 50/50. I can look and think and listen, but then I need to do it because we're learning something new all of the time, so, I have to go quick but not too quick (Verbal Debriefing 2).

As evidenced by April's weekly performance on the observational protocols, descriptions consistently showed she was quite thoughtful and deliberate in her techniques. She really seemed to maximize her efforts when she was in class and truly was engaged in the majority of the activities. She never asked to take a break or rest (Observational Protocol 7).

April's mother remarked in a phone contact session that April's interest was so high from participating in the program. The mother said, "April has such a personal feeling of accomplishment when she feels and knows that she has done something well. She has been sure of herself with books (even now writing) but the karate has given her a physical outlet where she's showing what she's learning (Parent Phone Contact 2).

April demonstrated strength in physical movement and activity. It seemed that the training influenced her reflecting and response skills. This appeared to enable her to demonstrate more control in the traditional martial arts techniques and training regimen.

Summary. April made excellent progress in the traditional martial arts program for the 15 week study. From a physical activity perspective she accomplished goals and target behaviors for fulfillments of rank requirements (Final Observational Protocol). According to her mother, expectations were exceeded with progress exhibited in the group process and feeling more positive and competent in the area of socialization. April's mother remarked with enthusiasm that, "She's really a part of the class. She enjoys being there and working with everybody there. It's really great." (Final Parent Interview).

The discussion of April's progression has centered around five main themes that emerged from the analysis of the data sources. Each of these themes has been described and substantiated by evidence from data sources.

Jimmy

Jimmy was a fifth grade student who lived with his parents. According to his mother, Jimmy had problems with focusing and paying attention in class. Jimmy's mother had experienced a great deal of frustration over his behavior. She talked about how well he focused and how it affected him.

> It is as if tapes erased in Jimmy's head and he never remembered assignments, processes, or routines. Jimmy enjoys outside time and particularly times that keep him very active and not sitting around. He does best in small group situations and occasionally experiences great frustration and upset with pacing of activities and his perceptions that others might not be trying in an activity. (Initial Parent Interview)

Jimmy had a perfect attendance record for the study. In fact he arrived early for every session depicting a real enthusiastic perspective for the traditional martial arts training. In the Initial Student Interview he said, “I’ve wanted to do this a long time, but, now I’m kinda worried that that everyone might not keep coming back and I’ll have to stop training myself cause there’s not enough people.”

Four themes emerged form the analysis of the data sources (interviews, weekly verbal debriefings with students, weekly observational protocols, and bi-weekly phone contacts with parents). The themes were: a) Jimmy’s perception of competence in self-control and order appeared to be influenced by his active participation in the traditional martial arts; b) Prompt feedback, genuine praise, relevant expectations, and consistent attention appeared to support Jimmy’s perceptions of his own competence; c) The physical activity component of the traditional martial arts seemed to be an area where Jimmy was more involved; and d) Jimmy realized the importance of combining mental processes and physical abilities when training . Each of these themes will be discussed and supported with evidences from the data sources.

Jimmy’s perception of competence in self-control and order appeared to be influenced by his active participation in the traditional martial arts.

The traditional martial arts had specific guidelines, rules of order, and lesson criteria that provided a regimen of organized activity for participation. The instructor followed this framework of learning to educate students in the basic tenets of the program.

Initially, Jimmy balked at the organizational set-up and order of the training. He was not defiant or disrespectful, but, he had to understand that the longevity of the program was ensured by its planned activities and schedule.

Jimmy describes how he reacts to the class schedule of activities.

> I think it's better when I can listen and look at the instructors and get things in my head and just do what they say. Sometimes before I do the techniques or forms, it's a lot better, if I think what comes next in the schedule. I mean if I get too tired or bored then it's hard for me to get it right. It's all a part of the program. I just have to follow it and I can learn more. (Verbal Debriefing 13)

Jimmy's mother said the routine has become easier to follow and he is adapting.

> Yeah, yeah, he's got into it now and after the 15 weeks he enjoys it and got much more peaceful, calmer, and seems together more. It's like he's got a plan to be calm, be organized. He's learning I think there are some things you need to do. (Final Parent Interview)

Jimmy was continually a work in progress and motion as demonstrated by his observational protocols. In general, his behaviors fluctuated, with some evenings ordered, and other evenings not in alignment mentally or physically (Observational Protocols 3, 4, and 5).

Seemingly, it was not until Jimmy had to sit out for a session (Session 15) for loud verbalizations, confusion, disrespect to instructors, and non-compliance that he was able to grasp the idea of order and organization. Jimmy related how he felt to be frustrated and out of control.

> I was screaming and crying and not able to get it. The class was no different. Everything was the same but I just couldn't get in my head how everybody was moving. I acted like I act at home when things don't go the way I think or want. In my mind the plan had changed and I couldn't get it. (Verbal Debriefing 7)

Consequently, this was at the midpoint of the study where form was introduced and it was a chance for personal debriefing with the lead instructor. This was to see if re-teaching was needed. This conference took place and Jimmy got himself composed and back under control. By the next session, Jimmy was a different student, more willing to let the process come to him without stressing about the order of procedures and techniques (Observational Protocol 8).He said, "The martial arts gave me some good ideas for thinking that I can do things. It helped me to get things in order in my head and to be calmer" (Verbal Debriefing 8).

Order and routine appeared to provide some calming influences on Jimmy's performance. The fact that activities followed a pattern or plan in the traditional martial arts gave consistency and order as Jimmy tried to organize his own responses during class.

Jimmy's mother noticed that his attitudes improved and that he was feeling better about things in general. In the Final Parent Interview, she remarked, "Yeah, yeah, he's got into it now and after the 15 weeks he enjoys it and got much more peaceful, calmer, and seems together more. It's like he's got a plan to be calm, be organized. He's learning I think there are some things you need to do (Final Parent Interview).

<u>Prompt feedback, genuine praise, relevant expectations, and consistent attention appeared to support Jimmy's perceptions of his own competence</u>

Consistent and relevant feedback was given by instructors to students in the traditional martial arts program. It was presented verbally, visually, and with physical contact, such a pat on the back or handshake. Individual progress was monitored consistently and conscientiously. Jimmy talks about how he feels he is doing in the program.

> I feel like I did well. The instructors talked to me and showed me things. I could do better. They didn't make me feel bad or try to embarrass me. They just wanted me to try it another way. Mostly, I watched them as they did it, and then I did it But they don' say I'm doing well every time. They might tell me to cool down, calm down, or sit down to watch the technique again and that's OK. (Verbal Debriefing 14)

Jimmy was very conscious of what the instructors were saying about his performance and how they reacted to his performance of the techniques.

> I watch the black belts to see if they are smiling. I don't know if they're doing that to me but they might be, so, I'll keep doing my best in the training. The techniques are like, easy and hard, but I can learn them with no problems. (Final Student Interview)

Jimmy responded to feedback but it was necessary to strictly monitor him because he tended to lose control easily. Even with individual demonstration by instructors, Jimmy would lose focus occasionally and have to sit down to calm down (Observational Protocol 14).

Attention to students was consistent in the training and feedback was provided in many forms. Jimmy appeared to respond to the cues for behavioral change. He had some difficulties controlling his actions and responding to the expectations for skill proficiency

presented by the instructors and the feedback of fellow students, but the responses became more manageable as the program progressed. Jimmy listened more and observed more keenly (Observational Protocol 14).

The physical activity component of the traditional martial arts seemed to be an area where Jimmy was more involved.

Physical activity was the first phase of training. Monitored through observational protocols and screened for increased skill attainment, physical activity was pivotal for accomplishing program goals. Physical activity provided visual evidence of controlled involvement.

Consistently, Jimmy was active and moving. He rarely was motionless. Even during meditation on several accounts, he was constantly swaying, shifting body weight from foot to foot with his eyes closed or opened when they were supposed to be closed (Observational Protocols 3, 4, and 6).

As mentioned by his mother, Jimmy was constantly on the go. She said, “Poetry in motion, we’ve always called him. Constantly moving and doing something. The thing is, it’s got to be good behavior, positive for him and the people he’s around. It’s gotten better in dribs and drabs, but he has to get it under control himself” (Final Parent Interview).

Jimmy found sitting and listening to be the most difficult thing he encountered in the traditional martial arts training. Reflecting on the background or intent of a technique was more difficult than deflecting a movement, avoiding a forward attack in controlled

sparring, or learning a more intricate maneuver. Jimmy disliked inactivity and said so readily.

> Sitting is just hard to do. I'd rather be moving or blocking, or falling. Never just sitting . . . need to move. I think I can listen when I'm moving . . . but sometimes with everybody moving it does get hard to follow along and see instructors. Yeah, it's just too boring the other way. I end up counting the blocks on the floor. (Verbal Debriefing 8)

When the movement and techniques became interactive, with the introduction of basic and practical self-defense, there was an increase in enthusiasm and a desire for even more activity. When the activity or technique was enacted with another student, Jimmy began to see a need for personal control (Observational Protocol 6). Jimmy explained, "I can't really hit someone to hurt them. I've got to show control. Pull my punches and kicks" (Verbal Debriefing 7).

Even basic warm-up and cool down exercises were preferable to Jimmy when it came to participation. On several occasions, when students were still arriving for class, Jimmy meandered around the room aimlessly until class began (Observational Protocols 3, 4, and 5). This changed as his skill levels increased and he had more to practice (Observational Protocol 10).

Seemingly, the periods of controlled sparring which combined basic movements, breathing techniques, focus, concentration and control, and body shifting, were also periods where his lack of control was evidenced, as far as movements were concerned. During most classes, instructors were providing Jimmy with constant reminders, telling him to slow down, pace himself, and relax (Observational Protocols 13, 14, and 15).

For the most part Jimmy's physical activity level was under control and appropriate, but, it took constant exclusive monitoring to ensure that he stayed calm and focused. Once the activity began he had the tendency to escalate motion, increase his breathing rate, and lose control of the techniques. From the beginning of training to the end of the study, techniques, control, and attention did seem to improve

Jimmy realized the importance of combining mental processes and physical abilities when training.

Mental and physical strengths were exercised to learn new skills. Though Jimmy seemed to enjoy the physical aspect of the program most, he came to the realization that thought and mental was vital particularly in mastering form and various other techniques. He remarked how his brain took charge and success soon followed.

> I just had to let my brain take over and help me learn the movements. I was getting too mad. But it was mostly at me because I wasn't sure I could do it or remember. I did better the next time. The instructors said I did. Practice helped. I had to think I could do it too. Using my thinking helped, but practicing helped too. It was me doing what I remembered and thought about. Maybe hard but I can do it. (Verbal Debriefing 10)

With practice of the physical techniques and utilizing more mental power in his training Jimmy depicted a more positive demeanor in his overall performance in class (Observational Protocols 12, 13, 14, and 15). Without question, the midpoint of the study was a turning point for Jimmy. Interestingly, this was also the time for form introduction. Form or moving mediation meshed physical with mental abilities in a combined effort to embody a philosophy of unity. Form combines stances, hand and foot techniques, and a

sense of philosophy for overcoming obstacles and attaining goals. Jimmy's mother remarked in a phone contact session (Phone Contact 3) that Jimmy's enthusiasm was very high for the program. She said, "He just loves it all, everything. Not only the movements, techniques, and the sparring, but he's beginning to think calmer and hopefully it will mean him getting things done at school and other places where I won't be around to stay after him." Jimmy's mother later remarked about the inner strength that the martial arts had given her son.

> This has been good for him. If he'll just learn the lessons this teaches and take them with him, maybe he'll do better. Sometimes, it's just too hard for him but if he'll just think for himself and make some good decisions . . . He'll do better when he's on his own. (Final Parent Interview)

Jimmy realized that it took mental control and focus to comprehend the totality of what he learned. Practicing the techniques, going through the motions, and improving techniques were meaningless without reflection on the responsibility of control and utility of the techniques. Traditional martial arts provided that mental component which focused on responsible and ordered behavior.

Summary. The discussion of Jimmy's participation in the traditional martial arts has centered around four main themes that emerged from the analysis of the data sources. Jimmy demonstrated a positive shift in performance at the midpoint of the study. It seemed that desire was a major contributing factor in wanting to prove he could accomplish the task with the help of others and grow positively as an individual and as a martial artist.

Nathan

Nathan was a fifth grade student who lived with his parents and an older brother. According to his mother he tries to be very social and involved with his peers but often becomes rather agitated because others irritate him, when they do not try or give good efforts in class or other activities. He is not sure about how others feel about him and it does not seem to bother him. His mother said, “He’s off in La-La land and uninvolved in things. Nathan enjoys outside time, not sitting around and being bored,” (Initial Parent Interview). Nathan seemed to enjoy himself in class and attended regularly. He put forth good effort for every class attended and demonstrated a positive behavioral attitude while training (Observational Protocols 12 and 13).

Three themes emerged for the analysis of the data sources (interviews, weekly verbal debriefings with students, weekly observational protocols, and bi-weekly phone contacts with parents). The themes were: a) Nathan seemed to realize that order and regulated behavior can provide benefits when learning a new skill; b) Nathan’s own enhanced perceptions of competence seemed to be influenced by consistent, relevant feedback; and c) Nathan appeared to understand that the combination of mental and physical abilities can influence task completion and success. These three themes will be discussed through viewing evidences from the data sources.

<u>Nathan seemed to realize that the order and regulated behavior practiced in the traditional martial arts can provide benefits when learning a new skill.</u>

The traditional martial arts program provided organization and consistency through a specific schedule. Nathan appeared to flourish with this type of structure in the

course of the study. Nathan's mother related that ordered activities were a struggle for him.

> Truthfully, playtime or PE seems to be the only part of school he likes. He just isn't crazy about school or the routines that have to be followed. Running around, somewhat out of control is ok with him. And then when it comes to school, forget the reading, where he has to settle down and pay attention. O course, he says he can't do it. But he doesn't get organized. And then he's just so laid back, that little grin on his face. He's just too calm and cool; order doesn't concern him, I think, but here's he's a little more ordered. (Final Parent Interview)

As the program was winding down, there were many opportunities for demonstrating the influence of order and organization. In learning form, which is a combination of foot movements, blocks, kicks, and body shifting, Nathan readily admitted, "I don't practice much at home because it's harder to remember there, but, it's easier here because we go over it and take it step by step, but I can do the form when we all work together here" (Verbal Debriefing 10).

Many times, when instructed to get organized he would just give a sly and wry smile, shrug his shoulders, and just proceed with the routine with the same drive as before the redirection (Observational Protocols 3, 4, 7, and 9). After one training session he remarked, "I like the basic movements and forms. We do them over and over. It's boring sometimes, but I can do them when we do the moves in order and we don't go too fast. I really know that I should practice at home but I don't have a lot of time." (Verbal Debriefing 7).

Nathan seemed to function best when the balanced routine was followed. At times, he forgot what came next. His perception of competence seemed to be influenced

by adherence to the order of the training. He never seemed distracted even though he mentioned one comment during a specific verbal debriefing. He said, “Some of the other guys kinda get on my nerves when they do things. Like the forms or sparring. They don’t try (Verbal Debriefings 7 and 8). Nathan learned techniques and movements without much difficulty and seemed to present an almost effortless approach to observational protocol sessions (Observational Protocol 13). He remarked, “Some of this stuff is easy but you have to stay in line and do it (Verbal Debriefing 14). He moved through the requirements without hesitation and demonstrated proficiency in skills (Observational Protocol 15).

Participation in the study exposed Nathan to organization and order. Previously, he had had trouble with programs that were structured. However, the traditional martial arts seemed to influence Nathan’s understanding of the importance of the regimen of training and consequently order.

Nathan’s own enhanced perceptions of competence seemed to be influenced by consistent, relevant feedback.

The training was offered in a consistent plan for relevant feedback from instructors and fellow students. Feedback took the form of verbal response, visual cues, and physical contact such as pats on the back or handshakes. Nathan seemed to flourish in this accepting and positive environment.

> I did ok with things. The instructors told me I did. When I couldn’t get it, they showed me. I like working with the young black belts. They kick better and did the techniques better. They tell me how to get better and work harder. They aren’t mean, but they do let you know. (Verbal Debriefing 8)

Verbal cues and focused comments were enough to get Nathan back aligned with the class. As evidenced in Observational Protocol 13, he was a bit distracted and confused as the class proceeded through the basics and preliminary activities prior to working on form, practicals, self-defense, and sparring. There were numerous evidences when Nathan shook his head, as if he just could not grasp the intent. But, with verbalizations from the instructors he was able to readjust and proceed. When queried, the physical shrugging of the shoulders and quizzical half-smile were followed by a comment, “I just don’t know what’s wrong, but I’ll keep trying”. Nathan would show frustration with the other students. It was as if it bothered him when the other students would not try or respond to instruction (Observation Protocols 6 and 7).Nathan describes what the frustration was like on some training nights.

> Sometimes the others won’t try or won’t be quiet when they’re showing us. It’s equally hard to look and listen. But they’re showing you and telling you. Maybe it is hard to do but if you try, it could be easy, you could do it. I did the form and the hand-to-hand. I did it like they said. I could do it easy. (Verbal Debriefing 15)

From the final Observational Protocol (15) it appeared Nathan had seemingly put things together. Arriving just a little late, he raced to his position in line, demonstrated techniques adequately, and received a passing score on the protocol from knowledge and performance of the requirements. Upon notification of his review, he exclaimed, “I knew I could do ok” (Verbal Debriefing 15).

Demonstrating movements and showing techniques created opportunities where Nathan received realistic feedback about his performance. He seemed to grasp the intent

of the techniques very readily and the instructors responded in a timely manner to give him ample information for continuing with the practice.

Nathan appeared to understand that the combination of mental and physical abilities can influence task completion and success.

Training in the program facilitated a blending of mental and physical abilities to accomplish tasks and learn new skills. Techniques and movements were presented to Nathan in a variety of strategies. His learning was monitored through physical skills observational protocols and demonstrations of controlled, positive behaviors focused on attitudes of control, balance, and natural motion. Particularly, the Final Observational Protocol (15) indicated that Nathan had performed well and had meshed the ideas of perfecting physical activities through mental processing. Nathan felt like he was doing well with the whole program.

> I think I'm listening a lot too. I'm usually in the front. I can see everything but it's easier if you listen, then think about it too. I like moving around. Punching, kicking, and falling but it's not too hard to listen and think about what I have to do. It's not just physical. I like the activity where I can think and move. But, it's a lot of fun, hard work, but fun. (Verbal Debriefing 9)

As evidenced by communication with the parent, Nathan seemed to enjoy the combination of mental and physical activities embodied by the traditional martial arts. His mother said, "He enjoys it, it provides enough activity for him, but really he seems calmer after each class. This is different" (Parent Phone Contact 2).This theme was also evidenced in the Final Parent Interview, where the mother said, "I think he's getting it."

The interview was completed at the end of the study and she talked about his changes in attitude.

> I really noticed after the study that he had a different attitude. Like just more, not uptight or aggravated, you know, just like he didn't need to go outside and play. He came back very relaxed and more peaceful than before. For Nathan this is saying a lot. (Final Parent Interview)

Nathan demonstrated in the controlled environment of the traditional martial arts program the ability to think, readjust, and redirect his own behavior. Particularly, he thought about how his kicking stance and balance could be enhanced or strengthened until he built up knowledge of the technique. He proceeded to use the side panel of the wall in the training area to bolster his balance while he worked on foot positioning, pivoting, and body shifting in the kicking technique on his own (Observational Protocol 9).

The blending of physical and mental abilities to accomplish goals in the traditional martial arts was beneficial to Nathan's progress. Though the physical domain was one that he could excel in, he continually showed control, focus, and a positive attitude as he became more proficient in the traditional martial arts. After the Final Observational Protocol, Nathan said, "I can do any of this as long as I can get it into my head, and think about it."

Summary. The discussion of Nathan's progression has centered around three main themes that emerged from the analysis of the data sources. Each of these themes has been substantiated by evidence from the data sources. Nathan did an adequate job in the

15 week study. He performed well on all aspects of the observational protocol for proficiency and showed respect for self and others in his response to authority and performance. Nathan's enjoyment seemed consistent with his level of activity and intensity.

Greg

Greg was a third grade student who lived with parents and a younger sister. In the words of his mother, who served as interviewee in the Initial Parent Interview, "Greg is all boy, outdoors and activity-minded. He loves doing things with his dad and very protective of his little sister. He's a bit of a loner. Can get completely involved in an activity and can stay busy for an hour or two, just by himself." According to his mother, Greg has worked hard and has expected perfection in things that he does. She said, "He doesn't like to lose or feel he hasn't done his best" (Initial Parent Interview). Greg saw himself as being a little funny in things he says and thinks that he is well liked by the friends that he does have. He related, "I don't really have that many close friends" (Initial Student Interview). Greg's attendance for the study was adequate. He even endured a tonsillectomy convalescent period and returned to the sessions after only a week out, missing a total of three days. Greg displayed a positive, respectful, and dedicated attitude to the program and to instructors and classmates. During the 15-week study, Greg demonstrated quick recall and response to physical demonstration and instruction and reflective verbalizations (Observational Protocols 7, 8, and 9).

Five themes emerged from the analysis of the data sources (interviews, weekly verbal debriefings with students, weekly observational protocols, and bi-weekly phone

contacts with parents): (a) Greg's need for realistic order seemed to be influenced by his participation in the traditional martial arts program; (b) Greg's emergent and enhanced perceptions of competence in the area of personal and peer relationships seemed to be supported by certain aspects of the training in traditional martial arts; (c) Greg's own improved perception of competence appeared to be bolstered by the consistent, genuine feedback he received as a result of participation in the traditional martial arts training; (d) Considering all of the traditional martial arts program components, physical activity and accomplishing techniques appeared to be an area where Greg was more engaged; and (e) Greg realized the importance of blending mental abilities and processing with physical abilities to achieve success in his training. Each of these themes will be discussed and supported with evidences from the data sources.

Greg's need for realistic order seemed to be influenced by his participation in the traditional martial arts program.

The traditional martial arts program was presented in an orderly and organized method with precise objectives and goals for participant success. According to Greg's mother already displayed some organizational traits. She explained, "These traits oftentimes created trouble for Greg," (Initial Parent Interview). The training program provided Greg with a plan where his initial stages of physical activity were followed by more intricate levels of training. For Greg it was necessary to approach the program in phases as the traditional martial arts philosophy and techniques were explained and demonstrated. With the regimen of traditional martial arts presented in stages, it seemed

more manageable for Greg and less stressful. In an initial interview, Greg's mother described his need for order and his frustration if it did occur as he anticipated.

> I would have to say he's rather perfectionist in most things that he does. But, he gets mad if they don't turn out the way he wants them to. I often ignore him and see if it will fix itself but sometimes the frustration gets to be too much and I have to intervene. I want him to be able to realize that there are certain things that need doing and there are ways of ordering and organizing the way you respond that will ease the frustration and calm you down. (Initial Parent Interview)

There seemed to be a real resolve in Greg from the very first session that he was going to prepare nightly for the training. He came in quietly and calmly as opposed to more activity and noise demonstrated by most of the students. He would sit, stretch, meditate, or go over techniques by himself (Observational Protocols 4, 5, and 6). When queried about his serious approach and preparation time, Greg responded, "I'm getting ready, getting myself together to train" (Verbal Debriefings 6 and 7). He still displayed a cordial response to his fellow classmates but he took the preliminary time prior to training in a very ordered fashion. He explained, "To keep learning the moves, you have to keep adding to what you know. One thing adds to another, so you are learning harder stuff and something new every night" (Verbal Debriefing 8).

The influence that participation in the traditional martial arts seemed to have had on the Greg's need for realistic order was also evidenced in other areas of learning. Greg's mother related, "Greg is enjoying an emergent desire for math activities that require focus, organization, and alignment skills," and she further commented in the same Final Parent Interview, "He's also into grabbing a pen and paper for writing a story. That

has never happened in his educational experience. He has usually been so scattered he never would have attempted such a daunting task". Regarding the order and organization in the traditional martial arts training Greg would consistently remark about what was to come next in the class schedule. He seemed to really adhere to the routine and regimen, rushing to his position in line and being ready for the next activity (Observational Protocols 7 and 8). His mother has noticed his organization at home as well.

> He talks most about the discipline and order. Seems like he is more ordered, keeping his emotions in check, and feeling more self-confident, calming down. Getting himself together and doing things that are more organized has become a part of him right now. (Parent Phone Contact 3)

Greg functioned well with the order and discipline of the program. He seemed to like knowing there was a schedule to be followed and that the techniques were presented in parts. This gave him time to process the movement and build on it with more intricate activities. At the end of the study, it seemed that Greg was aware of the purpose of the order. He remarked, "It's all parts put together as you learn new stuff. You can't forget what you've learned and you can't be upset if you do forget. You've got to practice" (Verbal Debriefing 15).

Greg's emergent and enhanced perceptions of competence in the area of personal and peer relationships seemed to be supported by certain aspects of the training in traditional martial arts.

The program provided regular intervals for Greg to interact with other students and with the instructors. Interactions included verbal exchanges before and after training

and during the actual training sessions when techniques were being demonstrated in small and large group activities. Greg describes how he wants to be friends with his peers; however, he tends to a bit of a loner as described in his mother's initial interview.

> When he talks about things he likes at school, it's the companionship with other children that he mentions a lot. He wants to have his buddies, but he is pretty much a loner really when he does things out in the yard or at home. (Initial Parent Interview)

Greg further describes how he tries to interact with his peers with humor:

> My friends kind of think I'm a monkey. They think I'm funny and I just make them laugh and that keeps them going and having a good time. No one gets in trouble but we have some fun and laugh just a little. (Initial Student Interview)

During the early stages of the study Greg seemed rather reserved with regard to the other students. He was polite and congenial but never participated in general conversation or banter with the other students before class began. Instead, he asked questions of the instructors about previous material or content (Observational Protocols 4, 5, and 6). But, Greg did describe how he felt he was getting along with some of the other students as the program progressed and he got to know them better.

> I'm getting along with the other students in class. I enjoy working with April and Terry. We seem to get along when we have partners. We kick and block each other's moves. It's fun and I might even beg my mom to go to karate to see the other people, now. I like being there and being around the other kids in the karate class at the park. (Verbal Debriefing 10)

Greg seemed to build positive relationships with the instructors as well. One night during the verbal debriefing he said, “I really like the instructors. They show us what to do. I look at them and listen to them and I think they’re cool” (Verbal Debriefing 13). Interestingly, one area of perception of competence dealing with personal and peer relationships that seemed to be influenced was with family. Greg mentioned the following comments with a great deal of personal pride and enthusiasm.

> Before with my cousin there would be arguments, even fights where I would get so mad I’d throw him down the steps. But now, I just don’t get that mad. It doesn’t bother me like it did sometimes and I don’t fight. I’m calmer with him and don’t fight. (Verbal Debriefing 15)

Interaction with fellow students and instructors was advocated as part of the training regimen. But, interaction was not just verbal. It included activities that involved working with other students and relying on their responses for understanding the premise behind the techniques. Cooperative learning was a component of the traditional martial arts program.

Greg’s own improved perception of competence appeared to be bolstered by the consistent, genuine feedback he received as a result of participation in the traditional martial arts training.

Greg received meaningful, consistent, and timely feedback from instructors and other students. Forms of responses were from visual, verbal, and physical contact domains. As Greg’s progress was monitored, responses of the instructors reflected

consideration of accrued and demonstrated skills. Greg was consistently made aware of his proficiency level and if there was a need for re-teaching.

> The instructors tell me what I am doing, even if it's wrong. They show me what to do when something happens and they take time to explain. Now, sometimes I don't mind sitting and listening. It's not too hard either way. I can do it no matter what. They're letting me know how I'm doing and the other kids, too. (Verbal Debriefing 13)

With minimal verbal cues and demonstration of appropriate techniques Greg was able to realign, readjust and get back to proper stances and positioning if he faltered (Observational Protocols 5,6, and 8). During the training, he usually waited for the detailed explanation from instructors. Greg seemed to appreciate the attention and guidance provided by the instructors. Greg mentioned support from his instructors by comparing it to his teacher in school.

> My teacher at school in math shows me a lot of attention. She moves around a lot and tells me that I'm doing good, kind of like karate and the instructors. She's funny but we learn stuff and we don't know that we're learning hard stuff, just like karate. (Verbal Debriefing 15)

As evidenced by his physical performance, particularly in sparring, Greg demonstrated excellent control, and followed the verbal cues of the instructors. His activity level and performance seemed to be energized by the feedback and responses of the instructors. He consistently responded with increased enthusiasm, body shifting, varying strategies, and subsequent wait times for his classmates to train with him in the process (Observational Protocol 15).

Considering all of the traditional martial arts program components, physical activity appeared to be an area where Greg was more involved.

Greg's participation in the physical activity phase of the study was closely monitored utilizing the observational protocols. As the first stage of training in the traditional martial arts, physical activity was where Greg enlivened their interests and prepared for the greater endeavors of training. The activities provided Greg with a positive origin for involvement. Greg's mother related in the Initial Parent Interview that that being physical was part of Greg's personality.

> He's just definitely a physically active child. He would always be doing something, never the emotional or passive things. He just sees himself outside and moving and definitely doing something. Riding his bike or whatever. He is just a physically active little boy. (Initial Parent Interview)

All of the categories of physical activity as presented on the Observational Protocol were readily accomplished by Greg. If he was shown the movement and was instructed verbally and visually, he rarely had a problem. Regularly, he demonstrated controlled physical awareness and emerging command of the physical techniques (Observational Protocol 9). Greg expressed interest in the physical activity.

> I guess I really like the moving around from thing to thing. Don't really like to sit. The kicking and the punching is probably the best because it takes a lot of moving. When you spar you move around with someone else. It's like you have to use your whole body with moving, kicking, punching, and blocking, but I can do it when they show me. I like the movement because it strengthens my hands, arms, and legs. (Verbal Debriefing 15)

Greg found most of the movements simple because he related numerous times just how physically active he was at home. He said, “I’m used to climbing poles, using my legs and my hands. I’m used to running a lot too. So I like the karate class because it has a lot of stuff to do and learn (Verbal Debriefing 14).

The traditional martial arts provided controlled and appropriate activity levels for Greg. It appeared that Greg enjoyed all demonstrated techniques. Greg’s motivation and proficiency as measured by improving perceptions of competence were bolstered by his continued efforts to show individual skills and facilitate group learning.

Greg realized the importance of blending mental abilities and processing with physical abilities to achieve success in his training.

Greg’s training in the traditional martial arts required an approach that utilized mental and physical abilities. A variety of strategies were used in presenting Greg the lessons that involved movement and controlled techniques. Greg was also exposed to attitudinal objectives and a philosophy that encouraged thought before physical action. Greg understood that traditional martial arts included more than just the physical.

> But you know it’s not just about punching and kicking. The instructors tell us to think about control and not hurting people. They show us how to do that. I like it when I’m on the front row so I can see and hear better. I can follow them and not get confused with too many people moving around. (Verbal Debriefing 9)

It was obvious that Greg matched a thinking component to his increased physical ability as displayed in the traditional martial arts program. As evidenced in Observational Protocol 10, the thought processes seemed to embrace the philosophy of non-contact,

non-violence in the sparring. He demonstrated outstanding control with a classmate that was less controlled and focused. The look on Greg's face was relaxed yet intense. He later said, "Man, I almost got hit a couple of times, but I thought about it, and then just moved without thinking" (Verbal Debriefing 13). Further, he mentioned in a verbal debriefing:

> I like being able to think quickly. I think doing forms where you have to think about the next move with your hand or foot and you fight an imaginary person helps you to think. I watch the black belts and they don't even look like they're thinking. But they do. I want to be a black belt someday. (Verbal Debriefing 13)

Greg demonstrated a balance of mental and physical abilities to maximize his success in the program. His participation in the traditional martial arts was characterized by controlled, focused physical techniques and reflective responses to program concepts and philosophy.

Summary. Greg performed in an exemplary fashion during the course of the 15-week study involving traditional martial arts training. The traditional martial arts seemed to influence his sense of order, his need for improved personal and peer relationships, and his understanding that mental abilities and physical abilities can be combined to accomplish successful outcomes. Greg's perceptions of competence were strengthened and he enjoyed the training regimen immensely.

Joseph

Joseph was a fifth-grade student who lived with his parents and a younger brother. According to his mother in the Initial Parent Interview, Joseph did well in school and was

never disruptive. She said, “He’s had an occasional good friend, but never a best friend in school and other activities. I see him as needing to slow his brain down to order and organize things more in his life,” and later she added that, “Maybe this will lessen his periods of impulsivity and increase his self-confidence.”

Joseph saw himself as rather task-oriented and hands-on, enjoying models, puzzles, etc. He said, “Sometimes I get in trouble when I’m bored and don’t have anything planned. And then if there’s nothing to do, I might get in trouble” (Initial Student Interview). At the beginning of the study Joseph had to use a crutch to move around to a minimal degree due to a joint problem, but it never compromised his physical performance and adjustment to the program (Observational Protocol 1).

Joseph displayed a positive and respectful response set toward the instructors and his fellow participants during the 15-week study period. Joseph had martial arts experience from another system of techniques, movements, and philosophy about four years ago.

Three themes emerged from the analysis of the data sources: (a) Joseph’s need for organization and control seemed to be supported by his participation in the traditional martial arts program; (b) Considering all of the components of the traditional martial arts program, physical activity and performance appeared to be areas where Joseph was more involved; and (c) Though Joseph was more involved with the physical aspects of the traditional martial arts training, he recognized that there was a need for utilizing mental abilities to be successful. Each of these themes will be discussed and supported with evidence from the data sources.

Joseph's need for organization and control seemed to be supported by his participation in the traditional martial arts program.

Joseph adhered very well to the regimen of traditional martial arts. He understood that the program was presented using specific lesson guidelines and that the routine would be followed on a regular basis. His previous martial arts experience probably had some bearing on his willingness to try to follow the program. In the Initial Parent Interview, Joseph's mother related content specific to his need for order, having a plan, and following a specific framework.

> Joseph is my **what are we going to do today child?** He likes to have a plan. He has a real desire and interest to build things, getting started and having a plan, but often loses interest or becomes bored and never completes things. He likes a plan or a schedule and hates what he perceives as being disruptions to his particular order. This translates over into his academics. Writing, which takes organization and planning, developed by others is a struggle for him. He has to slow his brain down to think it through as he writes things. By the time he gets two words written down, the rest of the sentence or plan is forgotten. It's extremely hard for him to follow the plan because of his writing difficulties (Initial Parent Interview).

Because of his previous martial arts training, Joseph was positioned in the front rank so that other students could use him as a guide in alignment and position. From the onset of training, he relished this opportunity to exhibit order and organization for himself and the other students particularly in the traditional martial arts class (Observational Protocols 1, 2, and 3).

Initially, Joseph was more into milling around and rather aimless movement upon entering the training area. As he assumed more responsibility, serving as a positive example of the techniques and movements for the other students he actually improved in

his own performance. He was very intense, ordered, and aware others were watching him and that the instructors were watching and monitoring him as well (Observational Protocol 7). The organization of the Chayon- Ryu System was interesting to Joseph and what the ideas were behind the philosophy.

> I understand too that I have to be in control when I do the movements so no one gets hurt and we can learn new things. I enjoy understanding how the karate system works. I like to understand how people interact when they do it too. (Verbal Debriefing 12)

As the training progressed to the end of the study, Joseph displayed more episodes of ordered and controlled behavior that seemed to be nurtured by the traditional martial arts program. With the prospect of moving on to advanced, more intricate activities, there was less mention of previous training in the other system and more of getting it complete in the Chayon-Ryu System.

> I can learn all of these movements and requirements. Some of them are harder than the others but most of them are easy. I think if I can keep it all together, I can keep doing it until I'm a black belt. I just have to remember that things can build on each other and this helps me learn the system in small parts, even though I know a lot already. (Verbal Debriefing 15)

The organized framework of the program facilitated Joseph's need for order and balanced activity. There was never a question as to what was the next phase in the schedule or traditional martial arts curriculum. Joseph never questioned why things were done a specific way or when they occurred in the program.

> I understand that this is a different system and that the stuff is different when we learn, but, I want to be a black belt and if I follow the rules and learn things when I'm supposed it'll be the karate system that I'll stay with a long time. The instructors don't make it too hard. And I know about the history of Grandmaster Kim's system. It's been around a while. (Verbal Debriefing 15)

> Things are just as easy in Chayon-Ryu and you practice a lot of techniques instead of fighting and forms. You have to keep it all straight, but you can do it if you listen, be respectful, and have control in your behavior. Black belt is not impossible. I know if I stay in a good organized program I can do it. (Final Student Interview)

Considering all of the components of the traditional martial arts program, physical activity and performance appeared to be areas where Joseph was more involved.

Joseph readily participated in the program of traditional martial arts which consisted of a robust curriculum of physical activity combined with philosophical tenets. Physical activity was the first stage of training for Joseph, with natural movements and techniques providing the framework for student engagement. Joseph described his involvement in the system and how being active was better for him.

> I don't like to sit. I'd rather be moving. I'm just used to a lot of activity and movement. Even though I haven't been moving because of my hip, I think I can do it if I take it easy to begin with in the training. I need activity and I need to be doing something most of the time. (Verbal Debriefing 4)

Observations of Joseph during demonstration of techniques and philosophy that serve as the foundation for all movements indicated a sense of general fatigue or disengagement. But, when the opportunity presented itself for actual demonstration of the technique there was no lapse in retention. Joseph remarked, "I can do it, no problem. It's really pretty easy" (Observational Protocol 9). He seemed bored with the discussion on

occasion, but this changed as the study progressed. With the realization and understanding that reflection is part of the regimen, Joseph resigned himself to that fact He said, “Listening to and watching the instructors helps to make the physical moves better. You can see it up close and then I can repeat the move myself without getting confused (Observational Protocols 12 and 13).

> I really love it when we put things together in the free-sparring. Punching, kicking, blocking, and control are big things to remember. It doesn’t seem that control would be in there but that’s what we’ve learned. We’ve learned to control ourselves. I’m tired out, but that’s ok. (Verbal Debriefing 14)

The program offered numerous opportunities for active, physical participation for Joseph. Movements included punching, kicking, moving, turning, and falling. Individual demonstrations and partner activities were integral in the process. Joseph was an able and reliable participant. He enjoyed every aspect of training that involved direct physical movement.

Though Joseph was more involved with the physical aspects of the traditional martial arts training, he recognized that there was a need for utilizing mental abilities to be successful.

Chayon- Ryu traditional martial arts offered a blending of mental and physical techniques for Joseph to demonstrate skills and balance. Joseph understood that a balance of mental and physical abilities was necessary for learning in the program. Various methods of delivery were utilized to impart lessons to students with ADHD and to

monitor success. Joseph described what it was like for him to see the need for thought and reflection before action.

> You do have to think about what you're doing and how you react to other people who might be attacking you or just training with you. You can't just go off on somebody. You have to have the right thoughts in your head when you're working out so that no one is hurt and everybody gets to keep training. It's like you can't lose control when you are playing or doing things with people (Verbal Debriefing 14).

According to observational protocol criteria of specific behaviors, Joseph demonstrated respect, positive control, and good attitude in his techniques. He remarked, "Good attitude is very important. The black belts, like I want to be, tell us, you can't be out of control or wild. You have to react to things and avoid bad situations whenever possible" (Observational Protocol 14).

Mental and physical abilities were pivotal to Joseph's success. And his perceptions of competence were influenced by his participation in the traditional martial arts. He realized that to feel the influence of the training there had to be a meshing of the two qualities. Action without thought negated intent and the traditional martial arts would have just been just a type of physical activity rather than activity matched with a philosophy.

Summary. Joseph's self-perceptions of competence were influenced by his participation in the traditional martial arts. His perception of order and organization appeared to be supported due to the organization and planned format of the program. He never had to worry about succeeding activities involving the traditional martial arts.

Joseph's level of involvement was nurtured by the physical activity aspect of the traditional martial arts. The emphasis on combining mental and physical activities in the training influenced Joseph's intensity as a student.

Jack

Jack was a fourth-grade student who lived with his parents and two younger sisters. His mother informed the instructor that after four weeks Jack was problematic and insufferable in his behavior at home so she put him back on medication. In the Initial Parent interview Jack's mother remarked:

> Jack sees himself as being the one in charge in the family. He has control issues with us and had been physically aggressive to his sisters. His grandfather is very influential in Jack's life. Hopefully, the karate will be good for Jack and help him with self-discipline and decrease periods of aggression.

Jack had an excellent attendance record for the study, missing only two classes. Initially, Jack was minimally engaged but once he began taking his medication his focus and involvement improved (Observational Protocol 4).

Four themes emerged from the analysis of the data sources: (a) Jack's need for order and organization seemed to be supported by participation in the traditional martial arts program ; (b) Jack's perception of competence in the area of peer relationships appeared to be nurtured by his participation in the traditional martial arts; (c) Jack gained confidence in performance as a result of positive feedback from instructors and peers; and (d) Considering the components of the traditional martial arts program, physical

activity appeared to be an area where Jack was more engaged. Each of these themes will be discussed and supported with evidence from the data sources.

Jack's need for order and organization seemed to be supported by participation in the traditional martial arts program.

Order and organization were deliberate foci of the program for the students. The lesson and schedule presentation Jack followed a specific lesson plan and schedule presentation that was adhered to for every class. Jack experienced this measured, consistent framework for every class. He seemed to grasp the intent of the planned curriculum of traditional martial arts after about 4 weeks.

> Don't know what it is that is helping me to get things together and do good. Staying in line and looking and listening makes it easier to see things and do it. Listening is the easiest. It gets in my head that way and I can learn better I think. (Verbal Debriefing 4)

Later as the techniques and movement began to get more intricate, Jack exclaimed, "It's so hard when a lot of people are moving around. It makes me nervous and sometimes I forget what comes next but if I keep my eyes on the teachers and listen, it's easier (Verbal Debriefing 7).

As recorded on the Observational Protocols, Jack began to come into class more ordered, organized, and focused on his training after he started back on his medication. He entered the workout area more respectfully, sat, and found a quiet way to calm down and prepare for class (Observational Protocol 7). He said, "I'm meditating to get myself together and get ready for class and get myself ready for the training. It's not too easy for

me but because I have to think hard about it." Jack responded to the guidelines for order and organization. In a later verbal debriefing, Jack laughed and said, "I don't why I hit my head sometimes when I mess up. It's easy to get back in line or follow what the instructors are saying. It's the same as walking along" (Verbal Debriefing 12). Jack adhered to the guidelines without incident and performed accordingly. Once he was familiar with the routines he became more involved in all of the activities.

Jack's perception of competence in the area of peer relationships appeared to be nurtured by his participation in the traditional martial arts.

The program provided ample opportunities for students to participate in activities with instructors and fellow students. The interactions were structured and focused so that they fostered an environment of cooperative learning and improved peer relations. Jack seemed to respond to these opportunities:

> I get along with all the students in class and it doesn't matter who I work with when I train. Everybody is the same. We're all learning the same stuff here at the park. Learning is hard but we're doing it together and having some fun.
> I worry when Terry isn't here or Jimmy. I wonder if they quit. We're friends now and I want them to keep coming. (Verbal Debriefing 8)

As evidenced on Observational Protocol 8, Jack seemed to show some strong positive indications that appropriate socialization strategies were working for him. He engaged other students in conversations about school activities and even invited all participants (students and instructors) to his birthday party. He stated, "Hope that you can come to my birthday party." Such social overtures were in direct contrast to Jack's mother's statement in the Initial Parent Interview. She said, "He's pretty much a loner,

and when he would be involved with other kids he would irritate and aggravate them. Even like sticking them with a pencil or maybe being physically aggressive to his sisters rather than being nice."

Jack developed friendships during the training. These relationships seemed to influence his willingness to participate and be more patient with himself and others.

Jack gained confidence in performance as a result of positive feedback from instructors and peers.

Relevant, individualized praise and attention were aspects of the training atmosphere for Jack. Instructors and fellow students offered Jack genuine feedback in various forms such as verbal cues, physical contact, such as a pat on the shoulder, and visual responses. Reactions to the feedback were monitored through observational protocols and the instructors had expectations for Jack's success in the program. Jack

> Sometimes I get confused watching the instructors and then trying to do what they do. It's like I don't think I can do some of the stuff, but they say I can. It's not always just right, but they say it doesn't have to be perfect. And then other kids say you can do it, so, I try. It's hard but most times I can do it. (Verbal Debriefing 12)

One evening Jack displayed a reticence to demonstrate with one of the instructors. He respectfully said, "I just can't do it, it seems too hard. I really don't want to do it" (Observational Protocol 11). The instructor continued the demonstrating offering Jack support and assured him that all of the students would have to do it even if this particular night was not opportune for him. He decided to give it a try rather than refusing and he eventually was successful. His performance was adequate and the basic principles of the

technique were not compromised. He remarked “This is really easy if you try. If you don’t try you won’t know if you can do it” (Observational Protocol 11).

Jack’s mother related the same idea in a phone contact session. She said, “He’s trying it all and he loves coming to the class. It seems there’s nothing that he dislikes about the karate or the people there” (Phone Contact 3). And jack confirmed what his mother reported:

> I think I’m doing good with all of it. The instructors tell me and then the other students tell me. Like when I broke my board with one kick. They all said what a good kick I did. It made me feel real good. (Verbal Debriefing 15)

In the earlier stages of Jack’s training his movements were labored and very erratic (Observational Protocol 4). But as the study progressed, his performance became more balanced (Observational Protocol 10). Jack began to grasp the intent of the verbal cues and expectations for successful demonstration of the techniques. Jack seemed to learn valuable lessons from the variety of praise, attention, and individualized cues meant to convey feedback from instructors and fellow students. Jack’s demeanor seemed to become more relaxed and confident in himself and his training.

Considering all of the components of the traditional martial arts program, physical activity appeared to be an area where Jack was more interested and involved.

The traditional martial arts provided Jack with many opportunities for physical activity and controlled engagement. Jack confirmed that he enjoyed participating in the physical aspects of traditional martial arts.

> I would rather be kicking, punching, and learning stuff. Sitting and listening is too boring, like school. I think I like the sparring best because it's all moving and even though you don't hit people you have to be quick and slip away. (Verbal Debriefing 11)
>
> Moving and punching and kicking are the best thing you can do. I like it all and I'm getting pretty good at it, too. Everybody tells me that, the instructors, the other students, everybody. I think I'll be a black belt if I keep at it. It's not too hard. Mr. Graham says everybody can be a black belt. If they work and train. (Verbal Debriefing 14)

Jack was very involved in the physical aspect of the training. He demonstrated better control with his techniques and exhibited more balance in his basic movements. The physical activity seemed to be his primary focus.

Summary. Jack demonstrated progress in adjusting to the organization and order provided by the traditional martial arts program. He improved his balance and movement in the performance of basic physical activity and Jack responded well to the feedback provided by the instructors and fellow students. He seemed to gain confidence in his performance because of the feedback. Also, Jack appeared to strengthen his socialization skills in peer relationships as evidenced in his desire to make friends in the class.

Terry

Terry was a fourth-grade student who lived with his parents and an older brother. In the Initial Parent Interview, Terry's mother related, "Terry is always up and going and was very challenging in the level of his behavior. Terry can be physically rough and tended to view school experiences as work and more work." Terry sees himself as different from his friends. He said, "My friends would probably see me as crazy. It's like I'm filled with a strong feeling, that I want to get out of me" (Initial Student Interview).

Terry had an excellent attendance record for the 15-week research study, missing only one class. Initially, his interest in the traditional martial arts varied. By the end of the study, Terry had developed a more positive attitude toward the traditional martial arts.

Four themes emerged from the analysis of the data sources (interviews, weekly verbal debriefings with students, weekly observational protocols, and bi-weekly phone contacts with parents): (a) With participation in the traditional martial arts program, Terry's need for realistic organization seemed to be nurtured; (b) Genuine praise, and instructors' attention appeared to support Terry's own emergent perceptions of competence; (c) The aspect of physical activity in the traditional martial arts program appeared to be an area where Terry was more engaged; and d) Terry understood the importance of a combined approach of mental and physical abilities for training success. Each of these themes will be discussed and supported with evidence from the data sources.

<u>With participation in the traditional martial arts program, Terry's need for realistic organization seemed to be nurtured.</u>

The program of traditional martial arts had specific rules and procedures for presenting the basic ideas of the system for every student. Terry seemed to understand that the specific phases made the process easier to comprehend and learn for all students. The framework is very ordered and took many years to organize and develop by the Grandmaster. Terry was a little hesitant in the initial stages of the training because he felt it was too much to remember. He remarked about the first lesson:

> Yeah, I liked the learning and trying to do things I've never done before but it's so much to remember. Things that build on other things. I think it's a great idea but sometimes the stuff is hard to do and I have a hard time getting it in my head. Stuff I've never thought about before. The instructors say I can do it. If I pay attention and get it in my head and I can learn it. (Verbal Debriefing 1)

According to the observational protocols and monitoring Terry's progress in the program, he made tremendous strides from beginning sessions to the program's end. During the beginning sessions he seemed totally disengaged and troubled in his organization (Observational Protocols 1, 2, and 3). Behaviors noted were picking at his fingers, pulling his socks, and spinning around on the floor at his seat. But, as the program was winding down, Terry exhibited more control in his physical movements and his attention to the basic principles of body shifting, controlled breathing, and building skill to more advanced levels of proficiency (Observational Protocol 15). His mother noticed and remarked:

> . . . But the librarian noticed that he is quieter this year, and not quite so fragmented . . . not the ricochet rabbit that he typically was in the library . . . He's not quite as focused as just a standard individual might be . . . but he is leaps and bounds better . . . trying hard to be the age he is and being comfortable with that and who he is, trying to find his system of order (Final Parent Interview).

And Terry felt . . .

> Usually, I don't monitor myself but I just try to listen, do what I'm told . . . imitate, I'm a good imitator. When I learn it, I'm doing what comes natural. I'm determined to get it right and show my strategies. It all was sort of difficult to get but I did a good job. Maybe, I'm black belt level right now. I've got my own skills and I seem to be more under control. It seems like a plan. (Verbal Debriefing 15)

He readily admitted that he was not accustomed to self-monitoring himself or being ordered but that karate was helping to calm him down and get him together. He remarked, “This is new for me to be calm and under control and I kinda like it and I kinda don’t” (Verbal Debriefing 15).

Terry became more involved in trying to get organized as the program progressed. He realized that the traditional martial arts were consistent in presentation and the instructors followed a regular lesson plan.

Consistent, genuine praise and comments, and realistic expectations appeared to support Terry’s own enhanced perceptions of competence.

The system presented consistent responses to Terry’s demonstrated performance. The feedback was meaningful, relevant, and concise. Responses, comments, cues, and contacts were focused on Terry’s progress and retention of content. Terry felt that the instructors were supportive based on a verbal debriefing:

> I’m feeling very great and very confident. I’m able to see the instructors, and with my ears and eyes I think I can do my best. The instructors just say try and give it the effort and I might do it. (Verbal Debriefing 7)

And again he voiced a similar affirmation in a later verbal debriefing:

> Hey, I started getting it right and not talking or having to sit out in time-out because I can’t get quiet. It’s better when I follow what they say. I like it when they tell me I’m doing good. It makes me feel that I can do it all and have no problems. (Verbal Debriefing 10)

As evidenced by a later behavioral observation, Terry responded to visual cues. A slight shake of the head or a positive nod and he was able to redirect and come back to a focused position (Observational Protocol 13). He related, “It’s getting easier and I know I can do it. The instructors let me know every night when they look at me or shake their head” (Verbal Debriefing 15).

Terry realized that the instructors noticed his behavior, activity level, and focus. He seemed to enjoy the attention with a vivid recognition that positive and negative responses were delivered in the process. He seemed to understand that the instructors were consistent and positive in their consideration of his progress.

Considering all of the components of the traditional martial arts program, physical activity appeared to be an area where Terry was more engaged.

The traditional martial arts provided periods for physical and engaged behavior as Terry became involved in his training. It was the first level of training in the program that he experienced. Terry’s performance was monitored and controlled in a safe environment. Terry was more interested in the physical activity aspect of the program.

> I liked moving the best. Sitting is not my favorite. I seem to be just learning. Looking, listening, moving a lot, and doing what I have to do is difficult but I do like to move more than anything. I tried it and it worked for me and the others. The teachers tell us what to and we just do it. (Verbal Debriefing 7)

He later remarked when the activity level increased that he felt:

> Sparring is really good because you do everything. I like it the best. I work on my strategies. Using my strength is something I decide. Knowing when to move. Do what I got to do to get away and show my different strategies. It’s not really too

> hard. Probably half and half, hard and easy for me to do but I do enjoy the moving and throwing the techniques. (Verbal Debriefing 15)

Observational Protocol 14 indicated that Terry was aligned and moved with the rest of the class throughout forms practice. He also remarked, “It all means something. You move to protect yourself and act determined. It’s gotten easier. I practice in class. I’m doing a lot of things good.”

Though very physically active, Terry adhered to the philosophy of controlled, balanced movements and focus. He excitedly said one night, “I’m surprising myself how well I’m doing. It’s more fun than I thought” (Verbal Debriefing 14).

Terry was very engaged in all of the physical activity provided by the traditional martial arts program. He demonstrated good control and adequate balance.

Terry valued the importance of a combined approach of mental and physical abilities for maximized success.

Terry realized that training in the program required a composite of strengths and abilities. To create a balanced perspective, Terry understood that physical strength and mental abilities had to be exercised to learn new techniques. Terry’s mother remarked that the techniques and movements had to be on quick recall if Terry was truly seeing the connection between mental and physical abilities.

> The stances and the moves are not difficult for him; and those are enjoyable. It’s thinking and controlling himself to apply the principles of the martial arts like control and behavioral balance when he’s asked, not when he wants to do it. He’s got to understand it’s all the time, not just when he wants to turn it on. (Final Parent Interview)

Terry reflected on combining the mental and the physical:

> It's really necessary to use your brain and use your strength to get things done. Just look, listen, think, and do what I had to do in the class. I've never had to monitor myself but it's getting easier to do it. Breaking my board showed it. Thinking through it and breaking it. (Verbal Debriefing 15)

As evidenced in the final two observational protocols, Terry demonstrated control and thoughtful response to verbal instruction in the later stages of training. He said, "Even the breathing is easier!" (Observational Protocol 15). His display of techniques came with minimal verbal cues or physical contact (Observational Protocol 15).

Mental and physical abilities were emphasized to achieve observable success in the program during the study. Terry seemed to understand the influence that meshing the two qualities would have on his ultimate progress and development.

Summary. In the initial stages of the research study Terry's responses were totally disengaged. Progressively, he got in alignment physically and eventually mentally. He adhered to the organization and order that the program of traditional martial arts provided and utilized some of the lessons in creating some order for him. Terry responded well to the feedback provided by the instructors and fellow students. This served to increase confidence in his performance. The physical activity aspect of the traditional martial was an area where Terry thrived. As his skills and endurance increased, his attitude improved and he realized that a balanced approach utilizing mental and physical abilities was the best strategy he could develop.

Across Case Analysis: All Students

The second phase of analysis across cases dealt with all seven students, April, Jimmy, Nathan, Greg, Joseph, Jack, and Terry. Similarities in one theme were found between all seven cases: *With participation in the traditional martial arts program, the students' need for realistic order and organization seemed to be nurtured*. Similarities in three themes were found in six cases: *Consistent genuine praise, attention, and realistic expectations appeared to support students' own enhanced perceptions of competence; Considering all of the components of the traditional martial arts program, physical activity appeared to be an area where students with ADHD were more engaged; and Participants valued the importance of a combined approach to mental and physical abilities for maximized success.* Similarities in one theme were found in three cases: *Participation in the traditional martial arts program seemed to support improved perceptions of competence in the area of personal and peer relationships.* (See Table 1 for a summary of themes across subjects.)

Similarities

For the theme, *With participation in the traditional martial arts program, the students' need for realistic order and organization seemed to be nurtured*, April, Jimmy, Nathan, Greg, Joseph, Jack and Terry were similar in that they all saw the need for the training regimen and the process ensured by the program. They all realized in the general milieu of activity and techniques that there was purpose in a structured approach. Though all students exhibited some level of organization in their physical and social demeanors,

Table 1

Across Case Analysis for All Students

Themes	April	Jimmy	Nathan	Greg	Joseph	Jack	Terry	Total Yes
With participation in the traditional martial arts program, the students' need for realistic order and organization seemed to be nurtured	Yes	Yes	Yes	Yes	Yes	Yes	Yes	7
Participation in the traditional martial arts program seemed to support improved perceptions of competence in the area of personal and peer relationships	Yes	No	No	Yes	No	Yes	No	3
Consistent, genuine praise, attention and realistic expectations appeared to support students' own enhanced perceptions of competence	Yes	Yes	Yes	Yes	No	Yes	Yes	6
Considering all of the components of the traditional martial arts program, physical activity appeared to be an area where students with ADHD were more engaged	Yes	Yes	No	Yes	Yes	Yes	Yes	6
Participants valued the importance of a combined approach of mental and physical abilities for maximized success	Yes	Yes	Yes	Yes	Yes	No	Yes	6

the traditional martial arts program afforded logical, realistic guidelines. This framework seemed to engage students at their present perceptual level of competence.

For the theme, *Consistent, genuine praise, attention appeared to support students' own enhanced perceptions of competence,* April, Jimmy, Nathan, Greg, Jack, and Terry were all similar. These six students realized that monitoring and instruction by the black belts were consistent, constructive, and genuine in purposeful direction for improvement. All of these six students were also aware that that monitoring was multimodal in that verbal and visual cues, physical contact (pats on the back, etc.), and demonstration teaching were utilized in the total process. For the theme, *Considering all of the components of the traditional martial arts program, physical activity appeared to be an area where students with ADHD were more engaged*, April, Jimmy, Greg, Joseph, Jack, and Terry's data sources indicated they would much rather be active, up and moving, and constantly engaged. These six students found that the physical activity aspect of traditional martial arts was an area where they could get involved and increase their confidence by increasing their physical skills through improved performance.

For the theme, *Participants valued the importance of a combined approach of mental and physical abilities for maximized success*, April, Jimmy, Nathan, Greg, Joseph, and Terry's data sources indicated their comprehension of the need for mental and physical acuity in the program. These students seemed to understand the duality of purpose and the necessity of mental processing coupled with physical endeavor and demonstrated such in their class behavior and performance on a regular basis.

For the theme, *Participation in the traditional martial arts seemed to support improved perceptions of competence in the area of personal and peer relationships*, April, Greg, and Jack realized that participation provided opportunities for socialization and improving levels of self-perception in developing friendships and improved personal relationships (family, authority figures, etc.).

Summary

In summary, for this last phase of analysis across all seven cases, similarities in themes were sought across all students. There were similarities across seven cases for one theme, similarities across six cases for three themes, and across three cases for one theme.

CHAPTER V

DISCUSSION

This study addressed two research questions: (a) How did traditional martial arts influence the self-perceptions of competence in children with ADHD? (b) How did children with ADHD feel when they participated in traditional martial arts regarding ability and success? The data sources (pre/post parent interviews, pre/post student interview, weekly verbal debriefings, observational protocols, and bi-weekly parent phone contacts) provided insights into the influences that participation in the traditional martial arts seemed to have on children with ADHD. This resulted in five identified themes which relate to the research questions (see Table 1 on page 129 of Chapter IV for a listing of the themes). Themes evolved from the data sources that provided evidences of children's feelings as they contemplated their own abilities and success. Following is a discussion of the identified themes as they relate to the research questions, implications of these results, limitations of the study and recommendations for future research.

As mentioned in Chapter II of the study, traditional martial arts may present an organized regimen of philosophical, psychological, physical, and spiritual tenets that facilitate positive self-perceptions of competence in children with ADHD. These children often struggle with routines and organized regimens as expected by those in academic progression, achievement, and success (Hinshaw, 1994; Kidd, 2000; Parker, 2001). One theme for all seven students was *the students' need for order and organization was*

nurtured in the sense that they were drawn to the mental and physical discipline necessary for class participation (Kim, 2005). As the program progressed, and perceptions of competence were enhanced with increased knowledge and proficiency, students demonstrated greater organization in other areas of their lives. Parker (2001) reported that organizational difficulties in children with ADHD can influence appropriate generalization of accrued skills to other areas (e.g., academics, socialization). In particular, the weekly verbal debriefings and observational protocols provided information that the students increased their abilities in organization and their level of perceptions of competence in the training area.

With respect to another theme which was evident for six of the seven students and its influence on the research focus and questions, six *students seemed to be influenced by consistent, genuine praise, attention, and realistic expectations.* The presence of verbal and visual cues, physical contact, which were major components of the intervention, appeared to demonstrate positive influences on the performance of the students in the traditional martial arts program. Though not always based on established principles of reinforcement (Damico & Armstrong, 1996), the training program was definitely characterized by a controlled environment with specific goals for the participants. The students' self-perceptions of competence improved which was a desired outcome for this study. The level of consistency and full genuineness of the attention demonstrated by the instructors was integral in raising the students' levels of perceptions of competence. Burnett and McCrindle (1999) hypothesized that the influence of positive statements and

responses by parents, peers, and other responsible care givers was pivotal in realistic development of more positive perceptions of competence in children with ADHD.

Another theme that was identified for three of the seven students was *participation in the traditional martial arts program seemed to support improved perceptions of competence in the area of personal and peer relationships*. The traditional martial arts intervention occurred in an environment that facilitated social interaction with others and therefore, actualization of individual potential, in the context of relationship with peers and other individuals. Thus, the traditional martial arts appeared to provide a context for developing strategies that fostered therapeutic, non-contrived solutions that can enhance the ability of children with ADHD to realize their own strengths as they relate to and participate in activities as theorized by Columbus and Rice (1998) and Kim (2005). These solutions include traditional martial arts endeavors that accentuate the inner strength of the individual. The psychosocial theoretical framework, which served as the foundation of the research study, also seemed to be evidenced in the traditional martial arts program which seemed to improve students' perceptions of competence in social settings, relationships with others, interactions, and participant responses (Wells et al., 2000). With enhanced perceptions of competence the students developed a willingness to engage in social situations and try new directions in developing interpersonal skills (Abikoff et al., 2004).

In a multimodal summer treatment study, Wells and her colleagues (2000) reported that sports skills training was a viable intervention for children with ADHD. These children with ADHD who engaged in physical activity, in combination with other

strategies, flourished when instructors and coaches employed positive, effective methods of teaching, and there was greater evidence of a more consistent increase in self-perceptions of competence (Wells et al., 2000). The traditional martial arts training in the present study provided opportunities for developing self-discipline, self-control, mental and physical acuity, evidences of harmonious function and demonstration of techniques (Kim, 2005). Likewise, the instructors provided consistent comments and positive feedback which modeled appropriate responses, thus afforded students the opportunities that encouraged a sense of competence at intrapersonal and interpersonal levels (Seitz et al., 1990).

Seemingly, physical activity served as the most engaging area of participation for most of the students. This was a theme for six of the seven students. They continually acknowledged that they preferred movement and activity over the other components, even though learning all of the physical techniques was difficult.

After the techniques were introduced, practiced, and the participants eventually improved to a specific proficiency level, a transformation seemed to take place. The controlled environment allowed students to develop a sense of calm that allowed their minds to assimilate the technique and then move to a state of consciousness where they could relax and allow their body to respond more reflexively to any movement or technique (Kim, 2005). The pacing of activities permitted consistent involvement of all students allowing the children with ADHD to move and be active in the training regimen at their individual pace.

The level of participation and the philosophy of maintaining balance in all areas of functioning seemingly enhanced the students' own level of perception of competence. This enhanced level of self perception served as the foundation for increasing knowledge in the traditional martial arts and possibly negating feelings of inadequacy and inability in the areas of health and athleticism (Slomkowski et al., 1995).

As evidenced by six of the seven students, another theme indicated that *there was an emerging, observable valuation of the importance of utilizing a combined approach of mental and physical strength and abilities for maximized success*. Comments from some of the participants raised the obvious consideration that to perform adequately it took meshing the mind and body in the process of learning traditional martial arts. For better results reflection seemingly needed to precede action and performance. Mental processing was not to supplant reflexive action and movement but it was to facilitate an increased level of self-awareness and eventually enable the participant to develop strong values such as a need for social support, responsibility, self-discipline, and self-control (Kim, 2005). And, more than increased physical proficiency and prowess, the traditional martial arts training provides an effective focus on philosophy, mental strength, and applicable life lessons for success and longevity (Kim, 2005; Konzak & Boudreau, 1984; Twemlow et al., 1996). Overall, the students seemed to understand this.

Students in the study apparently realized the balance of mind and body provided by the traditional martial arts training. By participation in the psychosocial contexts of group process, receiving individual attention (Pelham et al., 2000; Wells et al., 2000), and engaging in physical activity, the students appeared to respond to the intervention that

seemed to influence the emerging and improving self-perceptions of competence of the students. This was realized through increased physical skills, comprehension of the philosophy, and practice of the specific martial arts techniques as evidenced in the data sources especially the verbal debriefings and the observational protocols.

Specific to traditional martial arts there is a lack of emphasis on competitiveness and competition as practiced with many other forms of physical activity. Considering the inabilities exhibited by children with ADHD in learning and modeling sport skills acuity and retention (Wells et al., 2000), the traditional martial arts can afford a more individualized plan of training. In which case, learning is, self-paced and devoid of ego orientation and more focused on mastery orientation related to performance in the traditional martial arts (Kim, 2005; King & Williams, 1997). When the training is individualized after skills knowledge is discerned, the likelihood of rejection in the social domain with peers is lessened. Self-perceptions of competence can emerge as specific, personal levels of proficiency are realized and feelings about perceived abilities and skills are encountered (King & Williams, 1997). There is no undue pressure or influence on social acceptance or molding one's ego to some predetermined athletic ideal (Kim, 2005).

Traditional martial arts also provides for concentrated efforts in the areas of focus attention, and mind-set wherein children with ADHD have experienced difficulties and oftentimes, little success (Barkley, 1997; 2006; Kim, 2005; Konzak & Boudreau, 1984; Morand, 2004).Within the framework of the traditional martial arts training, students are taught to fade into the awareness of movement which encourages the development of

listening skills, empathy, self-reflection, and self-monitoring (Kim, 2005; Twemlow & Sacco, 1998).

Self-monitoring and reflection are oftentimes areas of difficulty for children with ADHD (Barkley 2006; Parker, 2001; Pelham et al., 2000; Wells et al., 2000). Other areas of focus and concentration in the traditional martial arts deal with attention and are useful to children with ADHD. These are related to only one task or activity and advocate reflexive, automatic thought which allows the participant to respond according to the stimuli provided by the immediate environment (Twemlow & Sacco, 1998). Though general physical activity teaches improved focus and attention those qualities are accentuated and expanded in traditional martial arts training (Kim, 1990; 2005).

Traditional martial arts can provide prompt, viable feedback and attention to participants (Kim, 2005). Feedback, relevant behavioral response, and reinforcement strategies are all connected to related behavioral and cognitive-behavioral interventions for children with ADHD (Hinshaw, 1994; Winsler et al., 2000).

Presently, all students that participated in the study are continuing to the next level of training on their own. They are enjoying their progression as traditional martial artists. Parents of the students felt that their child demonstrated gains in their levels of competence and that the traditional martial arts provided a viable, complementary intervention for their child.

Delimitations and Limitations of this Study

A delimitation of the study is that the study confined itself to interviewing and observing elementary school children (grades 3, 4, and 5) in piedmont North Carolina

(Creswell, 2003). Also, since the activity was an afterschool venture, interviews of the students with ADHD and their parents are the only interviews that are explored as opposed to including teachers. Another delimitation of the study would deal with the lead researcher and his role as chief instructor of the traditional martial arts system program for the study. Truly, the study could be replicated using various forms of physical activity as the complementary intervention. But, if the physical activity was traditional martial arts, the lead instructor recognized as director of the program would have to be an adult black belt with at least seven years of experience in the traditional martial arts and have at least two years experience at the instructor level. Five years would be spent obtaining the black belt in Chayon-Ryu Traditional Martial Arts and ample time must be spent as an assistant instructor and as an instructor to develop skills for working with various student groups including children and adults.

Yin (2003) discusses some very traditional prejudices and limitations about case study research in general, including (a) a lack of rigor that sometimes allows biased views to influence the direction of the finding and conclusions (b) little foundation for scientific generalization and (c) extensive time for the study that can result in massive, unreadable documents. These concerns were considered in the design of the study. Triangulation of data sources was employed to address possible bias of views and lack of rigor. Member checking was used to insure that the written accounts were accurate. An additional reader with experience working with children with ADHD in the initial development of emerging themes provided a safeguard against faulty interpretations. However, the findings in this qualitative research could be subject to different

interpretations. The cases are not intended to generalize to populations, and that is a limitation, however, the entailed information garnered in the study will contribute significant specific information about complementary interventions for children with ADHD.

The study included 17 participants: seven students, seven parents, and three black belt instructors. The number may be considered small, but the reader should remember that in a multiple-case design, replication logic is important, and emphasizes careful choice in case selection. Sampling logic, which relies on numbers, was not used in this study; therefore, the findings can not be generalized to all children with ADHD. Data were collected over a period of four months, two times a week. In fact, if this study were to be replicated, the lead researcher would recommend changing the procedure to collect data one time per week, alternating weekly verbal debriefings with observational protocols. Therefore, the prescribed order of data collection could be altered, i.e., first interview, then weekly verbal debriefing (one week), then observational protocol (next week) followed by weekly verbal debriefing. Allowing students a longer period to reflect on content would provide more substantive data. An additional limitation of this study is that answers to unasked questions can not be inferred. For instance, it would have been interesting to know if students had been on their medication for the day or for the week and if they had experienced a particularly frustrating day at school or at home. However, as those questions were not asked, any attempts to denote frustration or an agitated state of the students would be mere speculations. Results may have been stronger if data collection had spread over a longer period, perhaps 30 weeks to encompass all of the first

semester in school. Another limitation would be that the lead researcher served as the lead instructor in the traditional martial arts program. Enthusiasm brought to the training environment by the lead researcher could have served as an overwhelming influence for the students with ADHD involved in the study responding to the varying levels of self-perception of competence. The involvement of assistant black belt instructors in actual instruction helped to diffuse some of the intensity. Also, with the lead instructor/researcher having asked interview questions (pre and post) of students and parents and conducted the phone contacts, there was the possibility that participants might have felt they should give the instructor/researcher what they thought they were seeking in their responses and not present authentic feelings.

Another limitation could have been the opportunity to conduct a follow-up study. The follow-up would explore the possibility that participants continued to make progress in developing positive self-perceptions of competence in physical activities, social contexts, and other areas of functioning. Another limitation was the fact that changes in self-perception were explored using self-report data of students with ADHD as a major data source. Another limitation was that the study took place in a very controlled environment of the traditional martial arts class where there were few distractions. Because of the small number of students and the extreme order of the environment of learning, praise and feedback were readily afforded to students. This also might be a limitation in generalizing to other learning atmospheres such as typical classrooms.

Implications for Further Research and Policies

This research examined how participation in the traditional martial arts influenced the self-perceptions of competence in children with ADHD. It also explored the feelings that children with ADHD experienced as they became involved in the traditional martial arts.

Areas for future research might include adding teachers and administrators as data sources with their interviews being added to the interpretation of emerging self-perceptions of competence for the students. Interviews with teachers could provide information and evidence, that the children with ADHD who participated in the traditional martial arts were utilizing lessons learned about order and organization in the classroom environment. Teacher comments might indicate that students were performing better in task attention and completion. Interviews with teachers might also indicate how students with ADHD were functioning with regard to peer and personal relationships within the classroom and if their behavior overall was more manageable and purposeful in the scheme of classroom endeavors. Seemingly as demonstrated by the children with ADHD, there was more focus toward personal goals of martial arts' skills proficiency as the class progressed and moved toward closure. Teacher interview might provide data on students' ability to utilize more of their mental ability to achieve academic success and actual learning (Parker, 2001; Salend & Rohena, 2003), and control and self-monitor their level of physical activity (Wells et al., 2000). Also, follow-up could be initiated with the students to see if the life lessons encountered in the practice of traditional martial arts continue in other areas of their lives (Kim, 2005). This follow-up could be in the form of

interviews and regular observational protocols in other environments to see if categories of behavior and response to content are still present and seemingly influencing self-perceptions of competence.

Another consideration for future research might involve students with other disabilities. With its multimodal delivery the traditional martial arts could be utilized to explore influences on levels of physical balance, adroitness, and attention and focus in the classroom experience regarding academic progression.

In consideration of possible future policy and practice implications for colleagues and other educators the data from the research study could be valuable in developing educational environments and strategies for students with ADHD. The themes for possible innovations in classroom organization and arrangement could be offered and demonstrated in site-based management and staff development sessions on individual campuses.

Information learned from the data analysis indicated that the children with ADHD really responded to the ordered plan of the traditional martial arts programming. This indicated that strategies could be developed to keep classrooms and activities more organized with less transition and “down” time for students with ADHD.

In contrast, there was the indication that children with ADHD in the study were more readily engaged in physical activity. Teachers could be taught physical activity strategies for controlled situations where the students with ADHD and their typical peers could exercise some of their energy in brief episodes before academic lessons, at specific

schedule intervals, or during certain activities. The exercises could be varied according to classroom space.

As shown in the study, self-perceptions of children with ADHD seemed to be nurtured by prompt genuine, consistent praise and attention, and realistic expectations. Teachers could be shown how to arrange their classrooms so that movement is facilitated toward all students and prompt feedback is available. Feedback can be verbal, visual, or appropriate physical contact (e.g., pat on the back).

The study indicated that children with ADHD seemed to value a combined effort of physical and mental abilities to achieve success in learning a new skill. Colleagues could be taught new strategies for allowing ample wait time for children with ADHD as they seek to harness their mental strength in the rapid pace of academic endeavor.

Lastly, colleagues could be taught to view the strengths of children with ADHD as opposed to their multitudinous deficit areas. This would take training in focusing on positive characteristics and skills in and out of the classroom setting and lessening the deficit stance. A realistic perspective could be embraced that recognizes the challenges that children with ADHD encounter in conjunction wit their successes and accomplishments as well.

Conclusion

In summary, the influence of traditional martial arts on the self-perceptions of competence in children with ADHD and the children's feelings regarding their ability and success were discussed. Five factors that appear to have been important in the self-perceptions of competence were: (a) with participation in the traditional martial arts

program the students' need for realistic order and organization seemed to be nurtured; (b) participation in the traditional arts program seemed to support improved perceptions of competence in the area of personal and peer relationships; (c) consistent, genuine praise, attention, and realistic expectations appeared to support students' own enhanced perceptions of competence; (d) considering all of the components of the traditional martial arts program, physical activity appeared to be an area where students with ADHD were more engaged; and (e) participants valued the importance of a combined approach of mental and physical abilities for maximized success.

Several theories and interventions for serving children with ADHD were discussed and considered in determining which multimodal approach would be utilized in this study. Included in this consideration were the principles of the Chayon-Ryu traditional martial arts system as formulated by Grandmaster Kim, Pyung Soo, and their alignment with viable strategies and interventions used in working with children with ADHD.

Psychosocial perspectives (Pelham et al., 2000; Wells et al., 2000), which represented the theoretical framework of the study in combination with the traditional martial arts were viewed as foci in the research. This meshing of a psychosocial philosophy and the physical activity of traditional martial arts served as guiding principles for exploring influences that participation in the traditional martial arts would have on self-perceptions of competence and emerging feelings in children with ADHD. In the social context of the class experience of traditional martial arts and the follow-up through interviews, verbal debriefings, and observations; interpersonal relationships and

the resultant intrapersonal actions and reactions were explored. Seemingly, the process appeared to facilitate improved personal well-being, peer awareness and acceptance, physical skills understanding, overall performance, and improved levels of self-perceptions of competence (Kim, 2005; Lopez-Williams et al., 2005; Wells et al., 2000).

Finally, further studies were suggested to examine factors in the form of other data sources (e.g., teachers and administrators), review of academic records and reports, follow-up of the present population of children with ADHD to see if the lessons that appeared to be learned have remained consistent with the seven students. In addition, this study may suggest implementation and exploration of traditional martial arts programming conducted by qualified instructors in the general curriculum for children with other disabilities and typical learners.

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APPENDIX A

CHAYON-RYU SYSTEM OF MARTIAL ARTS

Chinese Chu'an Fa	Korean Hapkido (Sung Moo Kwon)	Japanese Aiki/Jujitsu/Judo	Japanese-Okinawan Shudokan Karate	Korean Tae Kwon Do
Tightening Ways (1-12) (Sparring)	Falling techniques, basic falls	Throwing techniques Take downs	Pyung Ahn Forms (Safe Defense) (1-5)	Kibon Hyung Forms (Basic 1-5)
Dan Kwon (Short Fist)	Take downs, rolls	Falling, seated, standing, side, forward	Sypsoo (Ten Hands)	Palgue Forms (Providence of the Universe) (1-8)
Han Son Dae Ryun (2 man) (One Hand Sparring)	Chung Bong Avoiding Techniques (1-6)	Grasping	Chulki Forms (Iron Horse) (1-3)	Koryo (Korean Dynasty)
Doju San (Escaping Through Mist)	Basic Hand-to-Hand Self Defense	Leverage/weight shifting	Batsai Tae (Smashing Fortress-Hard)	Tae Baek (Korean Mountains)
Jang Kwon (Long Fist) (2 man)	Hapkido Techniques (1-10)	Free Sparring	Batsai So (Smashing Fortress-Soft)	Jee Te (Stomping The Earth)
So Ho Yun (Little Tigers Playing)	Advanced Hapkido Techniques		Nohai (Flock of Cranes)	Basic Techniques (Hand and Foot)
Tai Jo Kwon (Fists of the Founding Fathers)	Dan Bong (Offensive & Defensive)		Ahm Hak (Crane on a Rock)	Practical Self-Defense (1-10)
Pal Gi Kwon (8th Manchurian Calvary)	Free Sparring		Kong Sang Kun (Look to the Sky)	Free Sparring
Seven-Step Sparring			Wan Shu (Flying Swallow)	
Free Sparring			Ban Wol (Half Moon)	
			Jah Un (Mercy)	
			Jin Shu (Strange Hands)	
			Ju Hachi (18)	
			Formal 1-Step Sparring (Prearranged)	
			Formal 3-Step Sparring (Prearranged)	
			Free Sparring	
			Bong Hyung (Staff)	Bong Hyung (Staff)

Source: Kim, P. S. (2005). Chayon-ryu lineage and requirements. *Chayon-Ryu International, 1*, 1. Retrieved July 5, 2005, from http://kimsookarate.com/intro/chart.html

APPENDIX B

INTERVIEW QUESTIONS/ STATEMENTS: STUDENTS (PRE/POST)

1. Talk about what a day at school is like for you.
   Probe: a) What things do you enjoy doing at school? Why?
   Probe: b) What things do dislike doing at school? Why?

2. What makes you different from your friends?
   Probe: a) What words would your friends use to talk about you?
   Probe: b) What words would your parents and brothers and sisters use to talk about you?

3. What things about you are special?
   Probe: a) What things can you do well? Why?
   Probe: b) What things do you really enjoy doing? Why?

4. What is the best part of your personality?
   Probe: a) What makes you special?
   Probe: b) What do other people like about you the most?

5. What kinds of games /activities do you enjoy doing at school? At home?
   Probe: How much strength do you have to use in the games / activities? Or do you have to think more in the games/activities?
   Probe: b) Tell me about a game that you do well in and how that makes you feel.

APPENDIX C

INTERVIEW QUESTIONS/STATEMENTS: PARENTS (PRE/POST)

1. How does your child behave at school?
   Probe: a) How do they get along with authority? Teachers? Administrators?
   Probe: b) How do they get along with other children at school?

2. How does your child behave at home?
   Probe: a) How do they get along with you?
   Probe: b) How do they get along with their brothers and sisters?

3. What makes your child happy at school?
   Probe: a) What things does your child enjoy at school? Why?
   Probe: b) What would your child describe as his/her favorite things at school? Why?

4. What makes your child successful at school?
   Probe: a) In what subjects do they do their best? Why?
   Probe: b) What supports does the school provide to help your child be successful at school?

5. How do you think your child feels about himself / herself?
   Probe: a) How would your child describe him or herself?
   Probe: b) If your child drew a picture of him/herself what would you see?

6. What makes your child happy at home?
   Probe: a) What do they enjoy doing at home?
   Probe: b) How do they spend their spare time?
   Probe: c) What makes your child unhappy at home?
   Probe: d) Who does your child spend time with at home?

7. How successful is your child at school?
   Probe: a) What is their favorite subject? Why?
   Probe: b) What is their least favorite subject? Why?
   Probe: c) In what afterschool activities is your child involved?

8. What are your expectations regarding your child's behavior?
   Probe: a) How do you respond to your child's inappropriate behaviors?
   Probe: b) How do you respond to your child's good or acceptable behaviors?

9. What are your expectations for your child's participation in the research study?
   Probe: a) How do you think your child will do in the research study?
   Probe :b) What behaviors do you expect to see changed during the research study?

10. Tell me what you know about traditional martial arts programs for children?
    Probe: a) What have you heard about traditional martial arts training?
    Probe: b) How do you feel about it? What have other parents said to you about it?

APPENDIX D

OBSERVATIONAL PROTOCOL

STUDENT 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

DATE_____

Categories of Behavior	Specific Chayon-Ryu Criteria	Comments Observations
Response to Authority Respect	Dojang Hun (Training Oath) Attitude	
Posture	Feet in Position Shoulders Straight Head Upright Eyes Focused Straight Ahead	
Breathing	Focus, Concentration	
Stances	Ready Stance Climbing Stance Back Stance Horse-Riding Stance Cat Stance	
Falling	Falling Rolling	
Basic Movements	Hand and Foot (Blocks, Kicks, Strikes)	
Self Defense	Falling Body Shifting	
Retention of Lesson Content	Review of Basics	

APPENDIX E

CHAYON-RYU RANK EXAM FORM

自然流綜合武道

International Chayon-Ryu Martial Arts Association
KIM SOO KARATE INC.
World HQ: 1740 Jacquelyn Drive • Houston Texas 77055
www.KimSooKarate.com

Beginner Levels - 10am
Exhibition - 11:30am
Intermediate & Advanced Levels - 1pm

please print all information clearly

name _____ birth date _____

student no. _____ dojang _____ test no. _____ test date _____

street address _____ city, state, zip _____

date started _____ date of last promotion _____ present rank _____

work phone _____ home phone _____ cell phone _____

occupation _____ e-mail _____

Do you meditate before every practice session?	*no*	*rarely*	*sometimes*	*most of the time*	*yes*
Do you take an active role keeping your dojang clean?	*no*	*rarely*	*sometimes*	*most of the time*	*yes*
Do you arrive at least 15 minutes before class?	*no*	*rarely*	*sometimes*	*most of the time*	*yes*
Do you attend most CYR activities / special events?	*no*	*rarely*	*sometimes*	*most of the time*	*yes*
Do you wear shoes before entering your dojang?	*no*	*rarely*	*sometimes*	*most of the time*	*yes*
Do you take an active role promoting CYR?	*no*	*rarely*	*sometimes*	*most of the time*	*yes*

I hereby agree to waive any claims or rights I might otherwise have to take legal action against Kim Soo Karate, Inc., its principals, employees, instructors, and/or agents for injuries to me on account of these activities. I further agree to indemnify and hold harmless Kim Soo Karate, Inc., its principals, employees, instructors, and/or agents, for all claims, by whomsoever presented, that may be presented as a result of injuries or damages to myself. I agree that I have carefully read this waiver and release and fully understand it as a release of liability. I further agree to release Kim Soo Karate, Inc. from any liability for loss or theft of personal property.
I further agree to indemnify and hold harmless Kim Soo Karate, Inc., its principals, employees, instructors, and/or agents, for all claims including claims alleging that injuries or damages were caused by the negligence of Kim Soo Karate, Inc., its principals, employees, instructors, and/ or agents.

Signature (in ink) _____ Guardian (in ink) _____

Testing Fee $ _____ Registrar _____

all judges must initialize at the bottom before giving grades

Comments and corrections should be written on the back

forms judge _____ self-defense judge _____ sparring judge _____

form 1 _____ form 2 _____ form 3 _____ form 4 _____

basic movements _____ special techniques _____ kicking _____ skipping _____ basic self-defense _____

practical 1-steps _____ formal 1-steps/3-steps _____ falling _____ hapkido _____

knife/gun self-defense _____ chung bong avoiding _____ han-son daryon _____ tightening way _____

breaking _____ sparring 1 _____ sparring 2 _____ sparring 3 _____

orange	yellow	green	blue	purple	purple	brown	brown	black
9th	8th	6th	5th	4th	3rd	2nd	1st	____

APPENDIX F

GENERAL QUESTIONS FOR VERBAL DEBRIEFINGS

1. How do you feel about being a member of the martial arts class?

2. What do you do to help yourself pay attention in class? Listen more? Look at the instructor?
   Probe: a) Tell me what it is like when there are many people moving together in class?
   Probe: b) Which is easiest for you, moving, turning, falling, etc., or looking, listening, and learning? Why?

3. What was the main idea of the lesson today?
   Probe: a) What do you remember about the movement and what was its use? Explain.
   Probe: b) How did you feel as you were learning the technique? Please tell me more.

4. How do you feel about yourself when you are doing the technique or movement?
   Probe: a) How easy was the movement to do?
   Probe: b) How hard was the movement to do?

5. What is your favorite part of class? Why?
   Probe: a) What is your least favorite part of class? Why?
   Probe: b) How do you get along with the other students?
   Probe: c) How do you get along with the teachers?

6. How do you feel about continuing the martial arts program?
   Probe: a) How do you feel after each class? Explain.
   Probe: b) How do you think you are doing in class? Explain.

APPENDIX G

PHONE CONTACT QUESTIONS FOR PARENTS

1. How do you think the martial arts training is going?
   Probe: a) What has your child said about the program?
   Probe: b) What changes have you seen since the program began?

2. What is your child's interest level now in participating in the program?
   Probe: a) What part of the training does your child like best? Why?
   Probe: b) What part of the training does your child like least? Why?

APPENDIX H

CONSENT FORM / CHILD AS PARTICIPANT

Project Title: Traditional Martial Arts and Children with ADHD: Self-Perceptions of Competence

Project Director: Lane G. Graham

Participant's Name: _____

DESCRIPTION AND EXPLANATION OF PROCEDURES:

The purpose of this study is to explore how participation in a traditional martial arts program might influence the development of self-perceptions of competence in elementary school students (grades 3, 4, and 5) who are diagnosed with ADHD. If you agree to have your child in this study, you and your child will be involved in at least two interviews. One of the interviews will be at the beginning of the training and one will be at the end of the 15-week training period. The interviews will last from 45-60 minutes. Responses to the questions will be audiotaped and the data transcribed to written form. All information will be kept confidential by the researcher.

If your child participates in the study, they will be involved in a planned program of traditional martial arts training (Chayon-Ryu) for 15-weeks (2 one-hour sessions per week, a total of 30 hours). Verbal debriefings (lasting 10-15 minutes) will be conducted weekly by assistant instructors and will be audiotaped. Bi-weekly phone contacts (5-10 minutes) will be made with you to discuss your child's progress. A weekly observation of skills and progress will be developed and a final review of skills and techniques accrued will be done by the lead researcher (special educator and 4th degree Black Belt). Results of the study will be shared with you at the end of the 15-week period. Information from the study such as transcriptions of interviews and debriefings, notes on phone contacts, and notes on observational formats will be kept at the residence of the lead researcher in a locked file. Three years after the study is completed the data will be shredded.

RISKS AND DISCOMFORTS:

The study poses minimal risks to the participants because, though it is an active endeavor, the whole process will be strictly monitored by conscientious instructors (three black belts) who are dedicated to natural movement, safety, and individual progress in the art and collectively have over 40 years in the system of traditional martial arts. The possible risks involved with this study include sprains and muscle strains due to stretching, physical movement, and body weight shifting. A possible discomfort might be perspiration from physical exertion. Traditional martial arts' training is controlled and provides healthy exercise.

POTENTIAL BENEFITS:

The benefits to the individual participants in traditional martial arts are (a) increased self-awareness, (b) improved focus and concentration, (c) improved social presence in group settings, and (d) improved self-perception of competence as it relates to ability and success in various environments. The physical activity and the mental discipline of the traditional martial arts might provide viable complementary interventions for children with ADHD.

INFORMED CONSENT:

By signing this consent form, you agree that you understand the procedures and any risks and benefits involved in this research for your child. You are free to refuse to have your child participate or to withdraw your consent for your child to participate in this research at any time without penalty or prejudice; your participation is entirely voluntary. Your child's privacy will be protected because they will not be identified by name as a participant in this project.

The University of North Carolina at Greensboro Institutional Review Board, which insures that research involving people follows federal regulations, has approved the research and this consent form. Questions regarding your rights as a participant in this project can be answered by calling Mr. Eric Allen at (336) 256-1482. Questions regarding the research itself will be answered by calling Lane G. Graham at 704-633-0842. Any new information that develops during the project will be provided to you if the information might affect your willingness to continue participation in the project.

By signing this form, you are agreeing to participate in the project described to you by Lane G. Graham.

_____ _____

Participant's Signature Date

APPENDIX I

CONSENT FORM / PARENT AS PARTICIPANT

Project Title: Traditional Martial Arts and Children with ADHD: Self-Perceptions of Competence

Project Director: Lane G. Graham

Participant's Name: _____

DESCRIPTION AND EXPLANATION OF PROCEDURES:

The purpose of this study is to explore how participation in a traditional martial arts program might influence the development of self-perceptions of competence in elementary school students (grades 3, 4, and 5) who are diagnosed with ADHD. If you agree to be a part of this study, you will be involved in at least two interviews where questions about your child will be asked. One of the interviews will be at the beginning of the training and one will be at the end of the study. The interviews will last from 45-60 minutes. Responses to the questions will be audiotaped and the data transcribed to written form. All information will be kept confidential by the researcher.

As your child participates in the study, they will be involved in a planned program of traditional martial arts training (Chayon-Ryu) for 15- weeks (2 one-hour sessions per week, a total of 30 hours). Bi-weekly phone contacts (5-10 minutes) will be made with you to discuss your child's progress and how you feel the traditional martial arts training is influencing your child's self-perceptions. Results of the study will be shared with you at the end of the 15-week period. Information from the study such as transcriptions of interviews and debriefings, notes on phone contacts, and notes on observational formats will be kept at the residence of the lead researcher in a locked file. Three years after the study is completed the data will be shredded.

RISKS AND DISCOMFORTS:

The study poses minimal risks to the student participants because, though it is an active endeavor, the whole process will be strictly monitored by conscientious instructors (three black belts) who are dedicated to natural movement, safety, and individual progress in the art and collectively have over 40 years in the system of traditional martial arts. As a parent responding to questions in interviews and phone contacts, the risk is non-existent. Discomforts might exist in the actual discussions of how you as a parent might view your child's level of self-perception of competence.

POTENTIAL BENEFITS:

The benefits to the parents of children in traditional martial arts are having your child involved in a physically active setting that has the potential (a) to increase self-awareness, (b) increase focus and concentration, (c) increase social presence in group settings, and (d) increase self-perception of competence as it relates to ability and success in various environments. Another benefit to your child would be their involvement in an ongoing recreation program that advocates inclusion from a community perspective. Your consent will be helpful in providing information as to how traditional martial arts might influence self-perceptions of your child with ADHD.

INFORMED CONSENT:

By signing this consent form, you agree that you understand the procedures and any risks and benefits involved in this research for you. You are free to refuse to participate or to withdraw your consent to participate in this research at any time without penalty or prejudice; your participation is entirely voluntary. Your privacy will be protected because they will not be identified by name as a participant in this project.

The University of North Carolina at Greensboro Institutional Review Board, which insures that research involving people follows federal regulations, has approved the research and this consent form. Questions regarding your rights as a participant in this project can be answered by calling Mr. Eric Allen at (336) 256-1482. Questions regarding the research itself will be answered by calling Lane G. Graham at 704-633-0842. Any new information that develops during the project will be provided to you if the information might affect your willingness to continue participation in the project.

By signing this form, you are agreeing to participate in the project described to you by Lane G. Graham.

_____ _____

Participant's Signature Date

APPENDIX J

CHILDREN'S ASSENT FORM

We are doing a study to try to learn about people who have ADHD and how they feel about themselves. We are asking you to help because we do not know very much about the way children your age feel about themselves.

If you agree to be in our study, we are going to ask you questions about yourself. We will want to know how you feel about yourself and your abilities. Your answers will be put on audiotape.

You will be able to participate in a traditional martial arts program (two one-hour classes per week, for 15- weeks, 30 hours total). If you agree to be in our study, you will learn basic techniques and movements in a planned program of martial arts.

Once a week you will answer questions about yourself (10-15 minutes). Your skills in the traditional martial arts will be reviewed weekly by black belts working with you. We will also be in contact with your parents by phone every two weeks to let them know how you are doing. .

Signing this paper means you have read this paper, or had it read to you and you want to be in the study. If you do not want to be in the study do not sign the paper. Remember, being in the study is up to you, and no one will be upset if you do not sign this paper or even if you change your mind later and decide not to participate. You can stop participating at any time during the study.

Signature of Participant_____ Date_____

Signature of Investigator_____Date_____

APPENDIX K

DOJANG HUN

Chayon-Ryu Martial Arts System
Training Oath

Dojang Hun

Seek perfection of character.

Live the way of truth.

Endeavor.

Be faithful.

Respect others.

Refrain from violent behavior.

APPENDIX L

CROSSWALK DIAGRAM

Traditional Martial Arts and Children with ADHD:
Self-Perceptions of Competence

Questions	Individuals	Interviews	Observational Formats	Verbal Debriefings	Parent Phone Contacts
1) How did traditional martial arts influence the self-perceptions of competence in children with ADHD?	7 students in Grades 3,4,& 5 with ADHD	X	X	X	
	Parents of students with ADHD	X			X
2) How did children with ADHD feel when they participated in traditional martial arts regarding ability and success?	7 students in Grades 3,4,&5 with ADHD	X	X	X	
	Parents of students with ADHD	X			X