

***Cognitive Behavioural Therapy through Karate for Sustainable Development
in Education***

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Abstract

Karate has a long and established history as an effective means of unarmed combat, incorporating techniques for self-defence. These centuries-old techniques have in recent years been analysed scientifically and refined for maximum efficiency. Significant progress has also been made in recent years in our understanding of neurobiological basis of mental disorders and cognitive behaviour. Core beliefs are individuals' most central beliefs about themselves, their world, and others. These beliefs begin to form in childhood and become so deeply ingrained that individuals normally do not articulate them and are regarded as absolute truths. They influence the development of a person's attitudes, rules and assumption. For many parents who have a child diagnosed with a mental health disorder like incompatible behaviour, competitive behaviour or low response behaviour, choosing an appropriate treatment can be a struggle.

Cognitive behaviour is individual's emotions and behaviours influenced by the child's perception of a situation which compels them to react the way they do. It was crucial for researchers and practitioners to identify what sport activities are able to improve the development both in motor and cognitive domain. Karate revealed to be the only physical activity able to stimulate memory abilities and executive functioning during training sessions. With concern to cognitive abilities, it has been observed that children executing karate appear to improve sustained attention, reduce impulsivity, hyperactivity, loss of focus, forgetfulness and showing emotions without restraint and have better cognitive abilities like working memory, attention, executive functioning.

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Introduction

“Nearly 150 million Indians, aged 13 and above, are likely to be suffering one or more mental health problems and need treatment, as per a survey done by Nimhans. The survey team interviewed nearly 40,000 individuals, including 1,200 adolescents, from 12 states across 6 regions of the country. As per the survey most of the mentally ill patients were in the age group of 30 to 49 and those above 60.” (The Deccan Chronicle, Dec 28, 2016)

One of the main neurobiological disorders responsible for the learning disabilities that affect the ability to acquire, organize, retain, understand and use information. Although the impact of learning disability is primarily in the academic domain, the affected youth also experience social difficulties and psychological disturbances. Cognitive impairments and developmentally inappropriate or excessive behaviour is the root cause of Attention Deficit Hyperactivity Disorder (ADHD), a neurological syndrome whose classic, defining triad of symptoms includes impulsivity, distractibility, and hyperactivity or excess energy, which associates with learning disabilities (LD). Although it is generally accepted that LD and ADHD are distinct disorders, research suggests that a common deficit in executive functioning explains the high degree of executive function refers to the set of cognitive processes that control goal-directed behaviour. These processes include goal setting, organization of behaviour, response inhibition, cognitive flexibility, working memory, attention and progress-monitoring. Students with LD and ADHD often exhibit impairment in one or more of these processes.

Regular and sustained martial arts activity has been found beneficial for students who have been diagnosed with Attention Deficit Hyperactivity Disorder. Martial arts training, under certain conditions, can help students deal with AD/HD issues without resorting to aggressive and harmful drug therapies, which are currently in practice for the treatment approach to the disorder. ADHD is a host of issues, such as reductions in educational funding, classroom discipline, decrease in cultural tolerance, marked difference in student’s behaviour etc. The ever increasing fields of special education and the aggressive pharmaceutical marketing strategies are keeping the parents restless of a solution for the behavioural problems of their children.

Treating mental disorders with karate can be more time-consuming and, sometimes, more costly, than automatically treating the disorder with the available medications. It requires considerable commitment and work from the parents, and the active participation of the child in the process. Additionally, it requires a good karate instructor and program. Most karate programs take place in a dedicated facility rather than at home or in school. The potential benefits of training for the child with mental disorders will be unlocked only if the instructor teaches karate with an understanding that the benefit results are not just from the exercise, but how the exercise is taught and the philosophy that underlies the teaching. It seems that karate training may help AD/HD children improve their overall behaviour and lead to better school performance (i.e., higher grades). AD/HD manifests itself through short attention spans, excess energy, and inability to control impulsive behaviour. Together, these symptoms adversely affect the performance of children with AD/HD in schools. Their inability to adequately concentrate on school tasks translates into poor academic performance, which results in frustration, on part of children, parents, and educators, compounding the original problem. Karate training emphasizes concentration in a

number of ways, not the least of which is the necessity to perform one technique or set of techniques over and over again in order to perfect it.

It seems self-evident that for any behavioural or physiological changes to manifest themselves it is necessary for the student to habitually attend to their training for a period of time; therefore it is no surprise that a number of researchers found that there is a positive correlation between length of time practicing, and associated attainment of belt rank, and increases in self-confidence independence, self-reliance, and self-esteem. The advantages of practising karate can be :

- a) **Self Esteem & Confidence** : It has been established that karate practice also leads to more easy-going and warm-hearted individuals, and remarkable increase in self-confidence, self-esteem, self-control and a reduction of feelings of vulnerability to attack with increased feelings of confidence. Karate training can be effective in teaching children of parents with mental illness to self-manage behaviours and emotions and be better able to focus and concentrate on daily life. It is evident that involvement in interesting social and leisure activities has provided opportunities to improve self-esteem.
- b) **Reduced Aggression** : A number of researchers have found that karate practices cultivate decreases in hostility and decreased feelings of anger. Furthermore, a number of researchers have presented descriptive, cross-sectional data showing lower scores on hostility and aggression and/or higher scores on self-esteem and positive outlook for traditional karate students when compared to students of non-traditional karate or other sports. Not surprisingly, these positive characteristics increased with greater length of training in traditional karate. Further investigation demonstrated that the improvements were not due to natural attrition of more aggressive students.
- c) **Relieved Tension** : Scientists have pointed out that karate training enabled participants to diffuse emotions and relieve tension, which resulted in decreased level of aggression. They also found a link between aggressiveness levels being affected by the specificity of the training and instructor qualifications.
- d) **Reduction of Aggressiveness** : In reference to the reduction of aggressive tendencies it has been observed that the strong emphasis on mastering techniques in karate, repetition in training and the delaying of participation in competition involving combat are considered to be devices towards achieving this goal.
- e) **Self-Acceptance** : The traditional karate students showed significant increases in scores for self-acceptance which were not reported for the students with a modern emphasis in training. Most research supports the hypothesis that it is the training environment and style of instruction influencing these differences.
- f) **Engaging At Risk Youth** : The use of karate training and programs to engage and teach youth and achieve positive outcomes has been well documented. Traditional karate provide exactly the experience that will engage young people who are at clear risk for delinquent acts or impulsive violence, and even start them on positive life paths. Karate training “can be an extraordinarily helpful, ego-building

form of psychotherapy” and noted that this was particularly true for control of aggressive impulses and reducing juvenile delinquent tendencies.

- g) **Engaging Children with ASD** : Research has found that children and youth diagnosed with Autism Spectrum Disorder (ASD) with some modification and consideration for sensory processing issues, karate training can be tremendously beneficial with its structure, hierarchy, predictability and kata. Kata training is effective for reducing stereotypical behaviour and social dysfunction in children with ASD, and improving baseline behaviours in children with ASD as evidenced in dramatic gains in social skills, physical ability, respect, and overall attitude.
- h) **Helping Strategic Plans** : The results of these studies may help educators working with students on the autism spectrum to establish effective strategic plans under which karate training will be provided and utilised to engage children with ASD.
- i) **Engaging Children with ADHD** : In addition to the benefits of karate for students with ASD, children with Attention Deficit Hyperactivity Disorder (ADHD) have been found to benefit from karate training and the benefits have been investigated by researchers.
- j) **Improving discipline** : Karate training two times a week yielded improved homework completion, improved classroom behaviour, reduced inappropriate callouts in class, decreased leaving seat in class, and improved academic performance with overwhelmingly positive psychosocial benefits in boys diagnosed with ADHD.
- k) **Spiritual Benefits** : True achievement in karate is not gaining the force and skill to smash bricks, cement blocks, baseball bats, and blocks of ice. Neither is it the privilege of wearing different colours of belts nor the prestige of winning sparring championship titles or tournament trophies. The real value of karate is in helping individuals harness their natural physical strength and innate goodness of character. The spiritual side of the karate does not point to any religion in any sense,
- l) **Other Benefits** : Karate practice improved cognitive self-regulation, affective self-regulation, prosocial behaviour, classroom conduct, and performance on a mental math test with demonstrated greater benefits for boys than for girls.

Although a positive picture is painted by the researchers, on the application of karate as a psychotherapeutic intervention alongside conventional psychotherapies, a lot of work is still needed in this area. The basic principle employed by these methods is that emotional and interpersonal maladjustments are reflected in bodily sensations, and can be corrected through appropriate physical movements.

The Martial Art Therapy :Traditional karate offer the prospect of positive psychological change to their students and produce beneficial psychotherapeutic effects when practised outside their original culture but how much of the original teachings are correctly understood and interpreted remains an open question. The

more we move forward in time with breakthroughs in technology, the more we need to understand how to use and build on ancient wisdom as well. The Indian and Oriental cultures have contributed much to healthy living, rehabilitation and pain management. Martial Arts Therapy (MAT) utilizes this wisdom to help people keep optimum health, and manage and heal those with serious illnesses and disabilities.

Martial Arts Therapy is the use of century's old wisdom with modern education techniques to train our brave student/patients that they can be in control of their bodies thereby controlling their pain and their emotional and physical difficulties. MAT has its roots going back to 1979 where students of Applied Martial Arts had to volunteer time to receive training in helping sick kids with cancer and those who had disabilities to receive their promotion in rank. The philosophy is simple, once you empower yourself then you must empower others especially those who often are the most vulnerable in society.

Martial arts philosophy stresses that people should live in peace and harmony. It also emphasizes respect for self and others, compassion, and a high regard for physical and moral excellence. In its purest form, the martial art is practiced to achieve strength and enlightenment of the mind, body, and spirit.

Today, martial arts therapy is used as an unconventional treatment for children or adults with social anxiety disorders. Also known as social phobia, this condition refers to excessive, long-lasting anxiety due to various fears, worries and apprehensions. In general, people with social anxiety disorder have an intense fear of being judged or ridiculed by others. People with this condition may often be found in isolation or may only have very few friends. Through karate training, people with anxieties may be taught to improve their social skills at the same time as they learn self-defence. These individuals are also taught to develop self-respect and respect for others. By attending self-defence classes, people with anxieties slowly gain confidence and develop healthy relationships with other people in and outside the class. Regular karate practice not only provides skills in self-defence. More importantly, it restores or improves the self-image of the practitioner.

Behaviour is the aggregate of the responses, reactions or movements made by an organism in any situation or learned from the environment through the process of observational learning. In society, children are surrounded by many influential models, such as parents within the family, characters on TV, friends within their peer group and teachers at school, which provide examples of behaviour to observe and imitate. The first is a case of the internal stimulus created in the brain by observing a particular behaviour of the peer, followed by a response—whether to imitate it or not. The capacity to copy the behaviour or not, comes from within, which can only be explained scientifically—may be genetic, due to deficiency or disease. It all depends how well or how quickly the child pays attention to a particular behaviour, how long it can retain, how well it reproduces and what motivation it is getting—whether a reward or a punishment.

In the second case, the child normally encodes the behaviour of these people and then start imitating them till such time that it is punished, in the case of a negative behaviour. In the case of a good or appropriate behaviour, as perceived by the person(/s) around, the child gets a reward or appreciation for such behaviour , which

is reinforced in the child. The child will also take into account of what happens when their peers exhibit a particular type of behaviour to others and also observe closely the consequences of such behaviour, make it decide whether or not to copy someone's actions.

The scientific explanation to the imitation process is the firing of mirror neurons. Karate is an excellent example of firing mirror neurons social learning where it fires.

Children with behavioural, emotional and social difficulties (BESD) can benefit in a lot of ways from their physical training but the true advantage for using karate as an intervention for these children lies in the psychotherapeutic nature of the arts.

The psychotherapeutic benefits of karate have been the focus of a lot of research in the past years that has brought to light some very interesting findings, which show that long term training causes positive psychological and social adjustments. From a psychotherapeutic viewpoint, karate may be viewed as formalized, refined systems of human potential training which provide interesting, practical models of intervention.

Karate can be used as a tool for avoiding hostility and aggression, focusing instead on avoiding conflict and impulsive actions. This peaceful attitude of course takes some time to develop but it is taught from the first day to new students, affecting them positively. Other psychological benefits include higher self-esteem and a more optimistic and confident response to daily challenges, which can help children that feel 'not good enough' or 'inadequate' cope with their stress and anxieties much more efficiently.

Children with behavioural, emotional and social difficulties can benefit the most from the cultivation of their concentration ability through their training. During their classes they are taught how to set their mind on one thing only, such as a technique or a 'kata' and perform it without distractions. Children with BESD can also benefit from the controlled environment of the class. Inside the training hall there are no noises, pictures or other external stimuli to distract the child, who has to focus and pay attention. With proper, long-term training children can learn how to master this skill in the dojo (training hall) and then transfer it to their everyday life.

Behavioural disorders, also known as disruptive behavioural disorders, are the most common reasons that parents are told to take their kids for mental health assessments and treatment. Behavioural disorders are also common in adults. If left untreated in childhood, these disorders can negatively affect a person's ability to hold a job and maintain relationships. Someone who has a behavioural disorder may act out or display emotional upset in different ways, which will also vary from person to person.

Behavioural disorders may be broken down into a few types, which include:

- Anxiety disorders
- Disruptive behavioural disorders
- Dissociative disorders
- Emotional disorders
- Pervasive developmental disorders

An emotional behavioural disorder affects a person's ability to be happy, control their emotions and pay attention in school. According to Gallaudet University, symptoms of an emotional behavioural disorder include:

- Inappropriate actions or emotions under normal circumstances
- Learning difficulties that are not caused by another health factor
- Difficulty with interpersonal relationships, including relationships with teachers and peers
- A general feeling of unhappiness or depression
- Feelings of fear and anxiety related to personal or school matters

Oppositional Defiant Disorder is a behavioural disorder characterized by hostile, irritable and uncooperative attitudes in children, according to Children's Mental Health Ontario. Children with ODD may be spiteful or annoying on purpose, and they generally direct their negative actions at authority figures.

Anxiety is a normal emotion, and all people feel anxiety at some point in their lives. However, for some people, anxiety may get to a point where it interferes with their daily lives, causing insomnia and negatively affecting performance at work or school. Anxiety disorders involve more than regular anxiety. They are serious mental health conditions that require treatment. Examples of these types of mental conditions include:

- Post-traumatic stress disorder
- Obsessive-compulsive disorder
- Generalized anxiety disorder
- Panic disorder

Obsessive-Compulsive Disorder is characterized by fears and irrational thoughts that lead to obsessions, which, in turn, cause compulsions. If you have OCD, you engage in compulsive, repetitive behaviour despite realizing the negative consequences of your actions, no matter how unreasonable they are. Performing these repetitive acts does nothing more than relieving stress temporarily.

A behavioural disorder can have a variety of causes. According to common belief, the abnormal behaviour that is usually associated with these disorders can be traced back to biological, family and school-related factors. The biological causes may include:

- Physical illness or disability
- Malnutrition
- Brain damage
- Hereditary factors

Other factors related to an individual's home life may contribute to behaviours associated with a behavioural disorder:

- Divorce or other emotional upset at home
- Coercion from parents
- Unhealthy or inconsistent discipline style
- Poor attitude toward education or schooling

The emotional symptoms of behavioural disorders can be easily getting annoyed or nervous, appearing angry, putting blame on others, refusing to follow rules or

questioning authority, arguing and throwing temper tantrums, having difficulty in handling frustration etc.

The physical symptoms of behavioural disorders will have mostly emotional symptoms, with physical symptoms such as a fever, rash, or headache being absent. However, sometimes people suffering from a behavioural disorder will develop a substance abuse problem, which could show physical symptoms such as burnt fingertips, shaking or bloodshot eyes.

If left untreated, a behavioural disorder may have negative short-term and long-term effects on an individual's personal and professional life. People may get into trouble for acting out, such as face suspension or expulsion for fighting, bullying or arguing with authority figures. Adults may eventually lose their jobs, marriages can fall apart due to prolonged strained relationships, while students may have to switch schools and then eventually run out of options. The most serious actions a person with a behavioural disorder may engage in include starting fights, abusing animals and threatening to use a weapon on others.

Mental health professionals and treatment centres can evaluate people to determine if they have a behavioural disorder. Tests called functional behavioural assessments offer problem-solving help to address behavioural problems in students. These assessments are based on many techniques and strategies for identifying problem behaviours. Individualized educational program teams use these assessments to choose interventions that address specific behavioural problems. These teams are involved in the education of students, and they may include parents and teachers.

A person may receive prescription medications to help manage a behavioural disorder. Though medication will not cure the disorder, it is effective in assisting with treatment to control and modify behaviours.

Many drugs are available for behavioural problems, and the type of drug that will be prescribed depends on the specific condition being treated. Most of the children suffering from ADHD are subjected to administering Ritalin (methylphenidate), a psycho-stimulant that has a host of side-effects and behavioural problems associated with its use. Other types of medications in this group include Concerta, Methylin ER, Methylin CD, Focalin, Metadate ER and Dexedrine as short-acting medications for the treatment of ADHD. They may help a child focus better, reduce impulsive behaviour and reduce motor restlessness. These medications may also be effective against ADHD. Concerta may prevent drug abuse, as can Vyvanse and Daytrana. Some professionals recommend Wellbutrin as a primary ADHD treatment.

Such drugs may develop depression, delusions, hallucinations, paranoid fears and other drug-induced reactions in some children. Such side effects are often diagnosed as schizophrenia, clinical depression or bipolar disorders necessitating further treatment by antidepressants, mood stabilizers, and neuroleptics, finally ending up with psychoses and tardive dyskinesia. Further, it has been proved that persistent usage of psychostimulant drugs suppresses creative, spontaneous and autonomous activity in students, making them more docile and obedient. However, they conclude that the best way to treat the disorder is through monitored drug therapy and a comprehensive behavioural modification treatment. They suggest that medication

itself may not be the best thing for most children. Medications alone may not necessarily be the best strategy for many children. For example, students who had accompanying problems like anxiety, stressful home circumstances, social skills deficits, etc., over and above the ADHD symptoms, appeared to obtain maximal benefit from the combined treatment.

People with an anxiety disorder, OCD or ADHD may benefit from antidepressants, including Paxil, Tofranil, Anafranil, Prozac, Luvox, Celexa, Zoloft and Norpramin. Other medications that may help include Daytrana, Biphedamine, Dexedrine, Adderall XR and Strattera. These medications are aimed at decreasing impulsivity, reducing hyperactivity, decreasing obsessive-compulsive actions and reducing feelings of depression.

Medications for behavioural disorders may have side effects. They can increase emotional issues, increase suicidal thoughts and aggravate seizure conditions. Some of the possible side effects include insomnia, appetite reduction, tremors, depression, abnormal heart rhythms. An individual may become addicted to the medication taken to treat a behavioural disorder. As a result, the person may need professional help with weaning off that medication. One may experience withdrawal symptoms certain medications are abused. People who are depressed or have suicidal thoughts; also have a high risk for overdose, according to the medical literature.

Depression and Behavioural Disorders may trigger depression. It is not uncommon for people with a behavioural disorder to also have an addiction to drugs or alcohol. Persons with ADHD also may be at a higher risk for developing a substance abuse or alcohol dependence issue if the condition carries over into adulthood,

Intellectual disability, usually defined as when an IQ of a person is 75 or lower, is fairly common and it occurs in approximately 1 to 2 percent of people. Psychiatric and behaviour problems occur three to six times more in these individuals than in the general population, so the assessment of these patients is important in treating these issues.

Because of the severity of these mental health issues, getting help for a behavioural disorder is crucial. Cognitive behavioural therapy along with medication is an effective way to treat disorders such as ODD.

Dysthymia or chronic depression is characterized by a persistently sad disposition, as though the person is always in a bad mood. Many potential causes for depression exist. It can be genetic, meaning the patient has a family history of depression. Personal trauma and sources of stress, such as a failed relationship or a lost job, can also cause depression. Social isolation as the result of conflict with family and friends can be a contributory factor, and certain medications, such as high blood pressure medication, have depression listed as a possible side effect. Emotional symptoms of depression can be withdrawal from socializing, loss of interest in previously enjoyed hobbies, constant irritability or sadness, constant pessimism etc.

The depression can be of the following types :

- **Atypical Depression :** Atypical depression can be hard to diagnose and it often lasts for years. Some of the common symptoms of depression, such as decreased appetite, are reversed; the person may have cravings for chocolates or sweets.
- **Bipolar or Manic Depression :** Bipolar disorder is characterized by cycling between depressive periods and manic periods in which the person engages in a lot of activity and feels extremely empowered and positive. The time between phases varies from person to person.
- **Seasonal Affective Disorder (SAD) :** SAD often strikes people during the winter months. A lack of sunlight, exercise, and fresh air causes irritability and lethargy in people who suffer SAD.
- **Postpartum Depression :** Postpartum depression occurs often with women who have recently given birth. The time of onset varies; it can occur as early as three months or as late as a year after delivery. It is moderate to severe.
- **Psychotic Depression :** Patients who suffer psychotic depression exhibit psychotic symptoms along with the depression, such as delusions or hallucinations. The hallucinations can affect any or all of the senses. Usually, the delusions involve feelings of unwarranted guilt or inadequacy.

Several drugs are available for depression like selective serotonin reuptake inhibitors. These help the brain to regulate the release of serotonin and dopamine; these are brain chemicals thought to be responsible for creating feelings of happiness and satisfaction. Common brand names are Paxil, Prozac, and Zoloft. These drugs have the side effects like fatigue, dry mouth, vision problems, dizziness, irritability and constipation. If someone becomes dependent on antidepressants, addiction is a possibility. Abuse of antidepressants may not lead directly to death, but it can and will have adverse effects on the brain's chemical balance, as well as the heart and respiratory system. Withdrawal, when weaning off the antidepressants, can send someone spiralling back into depression.

Many experts agree that physical activity can help people with depression. Often, engaging physical activities like karate gives you a sense of control and decisiveness that you can surpass the obstacles in your life. With this psychology at work, karate can help you to overcome depression. Here is how karate can come to aid against depression:

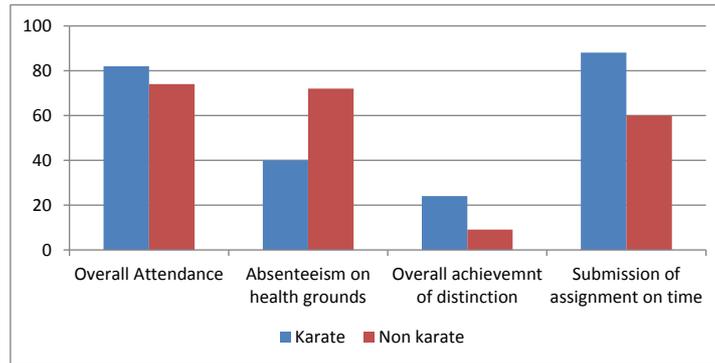
- **Life skills:** Karate teaches you many lessons about life. You can develop the ability to deal with the problems of life through karate.
- **Being happy:** Karate quickens the healing process by teaching you how to recover and be happy. Studies show that karate have been instrumental for many people in recovering from the trauma of abuse, dysfunctional families and eating disorders.

- **Self-confidence:** The sense of achievement that you gain from karate is unmatched. It is not just for health and fitness - it imparts the ethics, self-awareness and mental strength to be confident.
- **Discipline:** Discipline, in the context of karate, means that it tempers excessive emotions and helps you to restrain yourself. If you want to get out of depression, you need to learn to control emotions.
- **Strength:** Karate also makes you stronger – both in your body and mind. This enables you to face the problems of life effectively.

A study was conducted consisting of a comparative analysis on the performance of 4 batches of engineering students between those who enrolled for karate classes, and those who did not enrol themselves. The study period was 5 months of rigorous training in karate for about 2 hrs a day, consisting of basic karate: kata and kumite. The average performance of the students was compared in the areas of general attendance, academic performance, discipline and creativity in assignments and health issues. A remarkable difference in the cognition levels was noticed as indicated by the higher percentage of distinctions which can be attributed to the karate exercises. A substantial difference in the punctuality and attendance was also observed, partly because of better physical and mental health of those who practised karate. Improvements in general behaviour, emotion control, attentiveness in the classroom were also observed which could not be quantified. Further studies are necessary in the behaviour areas like EQ, anger management, boosting of self-confidence etc. to assess the efficacy of karate practice among the school/university students. The observations are tabulated below :

Year	Total Students	Nos enrolled in Karate	Nos. Not enrolled in Karate
4th Year	360	100	260
3rd Year	360	130	230
2nd Year	360	150	210
1st Year	360	170	190

Criteria (% age)	Karate	Non karate
Overall Attendance	82	74
Absenteeism on health grounds	40	72
Overall achievement of distinction	24	9
Submission of assignment on time	88	60
Grooming and general behaviour (could not quantify)	Better	Average



Concluding Remarks

Asian karate has traditionally emphasized self-knowledge, self-improvement, and self-control. Unlike Western sports, Asian karate usually teaches self-defence, involve philosophical and ethical teachings to be applied to life, have a high degree of ceremony and ritual, emphasize the integration of mind and body, and have a meditative component. While exercise and physical fitness has a role in producing psychological benefits, advocates of karate claim that the karate has a direct bearing on morality, disciplined ritual, and knowledge of man in the universe and gradually, permeated karate practices encouraged non-violent attitudes and behaviours.

It is likely that inclusion of the non-physical aspects of the karate during training or the instructor acting as a positive role model or both play a role in promoting long-term changes. A goal for future research will be to design experiments to determine which specific aspects of the karate affect these positive changes. Despite the unanswered questions about how these changes occur, the karate is finding a niche in the treatment of psychological disorders and will likely prove to be a useful complement to verbal therapy. It is gratifying to know that research is beginning to support the claims of the old masters: the karate can help develop both better bodies and better minds and may lead to a better, more peaceful society.

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