

# Interpretation of Chinese Hand-to-Hand Fighting Systems and Therapeutic Exercises From the Perspective of the INNOAGON Methodology

Artur Kruszewski<sup>1</sup>, Ilia Cherkashin<sup>2</sup>, Marek Kruszewski<sup>1</sup>,  
Elena Cherkashina<sup>2</sup>, and Liu Siliang<sup>3</sup>

<sup>1</sup>Department of Individual Sports, Jozef Pilsudski University of Physical Education in Warsaw, Warsaw, Poland

<sup>2</sup>School of Physical Education, Hainan Normal University, Haikou, Hainan Province, China

<sup>3</sup>Dalian University of Technology College of Physical Education and Health, Dalian, Liaoning Province, China

## ABSTRACT

The traditional Chinese aerobic fitness exercise tai chi, is a form of low to moderate intensity physical activity. Tai chi is a good example of both therapeutic exercise and a form of preparation for gentle hand-to-hand combat. In Chinese society, this form of exercise is a primary means of prevention, a lifestyle in a sense of conventional physiotherapy or rehabilitation. Many schools of tai chi based on the same principles of exercise theory have been developed in China. At present, we can distinguish six main schools of tai chi: with the Chen, Yang, Sun, Hao, Wu and He styles being the mainstream. As a result of ongoing developments linked to traditional oriental medicine, the ai chi method is being popularised. Its core element is part of rehabilitation in water as 'physical-mental' treatment. Combining the advantages of tai chi and hydrotherapy, ai tai chi has complementary advantages in terms of sensory stimuli such as the ability to maintain balance, sense of movement, development of strength, proprioception and mental development based on Eastern martial arts values. These and other modifications of these systems of hand-to-hand combat and therapeutic exercises are part of the methodological concept of INNOAGON (an acronym for innovative agonology). In the last few decades, tai chi has gained enormous popularity worldwide, but has moved considerably away from its roots. Nowadays, tai chi exercises are no longer likely to be considered in the category of traditional Chinese hand-to-hand combat systems, and are seen as part of three parallel currents: sport, health and spiritual. It is precisely the philosophy of health characteristic of Chinese culture combined with various kung-fu fighting styles that is a very important offer for fulfilling the social mission of INNOAGON. The parallel between the majority of Chinese forms of hand-to-hand combat and the Japanese concept of budo, as well as the reference to the Greek philosophy of kalos kagatos, makes it possible to identify these forms of activity as fulfilling the fundamental appeal of INNOAGON leading to permanent human development. The essential convergence of virtually all Chinese forms of physical activity fulfilling the main purpose of the INNOAGON teachings is their desire to do good and develop wisdom. These activities through the practice of physical exercise leading to the creation of unique methods and tools applicable to prevention, diagnosis and therapy leads to the health preservation.

**Keywords:** Exemplary paper, Human systems integration, Systems engineering, Systems modeling language

## INNOAGON

INNOAGON (acronym for ‘innovative agonology’) – is an applied science that focuses on the promotion, prevention and treatment of all dimensions of health and the optimisation of activities that enhance survival (from micro to macro) (Kalina, Kruszewski, 2023).

From this broad spectrum of influence of INNOAGON theory, the issue of teaching and applying hand-to-hand combat in modern society in accordance with the convention of the human right to necessary defence - hence the proposal by experts of this new science of honourable self-defence - comes to the fore (Harasymowicz, 2007). By means of such a modern approach (as opposed to the media promotion of neo gladiatorism camouflaged with the name of mixed martial arts), hand-to-hand combat training shapes not only the motor skills of self-defence, but also mental resistance, ethics and aesthetics, and the key criterion is the acquisition of respect for one’s own corporeality and that of the opponent the one in the training room and, paradoxically, the virtual aggressor [propaedeutics of combat sports]. This is a still ignored, although accessible, way (provided a competent teacher) of raising self-esteem and self-confidence and generally influencing a change in life attitudes (Kalina, Kruszewski, 2023).

The definition of the acronym INNOAGON, emphasises the openness (but not overlooking the standards of science) to continuous improvement of one’s own creation. It is a combination of words ‘innovation’ and ‘agon’ (which in ancient Greece meant, among other things, ‘struggle’). The suffix ‘logy’ (traditionally used to mean ‘science of a particular subject’) is instead part of the full name of this science - innovative agonology.

INNOAGON theory encompasses the coverage of all combat theories. In turn, these theories provide premises and assumptions for hypotheses, which are then verified through experiments and diagnostic studies. All research activities undertaken are directed towards the interpretation of observational data and justifications leading to the formulation of meaningful implementations in the areas of practice concerning education, health or survival in the broadest possible sense.

A certain surprise, not only to INNOAGON experts, is the fact that the term ‘self-defence’ has been used in the field of science (since 1900) in a much broader sense than just in terms of defensive combat in general (Kruszewski, Walczak, 2023). After all, the object of exploration of the individual disciplines and sub-disciplines of science is not the phenomenon of struggle understood in a general sense (as is the case in the field of praxeology) (Kotarbiński, 1938) or in a concrete sense - for example, precisely the phenomenon of ‘self-defence’ as a concrete case of the theory of defensive struggle (Kalina, 1991).

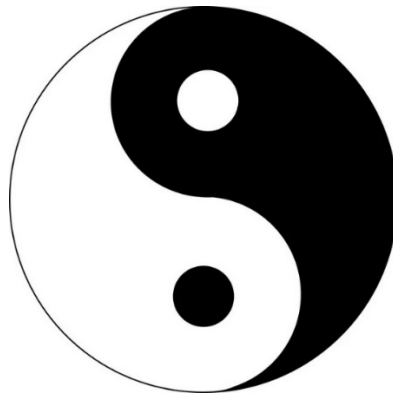
INNOAGON’s mission is to supplement knowledge and recommend conclusions leading to changes in the perception of physical activity in its broadest sense, from the micro to the macro scale, with particular emphasis on the criterion of identification with the hypothesis stating the supreme values of global civilisation – *survival of humans and nature in a non-degenerate form and responsibility for coming generations* (Piepiora, Kalina, 2023). In

other words, the aim of the action taken is the development of the individual in every possible aspect, and the primary means is continuous, appropriate and sustainable education.

The distinguishing element of INNOAGON's theory of practising physical activity is the teaching of hand-to-hand combat systems, also associated with self-defence, in a much broader sense than just mastering specific technical actions or action systems related to the physical side. The prerequisite for this is the even development of both the physical and mental spheres of the individual.

### **Chinese Hand-to-Hand Combat Systems**

In Far Eastern culture, the symbol of the complex interaction between body and mind is the Yin Yang symbol (Figure 1). This sign is a recognised symbol of Taoism, and represents a philosophical rather than a religious meaning. It derives from the text of the Tao Te Ching, which translates as 'the way of honesty'. The title can mean 'The Book of the Way and its Virtue'. In eighty verses it contains a treatise on how to live in the world with goodness and honesty. The text is attributed to Lao Tzu (or Laozi, which literally means 'old master'), a chronicler of the Zhou dynasty in the sixth century BC, and is a fundamental text of philosophical Taoism (Lau, Tao, 1989). It is somewhat of a curiosity that during the domination of communist rule in Poland, this sign was the official identifier of The Polish Society for Mental Health and featured on almost all of the Society's monographs.



**Figure 1:** Yin Yang symbol (<https://www.kungfuliving.com/48-yin-yang-and-the-symbolism>).

Yin is the feminine element and implies the qualities of slow, soft, non-substantial, diffuse, cold, wet and calm, and is associated with water, earth, birth and birthing. Yang is the masculine principle and implies the qualities of fast, hard, solid, dry, focused, hot and aggressive, and is associated with things like fire and sun. When someone is calm, relaxed and accepting of everything around them, they are in a yin state. When someone is tense like a coiled spring and completely focused on one thing, they are in a yang state. Neither of these is good or bad and both are appropriate in their place.

These distinctions do not imply any observed or prescribed gender attitude behaviour, but are philosophical or linguistic distinctions.

These opposites revolving around each other create momentum and the harmony resulting from balancing them is essential. They have their practical applications, of course; the transition through yin and yang in movements is evident in offensive and defensive balance, but also in the development of a calm mind that can think clearly even during violent actions. This learned transition is a skill that eventually becomes so intuitive that the principle permeates all areas of life. The balance of yin and yang forms the basis of traditional Chinese medicine such as Tai Chi and numerous martial schools (Lau, Tao, 1989).

### **The Hand-to-Hand Combat of Wushu**

Wushu - translated from Chinese means 'technique or martial art'. It is made up of two hieroglyphs: wu ('u') - 'military, combat' and shu ('shu') - 'art, technology'. The first archaic forms of martial arts to appear in ancient China were developed during the Xia, Shang and Zhou eras. With the advent of bronze weapons, these forms evolved into martial arts techniques and began to be used to train soldiers.

The thoughtful system of Chinese wushu schools has ensured that the tradition of harmoniously combining the spiritual with the physical is maintained. The main difference between wushu and ordinary hand-to-hand combat (the name 'martial arts' is commonly used, but scholars identifying with INNOAGON avoid this term so as not to promote neo-Gladism camouflaged with the name 'mixed martial arts' in the field of science) (Kruszewski, 2023) lies precisely in the fact that not only specific techniques (in the sense of motor actions) but, most importantly, spiritual and moral principles were transmitted. This is why, over the centuries, a school of wushu has taken shape, creating its own deeply considered methods of training and educating students (Xie, 2011).

This is why great importance is attached to internal work in all wushu schools. The harmonious combination of internal and external directions is a prerequisite for the success of any wushu school (Liu, Li, 2011).

The main function of wushu is to hone the practitioner's individual skills and align them with the distinctive values of China's three main philosophical schools: Taoism, Buddhism and Confucianism. It was during this period that such fundamental theoretical treatises of wushu as 'Quan Yi Shu Zhen', 'Baguaquan Xue', 'Taijiquan Xue', 'Xingyiquan Xue' by Sun Fuquan, 'Chenshi Taijiquan Tuishou' by Chen Xin, 'Taijiquan Jing' by Wang Zongyue and others appeared (Bai, 2011).

Some twenty new complexes with and without weapons have been created based on ancient styles, including "simplified taijiquan in 24 forms", "initial long fist complex", etc.

### **The Modern Classification of Wushu Is Divided Into Five Categories**

I. Fist fighting arts - includes styles and complexes performed without the use of weapons, such as shaolinquan, chaquan, taijiquan, baguazhang,

xingyiquan, nanquan (“southern fist”), fanziquan (“whirlwind fist style”), tanglangquan (“mantis style”), houquan (“monkey style”), ditanquan (“ground prone style”), liuhequan (“six harmonies style”) and many others.

## II. Weapons exercise

Short weapons – straight and curved swords, knives and needles.

Long weapons – spear, polearm.

Double weapons – double swords, double hooks, double spears.

Stick and – nine-gauge chain, three-gauge chain.

III. Pair exercises – involve demonstration fights between two or more people according to specific rules and are divided into:

- Exercise in pairs of unarmed partners.
- Fight between two armed partners.
- Fight between an armed partner and an unarmed partner.

IV. Group demonstration exercises – consist of demonstrations involving six or more people, unarmed or with weapons, sometimes performed to the accompaniment of music and in ancient costume.

V. Combat fighting – currently includes fighting in sanda protective gear or tui shou “pushing hands” from taijiquan style (Cheng, 1995).

Zhang Sanfeng is responsible for developing the entire methodology of ‘internal’ development, from which he developed the style of wushu - tai chi (‘fist of the great limit’) - Chinese gymnastics, which is the style, component, basic technique of wushu (‘martial art’), a type of traditional physical culture. It includes wrestling, fist fighting, sword fencing, spades, archery, etc. Modern tai chi is divided into several styles. The main style is the Chen style. According to the Chinese government and the Chen family, the founder of this style of taijiquan is Chen Wangting. He was a soldier in the imperial guard, but left the military soon after the Manchurian Qing Dynasty came to power in 1644. Being an accomplished Wushu master, he decided to systematise the information he had acquired in the army. This gymnastics is widely practised not only in China, but all over the world. Since 1999, on the initiative of a number of American organisations, World Tai Chi Day has been celebrated annually in more than 60 countries around the world. Material on tai chi is posted on the official websites of the World Health Organisation and the United Nations, as well as in numerous literature sources in Web of Science, Scopus databases, etc. (Peng, 2016).

The traditional Chinese aerobic fitness exercise tai chi, is a form of low to moderate intensity physical activity. Tai chi is a good example of both therapeutic exercise and a form of preparation for gentle hand-to-hand combat. In Chinese society, this form of exercise is a primary means of prevention, lifestyle in a sense conventional physiotherapy or rehabilitation. Many schools of tai chi based on the same principles of exercise theory have been developed in China. At present, we can distinguish six main schools of tai chi: with the Chen, Yang, Sun, Hao, Wu and He styles being the mainstream (Li et al., 2012; Pan et al., 2017).

Philosophically, tai chi encompasses a wide range of landmark works and philosophical and religious positions: Taoism, Confucianism, Buddhist doctrine, and Chinese medicine. In terms of systematics, tai chi includes: organised basic movement patterns; forms of individual exercise (similar to Japanese kata); forms of paired exercise; and forms of weapon exercise and combat/self-defence training. Whereby self-defence training emphasises slow meditative movements rather than strict replication of a combat confrontation (Ciaccioni et al., 2024).

On the other hand, the holistic impact resulting from an awareness of energetic and kinaesthetic processes integrates movement, posture, meditation and breathing with philosophical assumptions in which practitioners strive for unity (Zhang et al., 2021).

This argumentation, in our opinion, is convincing enough that health is paramount in the practice of tai chi exercises. “Inner-external connectivity” is a basic principle that Chinese practitioners of the internal arts of wushu particularly adhere to. Inner-external connectivity emphasises the unification of the practitioners’ inner consciousness and outer attitudes, and the gradual merging with the environment, partner and even opponent (Fong et al., 2014).

Through the practice of self-defence exercises with a partner, as a result of repeated stepping and turning with appropriate body positioning, body balance control is formed. This is of particular importance not so much in the sense of acquiring the ability to fight when confronted with an aggressor, but in the sense of using the acquired coordinated movement of the whole body in many everyday situations, such as avoiding undesirable consequences of injury (e.g. due to collision with a vertical obstacle or moving object) while maintaining balance. The social interaction and mutual respect resulting from group training play an important role in the mental health and cognitive functions of people participating in tai chi exercises. Reductions in depression and anxiety have been observed in older people, as well as improvements in cognitive function (Nnodim et al., 2006; Winser et al., 2022).

The inclusion of etiquette and philosophy education has many positive effects on children and young people. After training in these traditional forms of Chinese hand-to-hand combat, increased self-efficacy, social-emotional competence, communication skills and reduced aggressive behaviour were observed in children on the autism spectrum (Lang et al., 2010; Tse et al., 2018; Morales et al., 2021; Tabeshian et al., 2022).

The importance of incorporating both philosophy and physical training was highlighted in a randomised controlled trial conducted by Fung and Lee (Fung, 2018).

After 10 sessions of training, children who had learnt both the skills recommended by traditional Chinese hand-to-hand combat form training and philosophy showed significantly reduced aggressive behaviour, delinquent behaviour, anxiety/depression and attention problems, and these changes persisted 6 months after training (Bahrami et al., 2012).

As a result of the constant changes associated with traditional oriental medicine, the ai tai chi method has been popularised. It was developed by

Jun Konno in Japan in 1996, based on tai chi and qi qong exercises (Pazos, González, 2002; Unalan et al., 2008).

Its core element is part of rehabilitation in water as a ‘physical-mental’ treatment. Combining the benefits of tai chi and hydrotherapy, ai tai chi has complementary benefits in terms of sensory stimuli such as balance ability, sense of movement, strength development, proprioception and mental development based on Eastern martial arts values.

This method has been used with great success in the treatment of people with Parkinson’s disease. One of the main symptoms in this case is a high incidence of falls due to loss of both static and dynamic balance. Various exercise strategies are introduced leading to an improvement in quality of life in motor, social and also psychological dimensions (Lima et al., 2013).

The qualities provided by the specificity of exercising in water are a great advantage for people with Parkinson’s disease who participate in this type of programme. The buoyancy of the water helps to relieve movement and increases both range of motion and muscle activity. Also, exercise in warm water (27°–29°) provides patients with a state of relaxation, relief from joint pain and a reduction in muscle tension. In this sense, the effectiveness of interaction through ai tai chi programmes in gait rehabilitation and fall prevention for people with Parkinson’s disease has been confirmed in studies (Pérez-de la Cruz et al., 2016; Pérez-de la Cruz, 2018; Kurt et al., 2018).

Nowadays, Chinese hand-to-hand combat systems are increasingly linked to competitive sport, especially among mainland Chinese youth. As such, it is part of the dualistic and goal-oriented concerns of contemporary sport. The influence of Western sport often results in a significantly instrumentalised approach to exercise only in selected aspects of the sport. Increasingly, people’s interest, both in Western culture and Far Eastern culture, in engaging in physical activity is focused solely or mainly for health or sporting reasons, thus ignoring the wisdom of Chinese tradition. The underlying essence of wushu is its harmonious conformity (Xu, 2013).

In a bid to popularise Chinese hand-to-hand combat systems, China has included them in the list of events at the Beijing Olympics. This clearly highlights the physical nature of martial arts and also points to a new direction for martial arts in China. In addition, a number of martial arts competitions are taking place in many locations. Although the development of martial arts’ sporting attributes may increase its popularity and enhance its commercial appeal. They focus blindly on sports, commerce and popularity development, it can easily lead to the phenomenon of “cultural empty nest”. “Cultural empty nest” mainly refers to the phenomenon of the lack of cultural thinking and cultural concepts in material content, which is only perpetuated by traditional culture. Under the influence of modern civilisation, many traditional ideas have disappeared over time, and the phenomenon of the “cultural empty nest” of Chinese hand-to-hand combat systems is becoming more and more prominent. If we do not pay attention to the development of the culture of hand-to-hand combat systems they will eventually turn into gymnastic competitions (Wang, 2016).

Often during demonstration performances at All-China Wushu competitions or Wushu festivals, 80-year-old elderly people appear on the podium,

easily performing twine or breaking stones into small pieces in their hands. And although today wushu is the most popular form of physical culture in China, the secrets of wushu are still being revealed to few. It is no coincidence that there are two categories of practitioners in China - 'wushu athletes' and 'wushuists' (wushujia). The latter include true masters who run entire schools or styles and have truly learned all the secrets of the ancient art of wushu, which is inextricably linked to China's original culture (Peng, Shu, 2016).

## CONCLUSION

The philosophy of health characteristic of Chinese culture combined with various kung-fu fighting styles is a very important offer for fulfilling the social mission of INNOAGON. The parallelism of most Chinese forms of hand-to-hand combat to the Japanese concept of budo and the reference to the Greek philosophy of kalos kagatos makes it possible to identify these forms of activity as fulfilling the fundamental appeal of INNOAGON leading to the permanent development of the human being.

The essential convergence of virtually all Chinese forms of physical activity fulfilling the main purpose of the INNOAGON teachings is their desire to do good and develop wisdom. These activities through the practice of physical exercise leading to the creation of unique methods and tools applicable to prevention, diagnosis and therapy leads to the health preservation.

## REFERENCES

- Bahrami F, Movahedi A, Marandi SM, (2012). Kata techniques training consistently decreases stereotypy in children with autism spectrum disorder. *Res. Dev. Disabil.*; 33(4):1183–93.
- Bai T. (2011). An Experimental Study of the Fitness Value of Tai Chi for General Female College Students. *Wrestling: Martial Arts Science*, 08(8): 43–45.
- Cheng D. (1995). *Chinese martial arts, history and culture*. Chengdu; Sichuan University Press: 357. 20.
- Ciaconci S, Castro O, Bahrami F, et al. (2024). Martial arts, combat sports, and mental health in adults: A systematic review. *Psychology of Sport and Exercise*; 70, <https://doi.org/10.1016/j.psychsport.2023.102556>.
- Fong SSM, Ng SSM, Liu KPY, et al. (2014). Musculoskeletal strength, balance performance, and self-efficacy in elderly Ving Tsun Chinese martial art practitioners: implications for fall prevention. *Evid. Based Complement. Alternat. Med.*; 2014:402314.
- Fung ALC, Lee TKH. (2018). Effectiveness of Chinese martial arts and philosophy to reduce reactive and proactive aggression in schoolchildren. *J. Dev. Behav. Pediatr.*; 39(5):404–14.
- Harasymowicz J. (2007). Competences of combat sports and martial arts educators in light of the holistic fair self-defence model of training. *Archives of Budo*; 3: 7–14.
- Kalina RM, Kruszewski A. (2023). INNOAGON is an acronym for 'innovative agonology', but is not synonymous with 'science of martial arts'. *Archives of Budo*; 19, 193–204.
- Kalina RM. (1991). *Przeciwdziałanie agresji: wykorzystanie sportu do zmniejszenia agresywności*. Warszawa: Polskie Towarzystwo Higieny Psychiczej; [in Polish].



- Kotarbiński T. (1938). *Z zagadnień ogólnej teorii walki*. Warszawa: Sekcja Psychologiczna Towarzystwa Wiedzy Wojskowe; [in Polish].
- Kruszewski A, Gąsienica Walczak B. (2023). Although “self-defence” is an individual case of human defensive struggle and the object of research of the specific sciences dedicated to struggle, it also is a term borrowed by other categories of sciences classified by WoS. *Archives of Budo*; 19: 61–75.
- Kruszewski A. (2023). From ancient patterns of hand-to-hand combat to a unique therapy of the future. *Int. J. Environ. Res. Public Health.*; Vol. 20 (Iss. 4), s. 1–14.
- Kurt EE, Büyükturan B, Büyükturan Ö, et al. (2018). Effects of Ai Chi on balance, quality of life, functional mobility, and motor impairment in patients with Parkinson’s disease. *Disabil Rehabil.*; 40(7): 791–797. doi: 10.1080/09638288.2016.1276972.
- Lang R, Koegel LK, Ashbaugh K, et al. (2010). Physical exercise and individuals with autism spectrum disorders: A systematic review. *Res. Autism Spectr. Disord.*; 4:565–76.
- Lau, D. C., Tao Te Ching (1989). Hong Kong: Chinese University Press.
- Li F, Harmer P, Fitzgerald K, Eckstrom E, Stock R, Galver J, et al. (2012). Tai chi and postural stability in patients with Parkinson’s disease. *N. Engl. J. Med.*; 366(6):511–9.
- Lima LO, Scianni A, Rodrigues-de-Paula F. (2013). Progressive resistance exercise improves strength and physical performance in people with mild to moderate Parkinson’s disease: A systematic review, *Journal of Physiotherapy*, 59, 1, 7–13, [https://doi.org/10.1016/S1836-9553\(13\)70141-3](https://doi.org/10.1016/S1836-9553(13)70141-3).
- Liu X, Li Y. (2011). Fitness Value of Twenty-Four Simplified Tai Chi Exercises. *Intelligence*, (24): 194.
- Morales J, Fukuda DH, Garcia V, et al. (2021). Behavioural improvements in children with autism spectrum disorder after participation in an adapted judo programme followed by deleterious effects during the COVID-19 lockdown. *Int. J. Environ. Res. Public Health.*; 18(16):8515.
- Nnodim JO, Strasburg D, Nabozny M, et al. (2006). Dynamic balance and stepping versus tai chi training to improve balance and stepping in at-risk older adults. *J. Am. Geriatr. Soc.*; 54(12):1825–31.
- Pan S, Kairy D, Corriveau H, Tousignant M. (2017). Adapting Tai Chi for upper limb rehabilitation post stroke: A feasibility study. *Medicines (Basel)*; 4(4):72.
- Pazos M, González A. (2002). Técnicas de hidroterapia. *Hidrocinesterapia. Fisioterapia.*; 24: 34–42.
- Peng G, Shu S. (2016). Research on the development trends of Chinese sports. *Journal of Physical Education*, (2): 12–17.
- Peng G. (2016). Features of the US National Health Strategy and its implications for a healthy China. *Sports Science*, (9).
- Pérez-de la Cruz S, García Luengo AV, Lambeck J. (2016). Effects of an Ai Chi fall prevention programme for patients with Parkinson’s disease. *Neurologia.*; 31(3): 176–82. English, Spanish. doi: 10.1016/j.nrl.2015.05.009.
- Pérez-de la Cruz S. (2018). A bicentric controlled study on the effects of aquatic Ai Chi in Parkinson disease. *Complement Ther Med.*; 36: 147–153. doi: 10.1016/j.ctim.2017.12.001.
- Piepiora, P., Kalina, R. (2023). Hypothesis on the supreme value criteria of the global civilization. In: Jay Kalra and Nancy Lightner (eds) *Healthcare and Medical Devices*. AHFE (2023) International Conference. AHFE Open Access; 79. AHFE International, USA. <http://doi.org/10.54941/ahfe1003498>

- Tabeshian R, Nezakat-Alhosseini M, Movahedi A, et al. (2022). The effect of Tai Chi Chuan training on stereotypic behavior of children with autism spectrum disorder. *J. Autism Dev. Disord.*; 52(5):2180–6.
- Tse CYA, Pang CL, Lee PH. (2018). Choosing an appropriate physical exercise to reduce stereotypic behavior in children with autism spectrum disorders: A non-randomized crossover study. *J. Autism Dev. Disord.*; 48(5):1666–72.
- Unalan D, Soyuer F, Ozturk A, et al. (2008). Comparison of SF-36 and WHOQOL-100 in patients with stroke. *Neurol India.*; 56: 426–32.
- Wang S. (2016). The development of physical education is the foundation of building a healthy China. *Guangming Daily*, 1–31, 006th edition. [in China].
- Winer SJ, Pang M, Tsang WWN, Whitney SL (2022). Tai Chi for dynamic balance training among individuals with cerebellar ataxia: an assessor-blinded randomized-controlled trial. *J. Integr. Complement. Med.*; 28(2):146–57.
- Xie Q. (2011). A Study on the Feasibility and Status of Martial Arts Aerobic Classes in Primary and Secondary Schools. *Wrestling: Martial Arts Science*, 08(6): 45–47.
- Xu D. (2013). Changes in the value of modern martial arts. *Central China Normal University*, :13. 18 [in China].
- Zhang, X, Liu Y, Zhang W. et al. (2021). The effect of Chinese traditional exercise on cognitive function improvement in the elderly – meta analysis. *Archives of Budo*; 17: 307–318.