

## 48 - KARATE AS A PROMOTER OF IMPROVED PSYCHOMOTORS, ACADEMICS, SOCIAL AND BEHAVIOURAL IN THE SCHOOL ENVIRONMENT

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### INTRODUCTION

The Karate-do (the way of empty hands) is martial art appearing on the island of Okinawa in Japan through the techniques and philosophical precepts of Gichin Funakoshi (1868–1957) which is considered the father of modern karate. This martial art makes use of the attack and defence without use of weapons and seeks to refine the physical and mental aspects of practitioners. Based on the influence of Shinto, Zen-Buddhism and samurai ways, it has as philosophy the moral, spiritual and psychological values that permeate respect, equilibrium and humility (BARREIRA, MASSIMI, 2002).

This martial art is not just the mechanism of acquisition of attack and defence, goes beyond, it is important to situate its supporters in being a member of a society with righteousness and honesty. The character is perfected when you find the equilibrium and the inner dominion of your primitive instincts, when unnecessary impulses are controlled, nothing advances to physical efforts like punches, kicks and blows if the integrity that configures the human being is not present. Body and mind are parts inseparable. There is only completeness and assertion if the two links are on the same tune (FUNAKOSHI, 2010).

The sport, the dance and the fights should be in the school must always be focused on the principles of citizenship, where it can establish a sound relationship between colleagues recognizing the values that are behind these practices. Where we need to go beyond merely executing, it is not enough to just enhance the abilities and gestures, but give new meaning to the underlying values present between bodily activities and the social, cultural and educational movement (DARIDO et al, 2001; DARIDO, 2015).

The development of the psychomotor aspects is extremely important to the extent that these elements need to be structured so that the learning process of codes and symbols is internalized and promotes the autonomy of the individual in the accomplishment of tasks (ARRAES et al, 2017).

Rosa Neto et al (2010) emphasize the importance of evaluating the skills of motor development in schools because these linked to individualities of the students with regard to bodily perception, space and time of development culminating in basic components of the motor learning and school training.

Following this line of reasoning about the benefits of psychomotor development, social and behavioural abilities, the movement along the philosophy and pedagogic practices of karate, presents itself as an agent who can offer motor experiences for the Children, which insert and revitalise the conceptualization of behavioural and social values as aid in the integral development capacities of students in the school environment (RODRIGUES et al, 2017).

This research aims to ascertain whether incentives offered through karate lessons have effects on the psychomotor, social, behavioural and academic aspects in school of the third and fourth year of elementary education I.

### MATERIAL AND METHODS

This work is characterized as a quantitative descriptive field survey, with longitudinal delineating aimed at discourse on aspects of improving psychomotor, social, behavioural and academics through karate in the school environment, where they were evaluated 15 Children, 8 of the feminine gender (53.33%) and 7 masculine (46.67%) students of the third and fourth year of elementary school I of the Municipal School "Professor Maria Terezinha de Oliveira", belonging to the municipality de Itapeva-São Paulo.

The anthropometric evaluations were carried out by measuring weight and height, thus measuring the body mass Index (IMC) de Quetelet (1883). For measuring the weight a balance of Mark EKS, with capacity of 180/400lb/28st D = 100g/0.2 lb/1/4lb, and measuring tape of 3 m by 10 ft FZ-Z19 mm. The exercises of the Motor Development Scale (EDM) elaborated and validated by Francisco Rosa Neto (2002) that still today it shows methodological reliability in evaluations of psychomotor aspects, used to assess the performance Percepto-Motor, psychomotor and intellectual of school with complaints of learning difficulty (SILVA, OLIVEIRA and CIASCA, 2017). The aspects of improving social, behavioural and academic relationships through the Scales of Social Skills, Problematic Behaviors and Academic Competence (SSRS-BR) validated for Brazilian population by Bandeira et al (2009), elaborated by Frank M. Gresham and Stephen N. Elliott translated by Zilda A. P. Del Prete for Elementary School (2009).

To start the data collections the legal guardians signed the term of free and clarified consent (TCLE). The pupils participated in the karate workshop taught by Okinawan Karateka enabled for such a procedure, with duration of one hour daily, twice a week, for twenty weeks after the regular hours of classes in the "New more education" project that happened at school.

For statistical analysis the T-Student test was used for dependent specimens with a significance level of 5%.

### RESULT AND DISCUSSION

In the initial data collection the sample presented average age of  $8.83 \pm 0.59$  years, average height of  $1.33 \pm 0.06$  m and average weight of  $28.6 \pm 4.03$  kg and IMC equals  $16.2 \pm 1.73$ . After the stimulation period the sample showed average age of  $9.25 \pm 0.59$  years, average height of  $1.35 \pm 0.06$  m and average weight of  $30.7 \pm 4.21$  kg and IMC equals  $16.7 \pm 1.52$  (table 1).

Table 1. Results of anthropometric evaluation

	Initial	Final
Age	8.83 ± 0.59	9.25 ± 0.59*
Weight	28.6 ± 4.03	30.7 ± 4.21#
Height	1.33 ± 0.06	1.35 ± 0.06*
IMC	16.2 ± 1.73	16.7 ± 1.52*

Values presented in average ± standard deviation. Student's T-Test for dependent samples. \* P < 0.05, #P < 0.001.

To understand the stimulation process and its effects on the studied sample, we use the analyses of the scores

presented in graph 1, representing the psychomotor variables evaluated in the testing of the motor development scale in the initial and final stages of the process Evaluation.

Pupils presented the chronological age of (initial  $106 \pm 7.06$ ; final  $111 \pm 7.06$  months;  $p = 0,017$ ).

The positive and negative ages are represented by the difference between the general motor age and the chronological age, having as a differentiator the superiority or inferiority of the general motor age. Presented values for positive age (initial  $6.5 \pm 7.61$ ; final  $14.5 \pm 5.68$  months;  $p < 0,001$ ), negative age (initial  $2.5 \pm 4.16$ ; final  $0.00 \pm 0.00$  months;  $p = 0.04$ ), which makes it possible to see that statistically an improvement has occurred in relation to the initial indexes.

It is observed that in all variables there has been increased motor ages and reducing the standard deviation and at all have been reaching significance value of ( $P < 0.05$ ). It is also noted that General Motor age and Temporal organisation have recorded value of ( $p < 0.001$ ). The following described by the statistical inferential and defined second Rosa Neto (2002):

**General Motor Age:** It is the sum of the positive results of all the motor tests divided by 6, being expressed in months (initial  $110 \pm 9.69$ ; Final  $125 \pm 5.04$  months;  $p < 0.001$ ).

**Fine motor Coordination:** The test consisted of visuomanual activities (catching, launching, handling, etc.) was found the age (initial  $116 \pm 14.2$ ; final  $126 \pm 8.62$  months;  $p = 0.01$ ).

**Global Motor Coordination:** Synesthetic movements, tactile, labyrinthine, visual, spatial, temporal (combinations of movements, jumping, touching, etc.). The values found were from (initial  $120 \pm 16.83$ ; final  $129 \pm 6.88$  months;  $p = 0.04$ ).

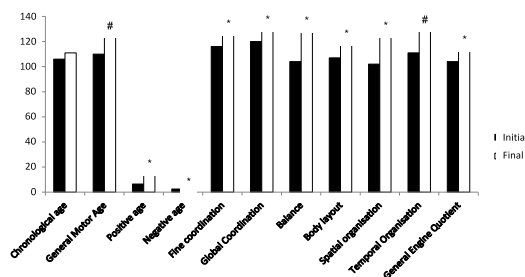
**Equilibrium:** It is the state of a body when distinct forces act on it compensate and negate simultaneously (maintaining postures, positions, attitudes). It is observed that (initial  $104 \pm 24.9$ ; final  $128 \pm 7.84$  months;  $p = 0.003$ ).

**Body scheme:** Organizing the sensations relative to your own body in association with the data from the outside world. It is noted that (initial  $107 \pm 15.4$ ; final  $118 \pm 13.2$  months;  $p = 0.001$ ).

**Spatial organisation:** involves the perception of space, both the space of the body (anatomical structures, biomechanics, physiological), of the nature of the kind that surrounds us and its characteristics. It is noted that (initial  $102 \pm 16.8$ ; final  $124 \pm 14.1$  months;  $p < 0.001$ ).

**Temporal organisation:** It consists of two components, the order and the duration of the rhythm, in some way the succession of events and the variation of intervals. In this variable psychomotor the test presented that (initial  $111 \pm 14.3$ ; final  $129 \pm 6.88$  months;  $p < 0.001$ ).

**General Motor Quotient:** It is the product of the General Motor Image division by the chronological age multiplied by a hundred. Presented values of (initial  $104 \pm 10.2$ ; final  $113 \pm 6.88$  months;  $p < 0.001$ ), according to the scale classification passed from average normal to normal high.



Graph 1. Presentation of the scores of the initial and final evaluations. Student's T-Test for dependent samples. \*  $P < 0.05$ . #  $P < 0.001$ .

From an assessment conducted with a group of children aged seven to eleven who practise karate at the school under similar conditions to the proposed here, differing in relation to being an observational survey among practitioners and non-practitioners, it was observed that there was benefit in the aspect of the motor plan as the improvement of laterality, equilibrium, organisation of time and space, body notion, good resourcefulness in agility and fine and broad motor coordination. These results corroborate with results found in this investigative research, it is considered that the elements present in the basics of karate, where modal movements have incidences on characteristics that are crucial for a development Suitable for children. The speed, strength, flexibility, equilibrium, coordination, agility and notion of temporal space are employed considerably in the engine plan, for which they are fountains for the accomplishments of jumps, punches, kicks, pushes, and bodily balances (SANTOS, TONON E SOUZA, 2016).

This demand in the perception of stimuli triggers the act of elaborating a response to each situation, where the harmonic movement originates from the capabilities of the motor control of the time-spatial adaptation, the fruit of the attention and a well structured body scheme, which can also be Offered through the physical activities worked in karate (NUNES, FRANZOI, 2010).

With regard to the skills investigated through the scales of social skills, problematic behaviors and academic competence (SSRS-BR), in that consistent the perception of the sample (children) in relation to the six sub-items investigated (liability, empathy, Assertiveness, self-control, civility, positive sentiment expression, only the self-control ( $P = 0.04$ ) showed significant difference in quantification of social skills. In relation to the overall mean of the six items analyzed, improvement in the development of these skills was observed ( $p < 0.001$ ), reflecting that the variables in a general context, that is, the average of all of them improved.

Among the social skills in relation to the vision of the parents of the students representing the sample, none of them showed significant difference. Six variables were evaluated (cooperation, kindness, initiative/social resourcefulness, assertion, self-control/civility, passive self-control).

In relation to problematic behaviour (hyperactivity, problematic outsourcing behaviour and internalising problematic behaviour) data collected as a result of parents' perception presented improvement in the hyperactivity item ( $P = 0.008$ ) and the global average of problematic behaviors ( $P = 0.04$ ).

According to the results presented to the analysis of the variables established to the teacher in conformity with the social skills (responsibility/cooperation, assertion, self-control, self-defence, peer cooperation) among them the self-control ( $P < 0.001$ ) and Self-defence ( $P = 0.001$ ) demonstrated to be significant, moreover, responsibility/cooperation, assertion, cooperation with peers presented values of ( $p < 0.001$ ).

With regard to problematic behaviour the statistical treatment of Professor's evaluations Mensurou problematic behavioral behaviour ( $P = 0.01$ ) and internalising Troublesome behaviour ( $p < 0.001$ ).

As far as learning the academic competence has verified that there have been improvement of performance between

the beginning and the end of the research with value ( $P = 0.001$ ).

In order to avoid possible future setback with children who denote certain shortcomings, how much social skill is due from early to work the compromise senses. In the didactic way of karate, there are possibilities of working on physical behaviour and abilities, thereby the mental stability acts on the global control with regard to the coordinating development of the motor functions where the forms of Movement and its applications. As for the social characteristics, they are internalized and faceted on the point of view of their philosophy, respect and self-control as a basis of education that precedes the experiences of the gestures of the sport within the school as a tool to foster the learning of all the Aspects inherent in the educational process for the formation of the pupil (CASALI-ROBALINHO, DEL PRETTE E DEL PRETTE, 2015; SANTOS, TONON E SOUZA, 2016).

Martial arts are reinforcing emotional stability and mitigates aggressive behaviors and assists in the ability of memorization, thus the experience of the corporal practice of karate propels psychological development and this can come to influence performance as to the School income. This is evidenced by the schools that include in the school physical education classes The martial arts for the face to develop first human values, these may be predictors of school yields since they act in the psychomotor, affective and Cognitive. Compared to the time and the number of practice is remarkable improvement in school yields usually mentioned by the practitioners themselves. According to the author, practice does not exert a direct influence on the development of academic competences, rather on the acquisition and development of skills of social skills that are responsible for attention in the behavioural concentration that sustains in the Moral and social aspects that make the pupil aware of being in classes and reflects on school income (BRANCO NETO, 2014).

#### CONCLUSION

Through evaluations and scores it is possible to verify that the insertion of karate practice has triggered improvement on the psychomotor, social, behavioural and academic aspects of the studied sample, mainly in the view of teachers of the regular teaching rooms.

From this research and findings, karate demonstrates being a positive tool for improving the psychomotor aspects and assisting in learning situations both social and academic skills, as can be a mitigating agent of behaviour Problematic, since working properly the reality in view of the needs of pupils within the school environment.

Key words: psychomotor aspects, social skills, karate

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#### KARATE AS A PROMOTER OF IMPROVED PSYCHOMOTORS, ACADEMICS, SOCIAL AND BEHAVIOURAL IN THE SCHOOL ENVIRONMENT

Abstract: The karate, "The path of the empty Hands", arose in the islands of Okinawa in Japan through the techniques and philosophical precepts of Gichin Funakoshi, pervades the attack and defence without use of weapons and seeks to refine the physical and mental aspects of practitioners. The objective of this research is to ascertain whether incentives offered through karate lessons have an effect on the psychomotor, social, behavioural and academic aspects of schools in the third and fourth year of elementary school I. Those responsible signed the term of free Informed consent (TCLE), anthropometric evaluations were conducted. The weight was measured by a scale with capacity of 300 lbs 130 kg, a graduate of 2 lb. 1 kg, and measuring tape of 3 m by 10 ft FZ-Z19 mm. As a parameter for the evaluation of the psychomotor aspects was used the motor development Scale (EDM)), in view of the social, behavioural and academic skills of social skills scales, behaviors Problematic and academic competence (SSRS-BR). The comparison of variables between the initial and final moments was performed by the T-student test for dependent samples, being the significance level adopted by 5%. The results showed improvement in all aspects of psychomotor. Considering the social and behavioural abilities was significant in relation to the pupils' vision of self-control, for parents hyperactivity, and for teachers the self-control, autodefence, problematic behavioral outsourcing and responsibility/cooperation, Assertions, co-operation with peers, internalising problematic behavior and improving academic competency learning performance. The results demonstrate that the insertion of karate practice contributes to improving the psychomotor, social, behavioural and academic aspects of the studied sample.

Key words: psychomotor aspects, social skills, karate.

#### LE KARATÉ EN TANT QUE PROMOTEUR D'UNE PSYCHOMOTORS AMÉLIORÉE, UNIVERSITAIRES, SOCIAUX ET COMPORTEMENTAUX DANS L'ENVIRONNEMENT SCOLAIRE

Résumé: Le karaté, «le chemin des mains vides», se leva dans les îles d'Okinawa au Japon à travers les techniques et les préceptes philosophiques de Gichin Funakoshi, imprègne l'attaque et la défense sans utiliser d'armes et cherche à affiner les aspects physiques et mentaux des praticiens. L'objectif de cette recherche est de vérifier si les incitations offertes par les cours de Karaté ont un effet sur les aspects psycho, social, comportemental et académique des écoles de la troisième et de la quatrième année de l'école primaire I. les responsables ont signé le terme de libre Consentement éclairé (TCLE), des évaluations anthropométriques ont été effectuées. Le poids a été mesuré par une échelle avec une capacité de 300 lbs 130 kg, un diplômé de 2 1 b. 1 kg, et bande de mesure de 3 m par 10 ft FZ-Z19 mm. en tant que paramètre pour l'évaluation des aspects de la psychothérapie a été utilisé l'échelle de développement moteur (EDM), en raison des compétences sociales, comportementales et académiques des compétences sociales échelles, les comportements Compétence problématique et académique (SSRS-BR). La comparaison des variables entre les moments initiaux et finaux a été effectuée par le test T-Student pour les échantillons dépendants, soit le niveau d'importance adopté de 5%. Les résultats ont montré une amélioration dans tous les aspects de la psycho. Considérant les aptitudes sociales et comportementales a été significative en ce qui concerne la vision des élèves de l'autocontrôle, pour les parents hyperactivité, et pour les enseignants l'autocontrôle, l'autodéfense, l'externalisation comportementale problématique et la responsabilité/coopération, Assertions, coopération avec des pairs, intériorisation des comportements problématiques et amélioration de la performance d'apprentissage des compétences académiques. Les résultats démontrent que l'insertion de la pratique du karaté contribue à améliorer les aspects psycho, social, comportemental et académique de l'échantillon étudié.

Mots clés: Aspects psychomoteurs, aptitudes sociales, karaté.

#### EL KARATE COMO PROMOTOR DE LOS PSICOMOTORES MEJORADOS, ACADÉMICOS, SOCIALES Y CONDUCTUALES EN EL ENTORNO ESCOLAR

Resumen: El Karate, "el camino de las manos vacías", surgió en las islas de Okinawa en Japón a través de las técnicas y los preceptos filosóficos de Gichin Funakoshi, impregna el ataque y defensa sin uso de armas y busca afinar los aspectos físicos y mentales de los practicantes. El objetivo de esta investigación es determinar si los incentivos ofrecidos a través de las lecciones de Karate tienen un efecto sobre los aspectos psicomotores, sociales, conductuales y académicos de las escuelas en el tercer y cuarto año de la escuela primaria I. los responsables firmaron el término de libre Consentimiento informado (TCLE), se realizaron evaluaciones antropométricas. El peso se midió por una escala con capacidad de 300 lbs 130 kg, un graduado de 2 1B. 1 kg, y cinta métrica de 3 m por 10 pies FZ-Z19 mm. como parámetro para la evaluación de los aspectos psicomotrices se utilizó la escala de desarrollo del motor (EDM)), en vista de las habilidades sociales, conductuales y académicas de las escalas de habilidades sociales, comportamientos Capacidad problemática y académica (SSRS-br). La comparación de variables entre los momentos inicial y final fue realizada por la prueba T-Student para muestras dependientes, siendo el nivel de significancia adoptado en un 5%. Los resultados mostraron mejoría en todos los aspectos del psicomotor. Considerando que las capacidades sociales y conductuales eran significativas en relación a la visión de los alumnos de autocontrol, para la hiperactividad de los padres, y para los docentes el autocontrol, la autodefensa, la externalización del comportamiento problemático y la responsabilidad/cooperación, Aserciones, cooperación con pares, internalización el comportamiento problemático y mejorando el rendimiento académico de aprendizaje de competencias. Los resultados demuestran que la inserción de la práctica del Karate contribuye a mejorar los aspectos psicomotores, sociales, conductuales y académicos de la muestra estudiada.

Palabras claves: Aspectos psicomotores, habilidades sociales, karate.

#### O KARATÊ COMO AGENTE PROMOTOR DE MELHORAS PSICOMOTORAS, ACADÊMICAS, SOCIAIS E COMPORTAMENTAIS NO AMBIENTE ESCOLAR

Resumo: O karatê, "o caminho das mãos vazias", surgiu nas ilhas de Okinawa no Japão por meio das técnicas e preceitos filosóficos de Gichin Funakoshi, permeia o ataque e defesa sem uso de armas e procura aperfeiçoar os aspectos físicos e mentais dos praticantes. O objetivo dessa pesquisa é verificar se estímulos ofertados por meio das aulas de karatê exercem efeitos sobre os aspectos psicomotores, sociais, comportamentais e acadêmicos em escolares do terceiro e quarto ano do ensino fundamental I. Os responsáveis assinaram o Termo de Livre Consentimento Esclarecido (TCLE), foram realizadas avaliações antropométricas. O peso foi aferido por uma balança com capacidade de 300 lbs 130 kg, graduada de 2 1b. 1 kg, e fita métrica de 3 m por 10 ft FZ-Z19 mm. Como parâmetro para avaliação dos aspectos psicomotores foi utilizado a Escala de Desenvolvimento Motor (EDM)), em vista as habilidades sociais, comportamentais e acadêmicas a Escalas de Habilidades Sociais, Comportamentos Problemáticos e Competência Acadêmica (SSRS-BR). A comparação das variáveis entre os momentos inicial e final foi realizada pelo teste t-student para amostras dependentes, sendo o nível de significância adotado de 5%. Os resultados evidenciaram melhoras em todos os aspectos psicomotores. Considerando que em habilidades sociais e comportamentais foi significativo em relação a visão dos alunos o autocontrole, para os pais hiperatividade, e para os professores o autocontrole, autodefesa, comportamento problemático externalizantes e responsabilidade/cooperação, asserção, cooperação com pares, comportamento problemático internalizantes e melhoras no desempenho de aprendizagem de competência acadêmica. Os resultados evidenciam que a inserção da prática do karatê contribui para melhoras dos aspectos psicomotores, sociais, comportamentais e acadêmicos da amostra estudada.

Palavras chaves: Aspectos psicomotores, habilidades sociais, karatê.

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