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PROCEEDINGS
ABSTRACT BOOK



Wojciech Jan Cynarski,
Paweł Świder and Jerzy Kulasa [Eds.]

Rzeszów 2026

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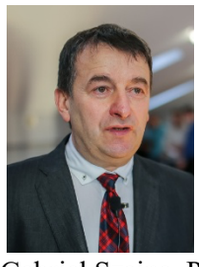
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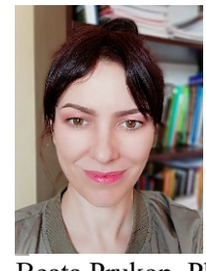
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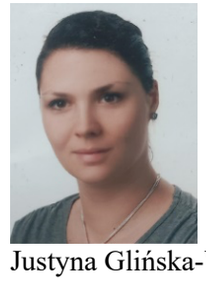
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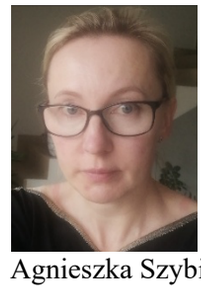
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FOREWORD BY PROF. WOJCIECH CZARNY
DEAN OF THE FACULTY OF PHYSICAL CULTURE SCIENCES



Ladies and Gentlemen,

Dear Guests of the University of Rzeszów!

The Faculty of Physical Culture Sciences cooperates with many institutions of sport and tourism, physical culture, and science, with scientific societies, such as IMACSSS (International Martial Arts and Combat Sports Scientific Society) and the Idokan Poland Association. Both specialized associations organize regular scientific events. I am honored to be a member of these organizations, along with some colleagues from our faculty. I am very happy that another world congress is being held here.

The World Scientific Congress of Combat Sports and Martial Arts has been organized in Rzeszów in a four-year cycle since 2006. From the beginning, the organizer of subsequent congresses has been Prof. Wojciech J. Cynarski, our expert in the field of martial arts and combat sports. Thus, it is already the sixth such Congress in our city and in the facilities of the University of Rzeszów. It is, at the same time, the eleventh annual IMACSSS International Conference. IMACSSS is the chief host here. This time the Congress program includes the elections of the General Assembly for the next term of office.

Many outstanding specialists and researchers of martial arts and combat sports from around the world take part in the Congress. The previous Congress in Rzeszów in 2018 was the largest scientific conference in the history of the University of Rzeszów, with the participation of 120 researchers from all the continents. This time, about 50 works have been submitted too. There will also be workshops and presentations. Counting all the guests, dozens of reviewers and organizers, there shall be not less participants this time.

I wish all the Participants a fruitful debate, exchange of the latest knowledge, and a pleasant time to spend in the capital of Podkarpacie and during their stay in Poland.

Professor Wojciech Czarny

Dean of the FPCS

FOREWORD BY PROF. WOJCIECH J. CYNARSKI
PRESIDENT OF IMACSSS



Dear Colleagues,

Ladies and Gentlemen,

Behind us now lies several years of good organized work, integrating society of researchers of fighting arts - martial arts, combat sports and self-defense systems. We have been collaborating scientifically in martial arts and combat sports research for many years.

We held conferences in Europe and Asia after the IMACSSS was formally registered. It was Genoa, Italy (2012), Tsukuba, Japan (2013), Rzeszów, Poland (2014), Brno, Czech Rep. (2015), Rio Maior, Portugal (2016), Osaka, Japan (2017, in conjunction with 50 year anniversary of JAB/Japanese Academy of Budo), Rzeszów again (2018, 25 year anniversary of IPA/Idokan Poland Association), Viseu, Portugal (2019), Putrajaya, Malaysia (2020, 10 year anniversary of IMACSSS), Chongqing, China (2021), Rzeszów (2022), Osaka (2023), Putrajaya (2024), León, Spain (2025). And this year in Rzeszów again.

We organise scientific congresses of fighting arts in Rzeszów every four years, which was initiated in 2006 at the initiative of Prof. Kazimierz Obodyński. So, it is also the 15th International IMACSSS Conference and the 6th World Scientific Congress of Combat Sports and Martial Arts in Rzeszów. IMACSSS, University of Rzeszów, IPA / Idokan Poland Association, and some other organizations cooperate here in the organization.

We are carrying out several joint research projects as well. We are looking forward to continuing to hear site proposals to organize the next conferences of IMACSSS - in the following years. IMACSSS is also the patron of the quarterly "Ido Movement for Culture Journal of Martial Arts Anthropology". This Journal is indexed on Web of Science, in Scopus/Scimago index, and some other most important scientific bases.

In total, there are about one hundred participants, i.e. registered for participation and reviewers. There are several dozen people who submitted abstracts of their work. All abstracts were assessed by 40 reviewers in the double-blind review system. The papers were classified for presentations, and some were rejected. I would like to thank the reviewers from the Scientific Committee and from outside the Scientific Committee for their good work. We also established a special Panel of High-ranking Masters and Experts, with the participation of Grand Masters and Coaches, as Prof. Dr Z. Borysiuk, Dr Z. Sawicki 10 dan, Dr M. N. M. Shapie 9 dan, Prof. Dr G. Krobeynikov, Dr Z. Cohen, … Unfortunately, some experts, such as *meijin* Lothar Sieber 10 dan and Prof. Dr Rudolf Jakhel 10 dan couldn't come.

We included demonstrations and workshops to emphasize the connection between scientific reflection and practice. We strive to combine tradition with modernity, explore ancient martial arts for their enduring value, and develop scientific knowledge for the practice of combat sports. The leading theme of this year's conference is "**From Ancient Warrior Cultures to Sports Culture**".

In Rzeszów this year we will choose the leadership for next term. We will also try to make sure another trip to Poland will be both enjoyable and scientifically useful.

Welcome to our Congress, which I am doing on behalf of the IMACSSS and the Organizing Committee of this Congress.

Professor Wojciech J. Cynarski, President

shihan principal of IPA, 10 dan of *Idokan*

KEYNOTE SPEAKERS AND SPEACHES

INTRODUCTORY LECTURE

Wojciech Jan Cynarski PhD is the Full-Professor. He has been the founder and president (since 1993) of Idokan Poland Association (IPA) and IMACSSS (2010), and the editor (since 2000) of the "Ido Movement for Culture Journal of Martial Arts Anthropology".

Since 2005 - Professor at the University of Rzeszow, Head of the Chair of Socio-Humanistic Foundation of Physical Culture. He published over 860 scientific works, including his own 24 books (monographs and manuals). His major scientific interests concern sociology (of culture, tourism and sport), coaching and pedagogy, hoplology and martial arts.

Licensed international trainer; advanced in some martial arts, e.g. master-teacher *hanshi* in: *jūjutsu, karate*, and *kobudō*.

* * *

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The culture of the duel in boxing, *karate* and kickboxing– comparative analysis

Key words: sports duel, sports culture, combat sports, ceremonial of competitions, aspect of spectacle

Background and Problem. Today's fighting arts co-create the image of sports culture. The theoretical perspective here is co-created by the General Theory of Fighting Arts, the anthropology of martial arts, and the sociology of fighting arts [Cynarski 2023, 2024].

The aim of the study is to describe and compare the culture of the duel in boxing, kickboxing and karate. How does this sports culture manifest itself in individual cases in the case of confrontation between competitors and competitions as a spectacle?

Methods. Observation methods, participant observation and autoethnography were used. Analysis of the content of mass media (sports magazines, recordings of television broadcasts ["Bokser", 1983-2007; K-1, World Grand Prix, 1993-2009] and analysis of broad discourse were also used.

Results. The place of competition, the competitor's attire and security, the aesthetic and spectacular dimension, the symbolic dimension; the roles of the teacher, audience and media were considered and compared [*cf*. Ambroży, Piwowarski 2008; Cynarski, Sieber, Szajna 2014; Scott 2015; Piepiora *et al*. 2016].

Similarities between boxing and kickboxing were found in many institutionalized issues, such as the place of the fight, security, method of indicating the winner.

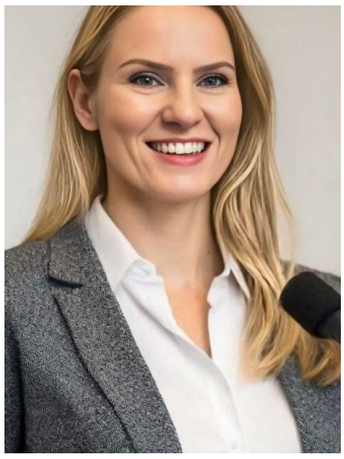
Conclusions. There are great similarities between boxing and kickboxing in the image of the players' fight. This results from the issue of imitation and borrowing of certain patterns and

institutional solutions described in the sociology of fighting arts. The discrepancies in comparison to the sports duel in karate result from cultural differences.

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1st KEYNOTE SPEECH



Bianca Miarka is a Professor in the Department of Combat Sports at the Federal University of Rio de Janeiro and the leader of the Research Group on Psychophysiology and Performance in Sports and Combat (PPSC). She has published over 200 articles on combat sports and martial arts. Her research primarily focuses on biofeedback for analyzing technical-tactical performance and psychophysiology in sports.

She holds multiple academic degrees, including undergraduate degrees in Psychology and Sport Science, a postgraduate specialization in Sports Training from the State University of Londrina, a master's degree in Sport Science, and a PhD in Biodynamics from the University of São Paulo. She completed her postdoctoral studies in Human Metabolism at the Federal University of Pelotas.

Bianca holds a black belt in *Judo* and a purple belt in Brazilian *Jiu-Jitsu*. A former international athlete, she competed for both the Brazilian National Judo Team and the Brazilian National Rowing Team, earning international titles. She currently practices *Kung Fu* (*Wu Lindao* School).

Bianca has provided consultancy for high-performance athletes, including Olympic medalists and UFC champions. Her expertise has played a key role in the success of elite competitors.

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Neuroscience-Based Neuromodulation in Combat Sports: A Case Study on Transcranial Magnetic Stimulation and Performance Enhancement in MMA Athletes

Key words: sport psychology, neuromodulation, task performance and analysis, martial arts, athletic performance

Problem. Neuroscience-based neuromodulation in combat sports involves the use of non-invasive techniques to modulate brain activity in order to optimize athletic performance, emotional regulation, and cognitive processes [Brito *et al*. 2022]. Unlike traditional approaches focused mainly on physical conditioning, neuromodulation considers the brain a central factor influencing performance. These interventions primarily target regions such as the dorsolateral

prefrontal cortex and motor cortex, affecting inhibitory control, decision-making, and motor execution.

The main methods include transcranial magnetic stimulation (TMS/rTMS/iTBS), which alters cortical excitability through electromagnetic pulses [de Pedreio *et al*. 2023; Giboin *et al*. 2016]; transcranial direct current stimulation (tDCS), which uses low-intensity electrical currents to modulate neural activity; neurofeedback, which trains self-regulation of brain activity in real time; and transcranial photobiomodulation (tPBM), which enhances cerebral blood flow and neural metabolism [Brito *et al*. 2022].

The application of these technologies in fighters is particularly relevant due to the high cognitive demands, and the risk of repetitive head impacts inherent in combat sports. Neuromodulation may simultaneously enhance physical performance (strength, speed, and motor efficiency) and cognitive performance (attention, decision-making, and emotional control), as well as reduce pre-competitive anxiety and potentially help prevent or mitigate cognitive deficits associated with concussion. Therefore, can transcranial magnetic stimulation improve the performance of combat sport athletes, particularly in complex modalities such as mixed martial arts (MMA)?

Methods. *Participants*

Ten professional male MMA athletes, aged between 18 and 35 years, with a minimum of four years of continuous practice and regular training (4–5 times per week), were recruited. Participants were randomly assigned to two groups: experimental (TMS-iTBS) and placebo, ensuring a double-blind design. All participants provided written informed consent. The study was approved by the Local Research Ethics Committee following the Declaration of Helsinki.

Protocol

The experimental protocol was conducted in two phases. Athletes first completed a familiarization session, followed by a 10-minute warm-up, baseline blood collection, and two sport-specific tests: the Multiple Frequency Speed of Kick Test (MFSKT) and the Progressive Speed Kick Test (PSKT).

Forty-eight to 72 hours later, athletes underwent the neuromodulation intervention under controlled conditions (23–26°C). Cortical localization followed the international 10–20 EEG system. The iTBS protocol consisted of 50 Hz pulses organized into 2-second trains, repeated every 10 seconds, totaling 600 pulses over approximately 3 minutes. Participants were instructed to avoid caffeine, alcohol, intense exercise, and sleep deprivation before testing to minimize confounding variables.

Statistical Analysis

Dependent variables included PSKT (total time, kick ratio, and total kicks by weight) and MFSKT outcomes (number of kicks and fatigue index by weight) demonstrated by mean (M) and Standard deviation (SD). Data were analyzed using two-way repeated-measures ANOVA after normality testing (Shapiro–Wilk and Kolmogorov–Smirnov). Delta values (pre- vs. post-intervention) were also calculated. Statistical significance was set at $p<0.05$.

Results. Descriptive analyses of relative total time, relative kick ratio by round, and relative total kicks in the PSKT are presented in Table 1.

Table 1. Descriptive analysis of PSKT variables relative to body weight

Variable/Moment	Group	M	SD
Pre total time (s/weight)	Sham	2.25	0.32
	iTBS	2.35	0.30
Pre kick ratio by round (frequency/ weight)	Sham	0.43	0.56
	iTBS	0.43	0.69
Pre total kicks (frequency/ weight)	Sham	5.47	0.55
	iTBS	5.60	0.37
Post total time (s/weight)	Sham	3.36	0.41
	iTBS	2.97	0.16
Post kick ratio by round (frequency/ weight)	Sham	0.75	0.71
	iTBS	0.78	0.70
Post total kicks (frequency/ weight)	Sham	3.33	0.33
	iTBS	3.44	0.24

For relative total time, relative kick ratio by round, and relative total kicks, statistical analyses revealed significant interaction effects between group (Sham vs. iTBS) and moment (pre- vs. post-intervention) ($p=0.013$, $\eta^2=0.65$; $p<0.001$, $\eta^2=0.85$; and $p<0.001$, $\eta^2=0.90$, respectively). Post hoc analyses demonstrated that the iTBS post-intervention moment differed significantly from the iTBS pre-intervention moment ($p<0.001$ for all comparisons) and from the Sham pre-intervention moment ($p=0.038$ for relative total time; $p<0.001$ for relative kick ratio by round and relative total kicks). Additionally, the Sham pre-intervention moment differed significantly from the Sham post-intervention moment ($p<0.001$ for all comparisons).

Descriptive analyses of the MSKT ratio by round and kick fatigue index relative to body weight are presented in Table 2.

Table 2. Descriptive analysis of MSKT ratio and kick fatigue index relative to body weight

Variable/Moment	Group	M	SD
Pre MSKT ratio (frequency/ weight)	Sham	0.49	0.56
	iTBS	0.49	0.41
Pre kick fatigue (index/ weight)	Sham	0.76	0.22
	iTBS	0.72	0.26
Post MSKT ratio (frequency/ weight)	Sham	0.49	0.71
	iTBS	0.56	0.65
Post kick fatigue (index/ weight)	Sham	-0.13	0.27
	iTBS	-0.35	0.57

Significant interaction effects were observed for the MSKT ratio and kick fatigue index relative to body weight ($p=0.040$, $\eta^2=0.082$; $p<0.001$, $\eta^2=0.69$, respectively). Post hoc analyses indicated that the iTBS post-intervention moment differed significantly from the iTBS pre-intervention moment ($p=0.050$ for MSKT ratio; $p=0.016$ for kick fatigue index) and from the Sham pre-intervention moment ($p=0.038$ for MSKT ratio; $p<0.001$ for kick fatigue index). Furthermore, the Sham pre-intervention moment differed significantly from the Sham post-intervention moment for the kick fatigue index ($p=0.003$).

Conclusion. The findings of this study suggest that iTBS is a promising neuromodulation strategy for enhancing sport-specific motor performance in MMA athletes. Improvements observed in kicking speed and frequency indicate that performance gains are likely mediated by central neural mechanisms rather than peripheral physiological changes, as no significant alterations were found in oxidative stress biomarkers. These results reinforce the role of the brain in regulating motor output and performance efficiency in combat sports. From an applied perspective, neuromodulation may represent an innovative tool to optimize training, improve competitive readiness, and support cognitive–motor performance in high-demand athletic contexts.

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2nd KEYNOTE SPEECH



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Defining Martial Arts in a Global Context: From Warrior Traditions to Universal Human Culture

Key words: martial arts, sport, embodied culture, heritage, education, global definition

Problem. Martial arts are now practised worldwide in education, sport, health, heritage, and community settings, yet the concept itself remains unstable. The issue is not simply that a universal definition is missing. Rather, martial arts are defined differently by laws, cultural policies, public institutions, international federations, heritage regimes, and scholars. Some definitions foreground attack, defence, self-protection, and regulation; others emphasise moral education, bodily discipline, lineage, cultural transmission, sport governance, or social value. This plurality can enrich the field, but it also creates conceptual fragmentation that limits comparative research, international cooperation, and public communication [Bowman 2015; Bailey, Samsudin 2025]. The central question is how martial arts can be defined globally without reducing diverse traditions to a single technical, national, or competitive model.

Method. The study adopts a comparative, historico-philosophical, and world-historical approach. It draws on legal and policy definitions, international heritage discourse, federation materials, and recent scholarship in martial arts studies. Rather than treating martial arts as timeless objects, the discussion approaches them as socially organised and institutionally mediated practices whose meanings change when the material conditions of conflict, systems of transmission, and forms of public legitimacy are reorganised. On this basis, martial arts are examined through intersecting dimensions of combat technique, tradition and transmission, rules and competition, educational ethics, heritage value, health and well-being, and public responsibility [Wetzler 2015; Bowman 2015; Cynarski 2019].

Results. The findings suggest that no single essential definition remains stable across contexts. Martial arts are better understood as culturally transmitted systems of disciplined embodied

practice that originate in, refer to, or symbolically transform combat, while also being reshaped by education, sport, heritage, healing, community formation, and peace-oriented activity. Comparative evidence points to five recurrent definitional modes: regulatory and self-defence definitions, educational-ethical definitions, heritage and transmission definitions, sport-governance definitions, and critical-analytic definitions that question the search for fixed boundaries. A multidimensional framework is therefore more useful than a single formula. It can show how practices such *as budo, wushu, taekwondo, taekkyeon, arnis, pencak silat, capoeira, judo*, and mixed martial arts occupy different positions within the overlapping fields of martial arts, traditional martial arts, and sport [Moenig *et al*. 2023; Bailey, Samsudin 2025].

Conclusions. Redefining martial arts in a global context does not mean imposing one final essence. It means developing a layered framework that respects local histories while identifying shared human values. From survival and warfare to sport, education, heritage, well-being, and sustainable peace, martial arts have been repeatedly reclassified through changing institutions and social needs. They should therefore be approached as universal human culture expressed through diverse local traditions: a living bridge between ancient warrior practices and contemporary efforts to cultivate dignity, coexistence, resilience, and responsible action.

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ABSTRACTS of PAPERS
(IN ALPHABETICAL ORDER ACCORDING TO NAMES OF FIRST AUTHORS)

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Nature, movement, and style identity in malay silat: a biomimetic perspective

Key words: behavioural adaptation, biomimetic framework, cultural heritage, Malay Silat, protocol analysis

Problem. Malay Silat is widely recognised as both a martial art and an important component of Malay cultural heritage, functioning not only as a system of self-defence but also as a medium for transmitting warrior values, leadership qualities, and traditional knowledge across generations. Within many Silat traditions, movement patterns and fighting strategies are frequently associated with observations of animals and natural phenomena, reflecting principles consistent with biomimicry, which emphasises learning from and emulating nature's forms, behaviours, and adaptive systems. While previous studies have examined the educational, philosophical, and cultural dimensions of Malay Silat, limited research has investigated how animal-inspired characteristics are recognised within Silat movements and how these characteristics contribute to the distinctive identity of different Silat styles [Shapie, Elias 2016; Shapie 2021].

Method. This study therefore explores animal-inspired characteristics in selected Malay Silat movements through a biomimetic perspective and examines their role in shaping style identity [Benyus 1997; Helms, Vattam, Goel 2009].

A qualitative case study employing protocol analysis within an artistic research framework was conducted. One experienced practitioner from Persatuan Seni Silat Serimau Hitam Perak, with more than twenty years of practice and teaching experience, performed a series of movements associated with animal-inspired characteristics [Abidin, Christoforidou, Liem 2009].

Results. The recorded movements were subsequently analysed by ten expert evaluators comprising academics, martial arts practitioners, movement analysts, and design specialists. Findings revealed that animal-inspired characteristics in Malay Silat can be interpreted through three interconnected dimensions: physical traits, behavioural adaptations, and communication methods. Experts consistently identified movement form, posture, balance, rhythm, and embodied expression as the primary indicators of animal-inspired qualities and style identity. The results further demonstrate that biomimetic characteristics are recognised not through direct imitation or superficial visual resemblance to animals, but through the integration of movement structure, behavioural strategies, adaptive responses, and expressive performance.

Conclusions. These findings suggest that biomimicry in Malay Silat functions as a mechanism for embodying warrior values such as adaptability, awareness, discipline, and self-control while simultaneously preserving cultural knowledge and traditional wisdom. The study contributes a biomimetic framework for understanding the relationship between movement, nature, culture, and identity in Malay Silat and provides new insights into how animal-inspired movement supports the preservation and transmission of intangible cultural heritage.

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Effect of rules changes on the final kumite bouts time-motion parameters

Key words: *karate, kumite*, rules, analysis, techniques, tactics, time parameters

Introduction. Match analysis is an essential component of sports preparation in team, individual, and combat sports [Bartlett 2001]. In karate, time-motion analysis has been used to characterise the time-motion and technical-tactical structure of elite kumite matches and to compare winners and defeated athletes [Chaabène et al. 2014; Tabben et al. 2014]. The ability to identify behavioural patterns of athletes, analyse technical and tactical manifestations, and adapt training processes in accordance with the evolution of competition rules is crucial for achieving success. Among these changes, the Senshu rule, which grants a decisive advantage to the athlete who scores the first unanswered point, has been progressively refined by the World Karate Federation [Nordahl 2019, 2021; World Karate Federation 2019, 2024]. The aim of this study was to analyse the time-motion and content parameters of senior European Championship final matches in karate from the years 2019, 2022, and 2023, assess the impact of rule changes on these parameters, and formulate practical recommendations.

Methods. Time-motion and content analysis was conducted using LongoMatch software (Fluendo, Barcelona, Spain), in which we adapted the control panel according to the specifics of the examined variables. In a set of 26 final matches, the following time-motion parameters were recorded: duration of fighting activity, duration of preparatory activity, duration of interruption, number of interruptions, and the time of the first successful technique. Content parameters included the type of technique based on the used limb (upper/lower limb), target of the attack (head/body), technical profile of winners and non-winners, gender differences, and the acquisition of the Senshu advantage [World Karate Federation 2024]. To assess the normality of data distribution, the Shapiro–Wilk test was applied. For statistical evaluation, we used the parametric independent t-test, the Mann–Whitney U test, the chi-squared test, and analysis of variance (ANOVA).

Results. The results did not show statistically significant differences in any of the time-motion parameters across the observed years ($p > 0.05$), indicating that the analysed rule changes did not have a significant impact on the key parameters of fighting activity, including the duration of fighting, preparatory and interruption phases, number of interruptions, and number of exchanges. Content parameters (technique use by limb and target) likewise did not differ significantly between years or between sexes ($p > 0.05$); data were therefore pooled for further analysis. Within the pooled sample, techniques performed with the upper limbs were used significantly more often than those performed with the lower limbs ($p < 0.01$; $d = 0.82$ – large effect), and techniques targeting the head were used significantly more frequently than those targeting the body ($p < 0.01$; $d = 2.04$ – large effect). A strong relationship with match outcome was also observed for the acquisition of the Senshu advantage, which was obtained by 84.62% of winners ($p < 0.01$). No statistically significant differences were found when comparing the technical profiles of winners and non-winners ($p > 0.05$). Similarly, no significant differences were observed between men and women in any of the monitored techniques, although the

closest to the threshold of statistical significance was the difference in the use of the gyaku-zuki chudan technique (women: 46.11%, men: 29.06%, p = 0.055; d = 0,84 – large effect).

Conclusion. These findings indicate that the analysed rule changes did not significantly affect the time-motion structure of final kumite bouts between 2019, 2022, and 2023, suggesting that coaches do not need to substantially restructure the training process in response to these specific changes. Independent of the studied rule period, the pooled technical profile confirmed a clear predominance of upper-limb, head-targeted techniques and a strong association between the Senshu advantage and match outcome; coaches should therefore still consider tactical strategies aimed at gaining this advantage. We recommend extending the analysis to elimination-round matches and including a broader research sample.

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Relationship between functional fitness and number of injuries in judo and karate practitioners in different age

Key words: martial arts, injury prevention, FMS, functional assessment

Abstract

Introduction. Combat sports and martial arts are contact activities, so athletes are exposed to injuries [Lystad *et al*. 2014, Blach *et al*. 2024]. One of the prevention methods could be functional training, improving quality of movement [Xiao *et al*. 2021]. Functional fitness in combat sports connected with special physical fitness [Boguszewski 2026]. Therefore, the aim of this study was to determine the relationships between functional limitations of the musculoskeletal system and number of injuries in judo and karate practitioners in different age.

Material and Methods. The study involved 202 male competitors practising judo and karate. The age of the volunteers was between 8 and 30, therefore the group was divided to two subgroups: youth (8-15 years old, judo n=26, karate n=27) and adults (16-30 years old – junior and seniors' category, judo n=88, karate n=61). 16 years is the minimum age for participation in senior competitions. Minimal training experience was 1 year in youth groups and 5 years in adult groups. Every competitor performed Functional Movement Screen (FMS). The test consists of seven exercises assessing basic movement patterns: 1. Deep Squat; 2. Hurdle Step; 3. In-line Lounge; 4. Shoulder Mobility; 5. ASLR – Active Straight Leg Raise; 6. Trunk Stability Push Up; 7. Rotary Stability. Each of the main tasks is scored on a scale of 0 to 3 points, with a maximum total score of 21 points. If pain occurs during the performance of a movement task, a score of 0 is as signed [Cook 2010]. Additionally, the athletes completed questionnaires regarding the characteristics of their injuries.

After analysing the data, they were exported to Statistica 12 software (TIBCO software, Santa Clara, CA, United States). Due to the lack of normal distribution of the data, as verified by the Shapiro–Wilk test, further analyses of differences between groups were conducted using the Mann–Whitney U test. Associations between individual variables were established using Spearman's rho correlation analysis. The minimal level of statistical significance was set at $p \leq 0.05$

Results. There were no significant differences in overall FMS results between groups (youth – judo: 14.23 pts., vs. karate: 14.47 pts., p=0.742; adults – judo: 15.14 pts., vs. karate: 14.93 pts., p=0.681). There were significant differences in youth group – karate competitors achieved significant higher results in ASLR (p=0.001), but lower in Rotary Stability (p=0.045). Among adult athletes four significant differences were observed. Judokas achieved higher results in Deep Squat, Trunk Stability Push-Up and Rotary Stability, but karatekas in Shoulder Mobility. Number of injuries was higher in judo in youth groups (p=0.021) and almost the same in adult groups. The most common injuries involved the lower limbs in both groups. There were significant negative correlations between overall results of FMS and number of injuries (in youth athletes: all groups: r=-0.586, p<0.001, judokas: r=-0.517, p<0.01, karatekas: r=-0.711, p<0.001; in adult athletes: all groups: r=-0.560, p<0.001, judokas: r=-0.523, p<0.001, karatekas: r=-0.654, p<0.001).

Conclusions. Significant differences (judo vs. karate) were observed between the results of the one FMS tasks in youth and four in adults, which could be result from different characteristics of training. There is a relationship between the level of functional fitness and the occurrence of injuries in martial arts practitioners. This indicates the reliability of the Functional Movement Screen test and provides the possibility of implementing early prevention.

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The Readiness Paradox in Special Forces Candidates: Implications for Human Performance Systems

Problem. Special Forces selection environments require high levels of physical readiness, resilience, and tolerance to extreme operational loads. However, baseline readiness assessment commonly relies on self-reported medical screening, which may not adequately reflect underlying biological and musculoskeletal vulnerability. Candidates entering elite military selection are typically highly motivated and may intentionally or unintentionally minimize previous health-related issues to avoid exclusion from the selection process. Consequently, a discrepancy may emerge between perceived readiness and accumulated medical exposure. Previous injury has been identified as a major predictor of future musculoskeletal injury in military populations [Jones, Hauschild 2015]. Furthermore, self-reported health assessment may be affected by reporting bias and symptom minimization, particularly in highly motivated populations [Althubaiti 2016]. From a Human Performance (HP) perspective, concealed medical burden may therefore influence load tolerance, recovery capacity, and long-term operational sustainability. The aim of this study was to analyse the readiness paradox in Special Forces candidates and discuss its implications for Human Performance systems in military environments.

Methods. A cross-sectional descriptive-analytical study was conducted on 291 candidates undergoing Special Forces selection within the Czech Armed Forces between 2024 and the first quarter of 2026. Data were collected using a standardized self-reported medical questionnaire administered during the official selection process. The questionnaire included anthropometric characteristics, injury or surgical history, medication use, allergies, specialist medical follow-up, family history of sudden death, and self-reported long-term health limitations. Descriptive statistics and discordance analysis were used to identify discrepancies between previous medical exposure and perceived readiness. A Medical Burden Index (MBI) representing cumulative medical exposure was additionally used to characterize baseline health burden.

Results. A history of injury or surgical intervention was reported by 54.3% of candidates, whereas only 2.1% reported current long-term limitations. Overall, 66.3% of candidates reported at least one medical factor and 18.6% reported two or more indicators of cumulative medical exposure. More than half of the candidates (53.3%) demonstrated discordance between previous injury history and absence of perceived limitation, indicating a substantial readiness paradox. These findings suggest that subjective readiness may not adequately reflect accumulated biological stress or previous musculoskeletal exposure. Although candidates perceived themselves as fully operational, the identified medical burden may represent latent vulnerability during exposure to high training and operational loads typical for Special Forces environments. Similar findings in military populations suggest that inadequate load management and accumulated musculoskeletal exposure may contribute to increased injury susceptibility during demanding training processes [Gabbett 2016; Jones, Hauschild, Canham-Chervak 2018].

Conclusions. The findings indicate the presence of a substantial hidden medical burden in candidates entering Special Forces selection that is not reflected in self-perceived readiness. This readiness paradox highlights the limitations of self-reported screening procedures and supports the integration of Human Performance systems capable of combining medical history,

recovery monitoring, objective diagnostics, and individualized load management. Within elite military environments, HP systems may contribute to earlier identification of latent vulnerability and support strategies aimed at improving operational durability, injury mitigation, and long-term readiness sustainability [Nindl *et al*. 2015].

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Age-Related Differences in Quality of Life Among People with Intellectual Disabilities Participating in Adapted Taekwondo

Key words: combat sports, disability, mental and physical components, well-being

Problem. Increasing attention is being directed toward raising awareness of vulnerable populations, such as individuals with disabilities, and particularly those with intellectual disabilities (ID) [García-Lee *et al*. 2024]. In this context, the right of people with disabilities to participate in physical and sports activities on an equal basis with others is widely recognized, as such participation promotes both physical and psychological well-being and contributes to an enhanced quality of life (QoL). Participation in shared physical activities undeniably fosters physical and mental health, as well as personal fulfillment, for individuals with and without disabilities [UNESCO 1978].

Regarding martial arts, existing evidence indicates that practicing taekwondo (TKD) offers numerous benefits for individuals with ID, including improvements in motor skills, self-esteem, and self-regulation (Carter et al., 2016; Castro-Salgado et al., 2024). However, to date, no studies have specifically examined the effects of TKD on physical fitness within this population. Therefore, the aim of the present study is to analyze whether age influences improvements in QoL (adults and youngers) and to determine whether significant age-related differences emerge in QoL across two assessment points during an adapted TKD intervention for individuals with ID. This question is particularly relevant given previous findings suggesting that younger individuals tend to exhibit greater improvements than adults [Puce *et al*. 2019].

Method. ***Participants***

The study included 13 participants: 7 adolescents aged 14 to 21 and 6 adults aged 27 to 35, all of whom had ID (with an average disability level of 67.92±8,90%; Min. 45% - Max. 81%).

Procedure and Tools

A longitudinal study was conducted using a TKD training program specifically adapted for individuals with ID. The intervention consisted of 37 sessions and included pre-test and post-test assessments. QoL was measured using a self-report questionnaire. Specifically, the Spanish adaptation by Alonso *et al*. [1996] of the SF-12 Health Survey [Gandek *et al*. 1998] was employed. This instrument comprises 12 items that assess the Overall Quality of Life Index (OQOLI) and two subcomponents: the Physical Component Summary (PCS) and the Mental

Component Summary (MCS). The questionnaire was administered during the first and final sessions of the intervention.

The data were analyzed using the Mann-Whitney U test, and statistical significance was set at $p < 0.05$.

Results. On the one hand, the results showed that the younger group improved in the OQOLI (from 48.20 to 53.42) and, most notably, in the MCS (from 50.23 to 64.61), whereas the PCS decreased. However, none of these changes reached statistical significance ($p > 0.05$). In contrast, the adult group exhibited a decline across all three variables (OQOLI, PCS, and MCS), and similarly, no significant differences were observed.

On the other hand, no statistically significant differences were found between age groups in either the OQOLI or the PCS and MCS at pre-test or post-test. Although the adult participants showed slightly higher mean scores in the OQOLI and PCS at the pretest and the younger participants showed higher mean scores in all three variables at the post test.

Conclusions. While acknowledging the inherent challenges of assessing QoL in individuals with disabilities, and that small sample size requires caution in interpreting the results. The findings of this study indicate that, following a 37-session adapted TKD program, improves QoL for younger participants with ID.

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Nine Years of Documenting the World's Martial Arts: The WMAIR Project (2017–2025) as Shared Infrastructure for Martial Arts Studies

Key words: embodied knowledge; martial arts documentation; transmission; intangible cultural heritage; safeguarding; UNESCO

Problem. Martial arts are not techniques that can be captured on the page. They are embodied knowledge that exists only in transmission — held in living bodies, passed from one to the next. To record such knowledge is therefore not to gather neutral data but to intervene in a living process: a record can embalm a tradition as easily as it can help safeguard it. The subject of this study is twofold — the embodied traditions and the communities that carry them, and the knowledge system (scholarship, archives, heritage regimes) that sets out to document them. We know the stakes first-hand. Korean Taekkyeon, nearly lost in the last century, survives because Korea recognized and recorded it in time. But most of the world's embodied martial traditions have no such national mechanism, and the empirical base of martial arts studies remains strikingly uneven [Cynarski 2019]: scholarship in English still clusters around East Asian martial arts and Historical European Martial Arts, while traditions from South Asia, Central Asia, the Middle East, and the Pacific remain at the margins — precisely those most closely tied to intangible cultural heritage and most exposed to loss. The World Martial Arts In-depth Research (WMAIR) project, launched by ICM in 2017, was an attempt to carry that act of documentation to the margins — to traditions held by a handful of practitioners, leaving no text, that vanish without a trace when a single line of transmission breaks.

Method. This study reviews the WMAIR project across the 2017–2025 cycle through critical analysis of programme documents and published volumes, critical synthesis, and comparative analysis of the regional volumes — read from the standpoint of a practitioner-scholar who worked within the project as an editor. Read this way, the project's evolution across four dimensions is not administrative housekeeping but a practice learning how to document embodied knowledge without deadening it. Research execution moved from domestic, university-based consortia toward direct partnership with regional institutions and open calls, closer to the bodies that hold the knowledge; quality assurance moved from in-house review to international advisory and editorial scrutiny; researcher recruitment widened accordingly; and formal research-ethics procedures, including IRB requirements, were introduced in 2025, treating transmitters as subjects rather than sources. The review situates WMAIR within earlier ICM and ICHCAP efforts to frame traditional martial arts as intangible cultural heritage [ICHCAP, ICM 2020].

Results. The practice yielded nine bound volumes (2,112 pages; eight in English, one in Korean) documenting 63 disciplines — eight of them inscribed on UNESCO's Representative List of the Intangible Cultural Heritage of Humanity — drawing on a cumulative network of 87 researchers and 39 partner institutions, among them regional universities, cultural research centres, the Smithsonian Center for Folklife and Cultural Heritage, and the UNESCO Asia-Pacific Centre for Intangible Cultural Heritage (ICHCAP). More tellingly, the project worked against the flattening that documentation invites. Rather than reduce these traditions to encyclopedic entries, it treated each at length and in partnership with the institutions and practitioners who carry them — keeping their own names, their transmission histories, and the

cultural worlds in which they live. It recovered the transmission history of Sri Lankan Angampora, kept alive in bodies under colonial prohibition; brought Pacific traditions such as Mau Rākau and Fagatua into comparative view; traced cross-regional links such as Korean Gyeokgu and Persian Chogan; and flagged traditions surviving in a single living line as candidates for urgent safeguarding under the 2003 Convention [UNESCO 2003].

Conclusions. Documentation of embodied knowledge is neither neutral capture nor, on its own, a comparative method; it is a distinct epistemic and ethical practice — one that creates the conditions under which comparison, safeguarding, and policy can responsibly proceed [Lee 2021]. Seen this way, to document a living tradition is not a preliminary step toward research but a careful act on which more specialised work can rest, particularly where traditions are vulnerable, locally embedded, or absent from the dominant languages of scholarship. As ICM consolidates these outputs into a martial arts encyclopaedia and image archive, the work is best read not as a finished record but as an open practice. This presentation invites IMACSSS members to keep it alive — through expert review, photographic documentation, and joint research on the regions still left at the margins. An archive of living knowledge is not a tomb; it survives only so long as others keep documenting, correcting, and transmitting.

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Contributions from the Ido Movement for Culture Journal of Martial Arts Anthropology: a bibliometric approach

Key words: bibliometrics, martial arts, journal, scientific ouput

Introduction. The research on martial arts and combat sports (MA&CS) has grown progressively during the last decades, reflected on the ongoing development of studies and projects related to MA&CS and the increasing scientific output on them. Thus, several bibliometric studies have been focused on the analysis of the MA&CS scientific output, such as *karate* [Čihounková, Reguli 2011; Pérez-Gutiérrez, Gutiérrez-García 2009], *taekwondo* [Cardozo *et al*. 2025; Pérez-Gutiérrez *et al*. 2015], *judo* [Peset *et al*. 2013], Olympic combat sports [Franchini *et al*. 2018] or MA&CS in general [Gutiérrez-García *et al*. 2011], to name a few. Although there is an overview of the MA&CS journals available for publishing research on this topic [Gutiérrez-García *et al*. 2018], to the best of our knowledge, no studies have analyzed a specific MA&CS journal. Thus, the aim of the present study was to analyze the contributions from the *Ido Movement for Culture Journal of Martial Arts Anthropolog*y (IMC) to the dissemination of MA&CS research, reflecting partially the development, strengths and weaknesses of this topic of research.

Methods. All article and review documents published in IMC from 2000 to 2024 were included. Scopus, journal's webpage and BazHum bibliographic database were consulted. Bibliographic information of each document (authors, year, title, journal, volume, number, pages) was extracted and included in Endnote X9 programme for managing this information. Then, information was exported to Excel for statistical analysis. The bibliometric analysis performed was focused on productivity and topics [López López 1996]. Applying content analysis [Krippendorff 2004], documents were firstly classified by martial art or combat sport and field of science and technology, using the UNESCO Nomenclature for fields of science and technology [SKOS, 2025].

Results. A total of 743 documents were published from 2000 to 2024, with a mean of 30.9 articles per year. Regarding the fields of science and technology represented on the published documents, 18 different fields were discovered, Sociology and Life Sciences being the most important ones with 115 and 103 documents, respectively. Moreover, History, Psychology and Philosophy were widely represented with 93, 83 and 78 documents, respectively. In relation to the martial art or combat sport analyzed, studies were mainly devoted to the analysis of MA&CS in general (186 documents), followed by *judo* (69), *taekwondo* (61) and karate (54).

Discussion and conclusion. The IMC presents an ongoing commitment with the dissemination of research on MA&CS, becoming one of the most important scientific journals internationally [Gutiérrez-García *et al*. 2018]. The documents published on IMC studied mainly MA&CS in general. *Judo, taekwondo* and *karate* were the most represented MA&CS, probably due to their social, economic and sporting relevance, but research studies in other practices and sports should be promoted for strengthening our knowledge of them and confirming the miscellaneous

approach of the journal [Scopus 2026]. Although it presents a wide variety of fields of knowledge represented in its contents [IMC Journal, 2026], the journal's editorial board should foster the submission of works from less- or no-represented fields for deepening the understanding of the many facets of MA&CS. In summary, IMC has strongly contributed to the dissemination of MA&CS scientific output. Documents published in IMC reflected a scientific focus on widely known MA&CS from certain fields of science, so scholars and the editorial board of IMC should strive to improve their miscellaneous and multidisciplinary approach.

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Embodied Agency After the 7 October Nova Festival Attack: Survivors' Subjective Experiences of a Krav Maga Program

Problem. After mass violence, traumatic experience may be lived not only through memory and thought but also through the body: vigilance, emotional numbing, disrupted trust, and a diminished sense of agency. At first glance, an intensive combat practice involving striking, close contact, rapid reactions, and simulated threat may appear unsuitable for survivors of extreme violence. Yet research on martial arts and self-defense suggests that, when carefully structured, combative practices may support experiences of bodily confidence, agency, and social connection [Van Ingen 2011; Staller *et al*. 2017]. The present study explored how survivors of the 7 October 2023 Nova music festival attack made sense of participation in a short-term Krav Maga program, and what meanings they attributed to the bodily, emotional, and social aspects of training.

Method. The study was conducted following a ten-week Krav Maga program offered by a nonprofit organization supporting survivors of the Nova music festival attack. All interviewed participants had fled and hidden for several hours during the attack under direct life threat, including shooting, attempted abduction, and attempts to burn hiding places. They were also exposed, visually and aurally, to killings, abductions, and severe violence; none reported physical injury. All were officially recognized as survivors affected by the attack and described ongoing emotional distress and disrupted daily functioning in its aftermath. Training took place once weekly in a designated dojo and was co-facilitated by two international Krav Maga instructors, each with more than 35 years of experience. The program's learning goals were to introduce basic self-defense principles, controlled striking, defensive reactions, bodily confidence, action readiness, and mutual support within a structured group setting. High-intensity training referred to short bursts of exertion, striking drills, partner work, contact-based exercises, and scenario-based responses to simulated threat, all adapted to participants' physical and emotional capacities. After the program ended, six participants, three women and three men aged 28-45, voluntarily took part in in-depth semi-structured interviews. Interviews explored bodily sensations, emotional responses, group interactions, self-perception, and the meanings participants assigned to training. Data were analyzed through reflexive thematic analysis within a constructivist-interpretivist framework [Braun, Clarke 2021]. Ethical approval and informed consent were obtained.

Results. Four interwoven themes were constructed.

The first theme, **always on guard**, described how participants experienced training in relation to bodily vigilance after the attack. Krav Maga did not remove fear or hypervigilance, but participants described moments in which vigilance was reoriented toward active preparedness. The body remained alert yet was sometimes experienced as more capable of acting rather than only as vulnerable to future threat.

The second theme, **when the strike brings back life**, captured the role of physical intensity, impact, effort, and controlled pain in participants' accounts of vitality and bodily presence. These experiences were not described as inherently therapeutic, but as meaningful when chosen, bounded and contained within a safe training environment.

The third theme, **from freeze to fight**, concerned the interruption of emotional paralysis through embodied motion. Participants described numbness, anxiety, blocked expression, and states of internal "freeze" after the attack. Striking, shouting, reacting, and moving under pressure sometimes created a channel through which emotion emerged before it could be articulated verbally. The significance was not aggressive discharge, but the experience of agency through movement.

The fourth theme, **a capsule of embodied belonging**, positioned the training group as a setting of recognition, mutual encouragement, and shared understanding. Physical strain, vulnerability, partner work, and mutual witnessing created a relational field in which participants felt understood by others who carried similar knowledge.

Conclusions. The findings should be understood as subjective accounts of six self-selected survivors who participated in one specific Krav Maga program, rather than as evidence of a causal or general therapeutic effect. Within these limits, the study shows how participants made sense of high-intensity Krav Maga training after the Nova attack. Participants described the program as a structured setting in which movements and sensations associated with threat, such as striking, physical effort, close contact, and scenario-based pressure, could be practiced with rules, choice, repetition, adaptation, and support. The study contributes to martial arts and combat sports scholarship by identifying the meanings survivors attributed to combative practice after mass violence. Future research should examine these experiences with larger samples, additional methods, and, where appropriate, objective or longitudinal measures.

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Strategic conservation of functional reserves in elite judo: a tournament-based model of technical decision-making and throw selection

Background. Elite judo tournaments place high demands on athletes because several bouts are often completed within a single day. As the competition progresses, fatigue accumulates, recovery time becomes shorter, and every technical decision may influence performance in later matches. For this reason, winning an individual contest is only one part of successful tournament performance.

Previous studies have described the physiological demands of judo, technical efficiency, tactical behaviour and time-motion characteristics of elite athletes [Franchini *et al*. 2019; Miarka *et al*. 2016; Julio *et al*. 2017]. These studies have provided valuable information about single contests, but much less attention has been paid to how athletes should distribute their efforts during an entire tournament.

In coaching practice, athletes do not use every technique with the same purpose. Some attacks require considerable physical effort, whereas others allow the athlete to control the bout with lower energy expenditure. Likewise, frequent use of complex techniques in the early rounds may increase fatigue or reveal tactical preferences before the decisive stages of the competition.

For this reason, it seems useful to consider technical decision-making from the perspective of the whole tournament rather than one isolated match. The present paper introduces the concept of Tournament Reserve Management (TRM) as a theoretical framework describing how athletes can preserve their functional resources while maintaining competitive effectiveness throughout successive bouts.

Method. This study presents a conceptual model based on the analysis of published research in elite judo and combat sports. Scientific papers devoted to competition physiology, technical and tactical performance, decision-making, pacing strategies and coaching methodology were examined to identify the main factors that influence performance during multi-bout tournaments.

The available evidence was compared with practical observations from high-level judo competitions reported in the literature. Particular attention was paid to studies describing changes in athlete performance during repeated matches and to publications discussing technical efficiency, fatigue, tactical behaviour and decision-making in combat sports.

Based on this analysis, a conceptual framework was developed to explain how different types of functional resources may influence technical decisions during various stages of a tournament.

Results. The analysis of the reviewed studies suggests that successful performance in elite judo tournaments depends not only on physical fitness or technical ability but also on the effective management of available resources throughout the competition.

Based on the analysed evidence, five interrelated components were identified within the proposed Tournament Reserve Management (TRM) framework.

The first component is physiological reserve. It reflects the athlete's ability to maintain performance despite the gradual accumulation of fatigue during repeated bouts. Studies have

shown that unnecessary energy expenditure in the early rounds may reduce the ability to perform effectively in later matches [Franchini *et al*. 2019].

The second component is neuromuscular reserve. Repeated gripping exchanges, explosive attacks and defensive actions increase muscular fatigue, which may reduce movement speed and technical precision as the tournament progresses.

The third component is cognitive reserve. Elite judo requires rapid perception of the opponent's actions and quick technical decisions. Under fatigue, the quality of decision-making may decrease, increasing the probability of technical mistakes.

The fourth component is emotional reserve. Athletes must maintain concentration and emotional control throughout several consecutive contests. Excessive emotional tension in the early stages of competition may negatively influence confidence and tactical judgement during the final bouts.

The fifth component is tactical reserve. This component refers to the ability to adapt technical actions during the tournament without becoming predictable. Saving certain tactical options for decisive matches may provide an additional competitive advantage.

From a practical point of view, the proposed model suggests that throwing techniques can be selected not only according to their scoring potential but also according to the demands they place on the athlete's functional resources. In the early stages of a tournament, coaches may prefer techniques that combine reliability with lower physical and tactical demands, while more demanding techniques may be reserved for situations where they are strategically justified.

These components should not be considered independent variables but as closely connected elements that together influence competitive performance during a tournament.

Conclusions. The proposed Tournament Reserve Management (TRM) framework offers a different perspective on technical and tactical preparation in elite judo. Instead of evaluating each contest separately, it considers the tournament as a continuous process in which every technical decision may influence later performance.

The analysis suggests that coaches should take into account not only the effectiveness of throwing techniques but also their possible influence on the athlete's physical, cognitive and tactical resources during successive bouts.

The proposed framework may be useful for planning tournament strategies and for improving decision-making during competition. Further studies involving competition analysis and experimental observations are needed to evaluate the practical application of this concept in elite judo.

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Combat Sports and the Crisis of Social Bonds: The Role of Sports Clubs in Building Social Capital among Adolescents

Key words: combat sports, social capital, social cohesion, adolescents, sport clubs

Problem. Contemporary societies are increasingly characterized by individualization, weakening interpersonal relationships, and declining participation in community life. These phenomena are frequently interpreted as manifestations of a crisis of social capital, understood as a network of relationships, norms, and trust that facilitate effective social functioning [Putnam 2000]. According to Cynarski, martial arts and combat sports perform not only recreational and sporting functions but also educational, cultural, and integrative roles, creating environments conducive to the transmission of values and the development of prosocial attitudes [Cynarski 2006; Cynarski 2014]. Recent international studies have demonstrated that participation in combat sports promotes psychological well-being, resilience, social inclusion, and positive youth development. However, considerably less attention has been devoted to their role in strengthening social capital and rebuilding interpersonal relationships among adolescents. Therefore, the aim of this study was to examine the role of combat sports clubs in building social capital among young practitioners in Poland.

Method. The study was conducted in Poland between May and July 2026 using a diagnostic survey method based on an original questionnaire**.** The research sample consisted of 100 adolescents aged 12–18 years, including 50 girls and 50 boys, practicing karate, judo, boxing, Brazilian jiu-jitsu, and mixed martial arts (MMA). The questionnaire included items concerning training participation, interpersonal relationships within sports clubs, trust toward fellow practitioners, social engagement, and perceptions of the influence of combat sports participation on the development of social capital. Descriptive statistic and percentage were calculated. Further statistical analyses including Spearman's rank correlation coefficient, are currently being conducted to assess relationship between selected variables. The relationships between selected variables will be examined using inferential statistical methods in the full study. [Bourdieu 1986; Coleman 1988; Cynarski 2014].

Results. The findings indicate that participation in combat sports contributes to the development and strengthening of social ties among adolescents. Most respondents reported high levels of trust toward club members, a strong sense of belonging to the training community, and a willingness to provide mutual support. Regular training was perceived as facilitating the establishment of new friendships, strengthening cooperation and mutual respect, and encouraging interaction with peers from different social backgrounds. The sports club was also identified as an important environment for socialization extending beyond family and school settings. These findings are consistent with previous studies demonstrating that combat sports support psychosocial development, social inclusion, and positive youth development through structured participation in organised sport. The results further suggest that combat sports foster both bonding social capitals, based on strong intra-group relationships, and bridging social capital, facilitating interaction between individuals from diverse social environments [Putnam 2000; Cynarski 2006].

Conclusions. The study demonstrates that combat sports clubs may constitute an important social environment supporting the development of social capital among adolescents in the context of the contemporary crisis of social bonds. By promoting trust, cooperation, mutual support, and a sense of belonging, these clubs create favourable conditions for social integration and the development of interpersonal competencies**.** The findings extend current knowledge on the social functions of combat sports by indicating that sports clubs may play an important role not only in physical and psychosocial development but also in strengthening social capital among young people. The results may provide a basis for developing educational and preventive programmes that use combat sports as a tool for promoting social cohesion and community engagement.

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Beyond Cultural Preservation: A Dual-Path SOR Framework Explaining Participation Loyalty in Vietnamese Traditional Martial Arts

Key words: Stimulus–Organism–Response framework, Vietnamese traditional martial arts, participation loyalty, experiential engagement, perceived value, utilitarian motivation, cultural value motivation, experiential consumption

Problem. Vietnamese traditional martial arts represent an important component of national cultural heritage, yet maintaining long-term participation among younger generations remains a significant challenge. While previous studies have primarily emphasized cultural preservation and identity transmission, limited attention has been given to understanding the psychological mechanisms that foster sustained participation loyalty.

Method. Drawing on the Stimulus–Organism–Response (SOR) framework, this study proposes a dual-path model examining how utilitarian motivation and cultural value motivation influence participation loyalty through experiential engagement and perceived value. A quantitative survey was conducted among 245 young practitioners actively participating in Vietnamese traditional martial arts training in Ho Chi Minh City, Vietnam. Data were collected through structured questionnaires using established multi-item measures assessed on a five-point Likert scale and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM).

Results and conclusions. The findings reveal that utilitarian motivation and cultural value motivation significantly enhance experiential engagement and perceived value, which subsequently strengthen participation loyalty. Experiential engagement and perceived value also serve as important mediating mechanisms linking motivational factors to loyalty outcomes. The results suggest that participation loyalty is driven not only by cultural attachment but also by the experiential and value-based benefits derived from martial arts practice. This study extends the application of the SOR framework to the context of traditional martial arts participation and provides practical implications for martial arts organizations and policymakers seeking to promote sustainable engagement among younger generations.

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Tactical decision-making in deaf Greco-Roman wrestling: a perceptual-cognitive perspective

Background. Modern Greco-Roman wrestling requires athletes to process rapidly changing competitive information and make effective tactical decisions within fractions of a second. In recent years, sport scientists have increasingly recognised that competitive success depends not only on physical and technical preparation but also on perceptual-cognitive expertise, including visual information processing, anticipation, pattern recognition and adaptive decision-making [Williams, Ford, Eccles, Ward 2011; Mann, Williams, Ward, Janelle 2007].

Research conducted in various combat sports has demonstrated that expert performers differ from less experienced athletes primarily in the efficiency with which they detect relevant visual cues, anticipate opponents' actions and select appropriate tactical responses under severe time pressure. These perceptual-cognitive skills develop through long-term sport-specific experience and represent an essential component of elite performance rather than a secondary characteristic of technical proficiency [Russo, Ottoboni 2019; Martínez de Quel, Bennett 2019].

Despite this growing body of evidence, little attention has been devoted to athletes competing under conditions of hearing impairment. Deaf Greco-Roman wrestlers perform in an environment where auditory information from coaches, referees and surrounding events is absent or substantially limited. Consequently, competitive decisions rely predominantly on visual perception, anticipation and accumulated tactical experience. These distinctive informational conditions may influence the organisation of tactical thinking and the processes underlying competitive decision-making.

Although studies describing physical fitness and technical preparation in wrestling are widely available, evidence concerning perceptual-cognitive mechanisms in Deaf wrestlers remains scarce. This gap limits the development of scientifically grounded coaching strategies designed specifically for athletes with hearing impairment. Therefore, further conceptualisation of tactical decision-making in Deaf Greco-Roman wrestling appears necessary to support evidence-based training and improve competitive performance at the international level.

Method. This paper presents a conceptual review of the scientific literature addressing perceptual-cognitive expertise and tactical decision-making in sport, with particular emphasis on combat sports. Publications indexed in Scopus, Web of Science and PubMed were analysed to identify the principal perceptual mechanisms associated with expert athletic performance. Priority was given to systematic reviews, meta-analyses and original investigations examining anticipation, visual search behaviour, information pick-up, decision-making and perceptual-motor learning in combat sport athletes.

Following a qualitative synthesis of the available evidence, findings were interpreted from the perspective of Greco-Roman wrestling and subsequently adapted to the specific competitive conditions experienced by Deaf athletes. Particular attention was paid to studies investigating visual information processing under time constraints, perceptual adaptation and expert–novice differences in tactical behaviour. Based on this synthesis, a conceptual model describing the principal perceptual-cognitive determinants of tactical decision-making in Deaf Greco-Roman wrestling was developed.

Results. The literature indicates that successful tactical performance in Deaf Greco-Roman wrestling depends on the athlete's ability to rapidly extract relevant visual information and transform it into effective tactical decisions. Unlike hearing wrestlers, Deaf athletes rely almost exclusively on visual cues during competition, making visual perception a primary source of tactical information.

The reviewed studies suggest that expert wrestlers demonstrate more efficient anticipation of opponents' actions, faster recognition of tactical situations and greater flexibility in adapting their responses under competitive pressure. These characteristics appear particularly important for Deaf athletes because tactical corrections cannot be supported by verbal communication during a bout.

The analysis also shows that tactical preparation should extend beyond repetitive technical practice. Training tasks that reproduce unpredictable competitive situations and require rapid decision-making may improve athletes' perceptual-cognitive abilities and increase tactical effectiveness during competition.

Overall, the available evidence supports the view that tactical decision-making in Deaf Greco-Roman wrestling should be considered a sport-specific perceptual skill that can be systematically developed through appropriately designed training programmes.

Conclusions. Tactical decision-making represents an essential component of competitive performance in Deaf Greco-Roman wrestling and should be regarded as a trainable perceptual-cognitive ability rather than solely as a consequence of technical experience. The findings suggest that coaching programmes should place greater emphasis on developing visual information processing, anticipation and situational decision-making under conditions that replicate real competitive demands. Such an approach may improve tactical adaptability and contribute to higher competitive performance among Deaf wrestlers at the international level.

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Revitalizing the Silek Minangkabau Ecosystem Through the Silek Arts Festival: A CIPPO Evaluation of Community-Based Cultural Governance

Key words: Silek revitalization, cultural governance, CIPPO evaluation, Silek Arts Festival, Minangkabau

Introduction. *Silek* Minangkabau has undergone a paradigm shift, evolving from a mere physical martial art (*paga diri* and *paga nagari*) into a cultural root that integrates the philosophical, social, and spiritual values of the Minangkabau society [Ismar *et al*. 2023, 2025; Nanda *et al*. 2024]. Despite its profound urgency as a national identity, the sustainability of the *silek* ecosystem in the modern era faces structural challenges in governance [Maryelliwati *et al*. 2019; Mugni, Suprianto 2026]. The strategic effort of the West Sumatra Provincial Government through the *Silek Arts Festival* (SAF) based on the Indonesiana Platform (a derivative of Law No. 5/2017) serves as a pivotal momentum to revitalize this existence through community-based networking and mutual cooperation. This study aims to evaluate the revitalization program of *Silek* Minangkabau through community-based cultural governance using the CIPPO (*Context, Input, Process, Product, Output*) evaluation model.

Material and Methods. This study employed a descriptive qualitative method with a CIPPO evaluation approach. Data were gathered through in-depth interviews, observations, and documentation studies, involving 10 key stakeholders representing the West Sumatra pencak silat association, cultural experts, *silek* practitioners, and traditional leaders (*Niniak Mamak, Cadiak Pandai, Alim Ulama*).

Results and Discussion. The *Context* evaluation shows that the philosophical foundation of *"silek lahia mancari kawan, silek bathin mancari tuhan"* is highly robust as a policy basis [Hadijah 2019]. In the *Input* aspect, the regulatory support of the Law on the Advancement of Culture and the readiness of community resources serve as the primary assets. The *Process* evaluation demonstrates the effective activation of the cross-territorial ecosystem across 5 Regencies/Cities through diversified activities (seminars, archive exhibitions, *Belajar Bersama Maestro*, and intergenerational involvement). On the *Product* dimension, the program

successfully formulated new cultural documentation models, such as the publication of the Silek Encyclopedia and recognition awards for *Tuo-Tuo Silek*. In terms of *Output*, the festival successfully revived collective consciousness and created an inclusive and sustainable cultural governance network.

Conclusions. The revitalization of Silek Minangkabau through community-based governance is considered successful in triggering the reactivation of an adaptive cultural ecosystem. The collaborative approach within the Indonesiana Platform proved effective in transforming the festival from a mere spectacle into a systematic instrument for cultural archiving and preservation.

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Match Dynamics in Wrestling between Olympic-Qualifying and Non-Qualifying UWW Senior World Championships: Preliminary Findings from an Exploratory Comparison of the 2022 and 2023 Editions

Key words: performance analysis, match analysis, wrestling, Olympic qualification, exploratory study, tactical dynamics

Problem. Stakes of a competition can systematically alter athletic behaviour, as shown in soccer penalty shoot-outs, where higher-stakes situations produce lower kick success rates [Jordet *et al.* 2007]. In combat sports, Miarka *et al.* [2016] reported that match dynamics in elite female judo differed between Olympic and non-Olympic events, suggesting that competition stakes can shape combat behaviour. In wrestling, however, systematic comparisons between Olympic-qualifying and non-qualifying editions of the Senior World Championships remain scarce, despite a rich body of performance analyses covering rule changes and scoring structures [Tünnemann, Curby 2016] as well as the physiological characteristics of matches [Nilsson *et al.* 2002]. In all three styles, passivity is penalised, but with style-specific consequences: in FS and WW, a passive wrestler concedes one point if no score is registered within a 30-second activity period; in GR, the passive wrestler also concedes one point and the bout is restarted from the par terre (ground) position, which disadvantages the defender. The present study aimed to descriptively explore how match dynamics differed between the 2022 (non-Olympic-qualifying) and 2023 (Paris 2024 qualifying) editions of the Senior World Championships across the three Olympic styles.

Method. This observational, exploratory study analysed semifinals and bronze-medal bouts of two editions of the Senior World Championships: 2022 (non-qualifying) and 2023 (Paris 2024 qualifying). In 2023, an Olympic quota was secured by winning either the semifinal or the bronze-medal bout, whereas no such quota was at stake in 2022. Both editions used identical United World Wrestling (UWW) rules. For each style—Greco-Roman (GR), women's wrestling (WW), and freestyle (FS)—the four bouts (two semifinals and two bronze-medal bouts) of each of the six Olympic weight categories were analysed (24 bouts per style per edition). One FS bout in 2023 was excluded due to a withdrawal, yielding a final sample of 143 bouts (GR: 48; WW: 48; FS: 47). Bouts were coded from official records and broadcasts. Four primary analytical outcomes were examined: (i) first-scorer win rate, (ii) time to first score, (iii) total match points, and (iv) number of activity-time calls; total bout duration was reported as a supplementary descriptive indicator. Between-edition comparisons used Pearson's χ^2 (with Fisher's exact two-sided p) for first-scorer win rate, the Mann–Whitney U test for time to first score, negative binomial regression for total points and activity-time calls, and gamma regression with a log link for duration. Effect sizes (φ, r, IRR, ratio of means) are reported with 95% confidence intervals (CIs). As an exploratory study, no directional hypotheses were pre-

specified; a sensitivity analysis using the Benjamini–Hochberg correction (q = .05) was applied to the four primary outcomes across styles. The study used only publicly released official records and was exempted from institutional ethics review.

Results. First-scorer win rate was higher in 2023 than in 2022 in GR (37.5% vs 66.7%; Pearson $\chi^2 = 4.09$, p = .043; Fisher two-sided p = .082; $\varphi = 0.292$, 95% CI [0.035, 0.548]) and in WW (62.5% vs 87.5%; Pearson $\chi^2 = 4.00$, p = .046; Fisher two-sided p = .093; $\varphi = 0.289$, 95% CI [0.033, 0.535]); FS showed no comparable change (79.2% vs 69.6%; p = .450; $\varphi = 0.110$). Time to first score was shorter in 2023 in GR (U = 190.5, Z = −2.014, p = .044; r = 0.291, 95% CI [0.007, 0.531]) but did not differ in WW (r = 0.110, p = .445) or FS (r = 0.050, p = .733). Total match points did not differ between editions in any style (GR IRR = 0.972, 95% CI [0.532, 1.777], p = .927; WW IRR = 1.170, p = .606; FS IRR = 1.142, p = .666). Activity-time calls were not significantly different in any style; WW showed a non-significant decrease of about 33% (IRR = 0.667, 95% CI [0.250, 1.776], p = .417). Total bout duration showed no significant differences (GR Ratio = 0.894, p = .168; WW Ratio = 1.056, p = .659; FS Ratio = 1.019, p = .825). After Benjamini–Hochberg correction (q = .05) applied across the four primary outcomes and three styles (12 tests), no comparison remained significant.

Conclusions. The first-scorer win rate rose markedly in GR and WW between the 2022 and 2023 Senior World Championships (both with moderate effect sizes of $\varphi \approx 0.29$), and in GR this was accompanied by a shorter time to first score; FS showed no comparable change. This pattern—an accentuated tactical value of the first score in GR and WW, without inflation of total points or extension of bout duration—is a distinctive signature of wrestling under qualifying-year conditions. It differs from the judo pattern reported by Miarka et al. [2016], where Olympic events were associated with higher attack frequency and longer bouts, and indicates that competition stakes shape combat behaviour in sport-specific ways. This difference may arise from sport-specific rules regarding bout extension and the mechanics of scoring. In GR, the par terre rule introduced above further amplifies this advantage: at Rio 2016, par terre generated 82% of GR technical points [Tünnemann, Curby 2016]. Against this background, the strategic premium on scoring first appears higher in GR than in FS or WW, which may have contributed to the increase in first-scorer win rate observed in the qualifying year. The flat profile of FS is consistent with its broader scoring repertoire, including leg attacks, which offers more diverse routes to recovery from an early deficit. For coaching practice in GR and WW, these patterns reinforce the value of front-loading offensive intent and rehearsing lead-management scenarios for qualifying-year competition.

In conclusion, this exploratory comparison provides the first systematic description in wrestling of how match dynamics shift between Olympic-qualifying and non-qualifying editions of the Senior World Championships, identifying the first-scorer advantage as a stakes-sensitive feature of GR and WW. The pattern points to a structural mechanism through which qualifying-year pressure reshapes elite wrestling. A four-edition extension spanning two Olympic cycles is in preparation to test the generalisability of these findings.

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Tripartition of karate

Key words: *karate*, combat (*kumite*), forma (*kata*), breaking (*tameshiwari*), lethal strike (*chimei*), symbolic hit (*sun-dome*)

Problem. Japanese *karate* – based on the traditional Okinawan *toti* – has, besides *kata* (a series of imaginary fights) and *tameshiwari* (breaking of objects), also developed practical fighting, *kumite*, in the 1940s. Since then, karate has obviously consisted of these three parts, despite being generally considered and institutionalized as a single discipline. In the presented theses, a comparative analysis of the three components of karate is attempted to clarify the source of this fundamental contradiction.

Method. This analysis is based on the author's decades-long experience as a karate practitioner at international level (since 1968) – as contestant, teacher/coach, and referee, as well as organizer, manager, publicist, researcher, and optimizer of training schemes, and also as a university lecturer. The core of the analysis is a comparative overview table, which is then explained in the accompanying text. The three parts of karate – combat (Jap. *kumite*), forma (Jap. *kata*) and breaking (Jap. *tameshiwari*) – were compared according to six criteria: opponent, target, efficiency, focus, telos, and modus. The results were thoroughly discussed with the author's advanced students in training and lectures.

Results. The comparison reveals clear differences between the three parts of karate. These differences are explained because of karate's symbolic, non-contact (Jap. *sun-dome*) strikes, used in sports combat/*kumite* to avoid injuries. The historic concept of strikes with lethal full-power force (Jap. *chimei*) has been still practically applied in breaking/*tameshiwari* testing as well as aspired in training with an imaginary opponent, either in sportified forma or martially based *kata*. This tripartition is a *peculiar* trait of karate in contrast to contact-striking arts (boxing, muay thai, full-contact kickboxing, and full-contact karate), in which fighters aim to strike with full power, i.e. to transfer the full energy of a blow into vital points to incapacitate the opponent. Because of the obvious actual consequences of their real, full-power blows, contact-based striking arts do not require karate's tripartite division, which exists precisely because of symbolic hits in sports combat/*kumite*.

Conclusion. According to these six criteria, each of the three components of karate has its own way of training and testing. Only *kumite* and *kata* have developed – besides their own specific and differing didactic scheme – each also their own contest system and rules. Breaking/*tameshiwari*, by contrast, has remained merely an additional, supporting component to the other two parts of karate, practiced mainly at an individual level, i.e. neither within its own organized training system nor in its own independent competition. The clearly established differences between the *kumite* and *kata* point to the possibility and necessity of optimizing their respective training schemes in order to become one single discipline. This concerns particularly *kata* – here already reflected in its alternative designation as forma – which needs to be optimized as forma to become functionally productive for sports combat, as *kumite* has already been spontaneously transforming itself.

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A Comprehensive Methodology of Prevention, De-escalation, and Safe Restraint Techniques for Managing Aggressive Patients in Psychiatric Settings

Problem. Violence against healthcare professionals represents a serious issue, particularly in psychiatric settings, where more than half of staff have experienced physical assaults by patients [Itzhaki *et al*. 2018]. Such incidents have significant negative impacts on psychological well-being, job performance, and the quality of care provided [Lim *et al*. 2022].

Current approaches to aggression management emphasize prevention and de-escalation as key strategies and have demonstrated reductions in both conflict incidents and the use of restrictive measures [Bowers *et al*. 2015; Haines-Delmont *et al*. 2022]. Nevertheless, there remains a lack of systematic, practice-oriented training that comprehensively develops not only prevention and de-escalation skills but also safe and humane restraint techniques.

A critical gap in existing approaches is the absence of an integrated methodology that connects these components and reflects the realities of clinical practice, where situations requiring physical restraint cannot be eliminated.

The aim of this project is therefore to develop and evaluate a comprehensive training methodology for psychiatric staff focused on the prevention, de-escalation, and safe restraint of aggressive patients. The project is complemented by the preparation of a systematic literature review. In parallel, potential international collaboration within European projects is being prepared, which may enable future validation and adaptation of the methodology across different legal and cultural contexts. Based on the evaluation results, dissemination of the methodology across European settings is planned, with respect to their specific characteristics.

Method. The study will employ a quasi-experimental design with control and experimental groups and repeated measurements over time. The sample will consist of healthcare professionals providing direct patient care in psychiatric settings, including nurses, nursing assistants, and therapists. Participants will be randomized at the ward level in a 1:1 ratio into a control group (standard training) and an experimental group (newly developed methodology). Based on a G*Power analysis, a minimum of 54 participants will be recruited.

The main intervention involves the implementation of a comprehensive methodology consisting of three modules: prevention of aggressive behavior, de-escalation techniques, and safe restraint methods complemented by elements of self-defense.

Both quantitative and qualitative methods will be employed. Quantitative data collection will include the Perceived Stress Scale (PSS) and assessment of competencies through a self-report questionnaire and expert evaluation of performance in simulated scenarios. These scenarios will be conducted with trained actors simulating standardized escalation of aggression and will be assessed using a structured evaluation tool.

Data will be collected at three time points: baseline (T1), immediately after training (T2), and three months post-intervention (T3). Data will be analyzed using linear mixed models to examine the effects of group, time, and their interaction. The frequency of incidents will be analyzed using Poisson or negative binomial regression.

The qualitative component will consist of semi-structured interviews with selected participants from the experimental group, analyzed using thematic analysis.

Results. It is hypothesized that the implementation of the comprehensive methodology will lead to a statistically significant improvement in staff competencies related to prevention, de-escalation, and safe restraint compared to the control group. A reduction in perceived stress among participants in the experimental group is also expected.

Furthermore, a decrease in the frequency of aggressive incidents and an improvement in the appropriateness of intervention strategies are anticipated. A negative correlation between competence levels and perceived stress is expected, with higher competence associated with lower levels of stress.

Qualitative findings are expected to complement the quantitative results by providing a deeper understanding of participants' experiences and by identifying factors influencing the effectiveness of the training.

These outcomes will directly test the proposed hypotheses regarding the relationship between competence, stress levels, and incident frequency.

Conclusions. The study addresses the current need for systematic and practice-oriented training of healthcare professionals in managing aggression. The proposed methodology has the potential to enhance staff competencies, reduce stress levels, and improve workplace safety as well as the quality of patient care.

In a broader context, the project may contribute to the development of a standardized approach to aggression management in Europe, with the potential for adaptation to specific legal and cultural conditions across different countries.

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Carving Identity into Stone: How Martial Arts Steles Foster Collective Identity and Community Cohesion in Shandong Villages

Problem. In the context of accelerating globalization and urbanization, rural communities worldwide face severe challenges of social structural change, population outflow, and weakening cultural identity [Lu, Qian 2023]. Intangible cultural heritage rooted in local traditions is often viewed as a key resource for maintaining community cohesion [Chen *et al*. 2021]. However, existing research predominantly focuses on abstract dimensions such as discourse or institutions, neglecting the foundational role of materiality in identity production. Specifically, in the Chinese rural context, there is a lack of systematic empirical research on how martial arts steles — a comprehensive cultural practice integrating textual narrative, ritual performance, and physical entity — participate in and shape social identity. This study aims to explore how martial arts steles in Shandong villages foster collective identity within martial arts organizations and further enhance broader rural community cohesion.

Method. Grounded in Social Identity Theory [Tajfel, Turner 2004] and a material culture perspective, this study constructed an integrated analytical framework. The research was conducted in Heze City, Shandong Province, historically known as the "Hometown of Martial Arts," utilizing a qualitative approach. Data were collected through participant observation and in-depth interviews with 22 key informants (including inheritors, association leaders, and villagers) between July and September 2023. The study analyzed over 120 martial arts steles covering major local boxing styles such as Zhanghongquan, Meihuaquan, and Erhongquan, spanning approximately 300 years. Data analysis employed thematic and discourse analysis, assisted by NVivo 12 software, to iteratively code textual, oral, and material data.

Results. The findings reveal that martial arts steles function as a continuously operating "identity production device" through four interconnected mechanisms:

- Pedigree Inscription (Social Categorization): Steles carve lineages and member rosters, institutionalizing and visualizing social categories to draw impenetrable boundaries between "in-groups" and "out-groups."
- Moral Internalization (Social Identification): The repeated narrative of martial virtues (*Wude*) on steles objectifies shared values into enduring ethical norms, defining "who we are" and guiding member internalization.
- Heroic Narrative (Social Comparison): By selectively recording masters' merits, anti-Japanese deeds, and competition victories, steles construct glorious memories that serve as symbolic capital for positive social comparison, enhancing collective self-esteem.
- Collective Performance (Identity Practice): The process of erecting a stele — from fundraising to the inauguration ceremony — is a broad mobilization effort that transforms

psychological identification into concrete social action, realizing the cyclical reproduction of identity.

Conclusions. This study concludes that martial arts steles are not static historical relics but active social devices. They solidify identity elements in static text and achieve cyclical reinforcement of identity in dynamic ritual practices. This extends Social Identity Theory by highlighting the critical role of material carriers and ritual processes in identity construction. Practically, the martial arts associations and their stele practices exhibit a complementary relationship between traditional ritual governance and modern rural governance. It is recommended that policies move beyond static "heritage" preservation thinking to support the living practices of these organizations, thereby activating the endogenous cultural cohesion and autonomous development capacity of rural communities.

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Factor Structure of Psychophysiological Indicators in Combat Sports Athletes

Key words: martial arts, psychophysiological diagnostics, factorial approach

Background. Modern martial arts are characterized by high intensity and rapid change of technical and tactical elements, which ensures victory [Cynarski 2025; Kozina *et al*. 2025]. One of the great topics to capture is the individualization of training [Cynarski 2026]. Most processes in the athlete's body involve both physiological and psychological functions; thus, we advocate a psychophysiological account for diagnostics and intervention [Romanenko *et al*. 2025].

Aim. To conduct a factor analysis to study the psychophysiological profiles of individual indicators in martial arts.

Method. Our study involved athletes from various martial arts disciplines: 33 judokas (age 24.25; SD=2.62), 43 fencers (age 22.58; SD=2.48), and 44 wrestlers (age 26.67; SD=3.28). A comprehensive assessment was conducted using a battery of tests, including cognitive functions (nonverbal test “Number Comparison” and verbal test “Establishing Patterns”), neurodynamic properties (” Anticipation test” and” Desision making” test), and psychomotor reactions (”Latent response” test). We employed descriptive statistics and factor analysis. For this procedure, we used “Statistica 12” data analysis software.

Results. The results revealed the increasing of nonverbal information processing efficiency in fencers compared to other athletes. Moreover, wrestlers and judokas demonstrated faster decision-making. Probably, this fact may reflect the influence of the structure of martial arts on the implementation of psychophysiological functions. Factor analysis revealed the main factors determining the psychophysiological state and could influence athletes' performance. Three factors were observed in judokas: the first was visual perception and information processing (45.18 % of Variance); the second was mental state (32.82% of Variance); and the third was nonverbal intelligence (22.00% of Variance). Accordingly, the factor structure of fencers included three factors: mental state (41.61% of Variance), nonverbal intelligence (30.33% of Variance), and decision-making (28.06% of Variance). The factor structure of wrestlers included three factors: visual perception and information processing (45.18% of Variance), mental state (32.82% of Variance), and nonverbal intelligence (22.00% of Variance). The factor structure of wrestlers and judokas is identical and prioritizes the athletes' ability to perceive and process information. In contrast, fencers demonstrated a different structure, in which the mental state was the priority factor.

Conclusions. The use of a factorial approach can improve the informativeness of psychophysiological diagnostics in athletes involved in martial arts.

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Cross-cultural comparison of injury prevalence and biopsychosocial characteristics among Polish and Filipino male judo athletes

Key words: *judo*, injury, biopsychosocial factors, cross-cultural

Background. *Judo* is a physically demanding combat sport that requires athletes to master throwing, grappling, and submission techniques. In a review of training and competition injuries in young and adult judokas, Pocecco and colleagues [2013] identified the knee, shoulder, and fingers as the most frequently injured body parts; sprain, strain, and contusion as the most frequently reported injury types; and being thrown as the most common injury mechanism. A more recent review of judo injuries occurring in competitions reported judo to have the highest incidence rates per 1,000 minute-exposure compared to other Olympic sports like boxing, *taekwondo*, and wrestling [Lystad *et al*. 2021]. Unequivocally, the risk of injury increases in conjunction with other factors such as greater training volume, higher competition demands, inconsistent weight management practices, and the sport's technical and tactical demands [Colonna *et al*. 2022].

Although originally a domain of medicine, the study of sport injury has been gaining attention in other fields for some time, such as psychology and sociology, informing practice and injury prevention efforts. Also, several theoretical models incorporate both intrinsic and extrinsic factors influencing susceptibility to injury. One of these frameworks, the Sport Injury Risk Profile (SIRP), integrates biological, psychological, physical, and sociocultural factors [Wiese-Bjornstal 2010]. This multi-dimensional perspective or biopsychosocial approach is gaining increased interest, with recent studies examining interactions of multiple components of the model [e.g., Slater *et al*. 2023].

On the other hand, cultural and environmental factors may also impact athlete profiles and injury experiences. Differences in training programmes, access to medical resources and other professional support, nutritional practices, cultural attitude towards training and injury, and psychological stress may identify variations in athletes from different sociocultural contexts. Interestingly, the inclusion of *judo* in the Olympics has been geared towards internationalisation of the sport. This prompts an interesting discourse whether the globalisation of sport, including *judo*, makes practitioners relatively homogenous or whether geographical and other factors still make a difference. There is limited research on cross-cultural comparisons, specifically on injury and biopsychosocial characteristics between European and Asian judokas, particularly between Polish and Filipino athletes. The aim of this study, therefore, was to compare injury prevalence and selected biopsychosocial characteristics, including body composition, movement quality, sport anxiety, stress, coping strategies, and attitude towards sport injury among male Polish and Filipino judokas.

Methods. A total of 95 male judo athletes from Poland (n= 39) and the Philippines (n= 56), with mean ages of 22.03 ± 2.49 and 20.95 ± 1.81, respectively, participated in the study. Data from the two cohorts were combined for cross-cultural analysis. Participants completed several

standard questionnaires: Sport Anxiety Scale-2 (SAS-2), Life Events Survey for College Students (LESCA), and Brief-Cope. They also responded to the Attitude towards Sport Injury Questionnaire (ASIQ), a questionnaire developed by the first author to assess athletes' beliefs in normalising injury. Movement quality was assessed using the Functional Movement Screen™ (FMS™). Skinfold measurements were obtained to assess body fat percentage (%BF). An injury was defined as any physical condition that kept the athlete from continued participation in training and competition or make the athlete modify their training programme for at least 7 days. Chi-square analysis was conducted to examine differences in injury prevalence between groups. Independent samples t-tests and Mann-Whitney U tests were used to compare biopsychosocial variables among injured athletes. Statistical significance was set at the $p < .05$ level for all analyses. All participants signed an informed consent form prior to participation.

Results. Polish judo athletes were significantly older (21.9 years old ± 2.5) than Filipino athletes (20.9 ± 1.8). They also had significantly more years of competition (9.41 ± 2.93) compared to their Asian colleagues (4.73 ± 3.44). On the other hand, Filipino judokas had a longer training duration (2.73 ± 0.69) than their European peers (1.81 hours ± 0.50). There was no difference, however, in their number of competitions in the previous year and frequency of training per week. Polish judokas reported significantly greater prevalence of severe injuries within the previous year (n= 19, 48.7%) compared with Filipino athletes (n= 12, 21.4%), χ^2 (1, N = 95) = 7.79, p = .005. Although no significant differences in time-loss due to injury were observed between groups, Polish athletes reported longer absences from training (10.5 ± 12.9 weeks) than Filipino athletes (6.0 ± 3.8 weeks). Among Polish judokas, lower back strain, knee ligament tear, damage to the lumbar disc, and wrist fracture were associated with the longest time-loss durations, ranging from approximately 4 months to 1 year. In the Filipino group, knee ligament tear, shoulder sprain, and shoulder dislocation resulted in approximately 2-3 months of time-loss from training or competition. In both groups, the highest proportion of injuries occurred in training (83 to 90%), during sparring (58 to 75%), and frequently involved acts of throwing (48 to 50%) such as being thrown (uke) and performing a throw (tori). Compared with injured Filipino judokas, injured Polish athletes demonstrated significantly lower %BF (t (29) = -2.74, p = .010), lower positive stress events (t (25) = -3.55, p = .002), lower negative stress events (t (25) = -5.95, $p < .001$), lower use of avoidant coping strategies (t (29) = -2.06, p = .049), and lower acceptance of beliefs normalising injury compared to their Asian counterparts. No significant differences were observed in FMS scores, sport anxiety, and positive coping between injured athletes in the two groups.

Conclusions. Polish and Filipino *judo* athletes differed in severe injury prevalence and biopsychosocial characteristics, suggesting potential cross-cultural influences on athlete health and psychosocial profiles.

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Adaptive Responses to Variable Sabre and Palcat Ruleset Conventions in HEMA Tournaments

Key words: cross-format adaptation ; decision-making; rule learning; historically coherent behaviour; scoring logic; competitive pressure

Introduction. This exploratory case study examines adaptation to three newly designed formats used in a multi-format HEMA tournament in Warsaw. Sabre 3×3 and Lisowczyk were fought with sabres, whereas Palcaty used a Polish singlestick martial art reconstructed from historical material [Aquili et al. 2013; Krabben, Orth, van der Kamp 2019; Renshaw et al. 2010; Sawicki 2004, 2019]. The case is important because the same competitors had to switch between conventions created to present historical sabre practice and, in the case of Lisowczyk, to evoke the memory of the Lisowczycy. The study asked what minimum pre-training allows adaptation to changing rules while preserving safety and meaningful technical-tactical differences between formats.

Aims. The aim was to identify the minimum training threshold enabling adaptation across related formats while retaining technical-tactical differentiation, safety and decision quality. The exploratory directional expectation was that habits shaped by sport-fencing practice would confer a scoring advantage in formats rewarding immediate initiative and simple point economy.

Methods. A mixed-methods case study was conducted during T-Infinity 2026 in Warsaw. Data comprised the rulebook, bout videos, Sabre 3×3 and Lisowczyk scoring sheets, and short semi-structured interviews with competitors and judges. The anonymised sample consisted of 14 fencers. Sabre 3×3 involved 10 competitors, 24 bouts and 120 exchanges ; Lisowczyk involved 9 competitors in the first circle and 6 in the second, yielding about 90 exchanges. Palcaty remained part of the interpretative analysis, but complete scoring tables were unavailable. The principal variables were scoring performance and convention-consistency, assessed in an A→B model : first functional combat logic, then source-based conformity.

Results. The formats produced different adaptive environments. Sabre 3×3 combined restricted space, hit-zone hierarchy and negative scoring, rewarding controlled aggression and fewer doubles. Lisowczyk, a rotating sabre circle in which the entering fencer had to attack immediately, favoured rapid, legible scoring. Palcaty created a phased, rule-dense environment requiring selectivity and procedural discipline. In the second Lisowczyk circle, the first three places were taken by quasi-sport competitors. In Sabre 3×3, the sport-fencing group achieved a better median group-stage result than non-QS competitors, but was more vulnerable to costly doubles and failure to close after scoring. Video analysis identified linear point-seeking entries, tempo escalation and insufficient post-hit cover.

Discussion. These findings suggest that formats rewarding immediate initiative and simple point economy favour habits acquired in sport fencing. At the same time, scoring success should not be confused with historically coherent fencing. A competitor may score effectively under a given ruleset while still departing from the functional logic of the historical weapon.

Conclusions. The minimum threshold of preparation extends beyond motor skill. It includes rule comprehension, rapid perceptual-decisional adjustment and risk management under changing constraints. The findings also invite debate on how far HEMA tournaments should reward sport-fencing habits when their declared aim is to present historically informed sabre behaviour. Main limitations are the partly qualitative Palcaty dataset and the absence of inferential statistics.

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Application of olympic weightlifting exercises for developing explosive strength in elite judo athletes

Background. Modern elite judo is characterised by repeated explosive actions that require athletes to generate high levels of force within extremely short time intervals. The effectiveness of throwing techniques, gripping exchanges and transition movements largely depends on the athlete's ability to produce maximal power rapidly. Consequently, the development of explosive strength has become one of the fundamental objectives of physical preparation in judo [Franchini, Del Vecchio 2019; Chaabène *et al*. 2018].

Olympic weightlifting exercises, including the snatch, clean, jerk and their derivatives, are recognised as effective training methods for improving rate of force development, neuromuscular coordination and whole-body power production [Suchomel, Comfort, Stone 2015; Suchomel, Nimphius, Stone 2016]. For this reason, these exercises have increasingly been incorporated into the conditioning programmes of athletes competing in explosive combat sports, including judo, wrestling and sambo [Loturco *et al*. 2017; Turner *et al*. 2011].

Although Olympic lifting exercises are widely used in practice, the scientific evidence regarding their application specifically in judo remains fragmented. Most available studies investigate strength training in general, while relatively few synthesise the role of Olympic barbell exercises in enhancing explosive performance relevant to judo-specific actions. Therefore, a conceptual review of the current literature may provide evidence-based recommendations for integrating Olympic weightlifting exercises into long-term judo preparation.

Method. This study presents a conceptual review of contemporary scientific literature concerning the application of Olympic weightlifting exercises in the physical preparation of judo athletes. Publications indexed in Scopus, Web of Science, and PubMed were analysed, with priority given to systematic reviews, meta-analyses and original studies published during the last 15 years.

The review focused on investigations examining Olympic weightlifting derivatives, explosive strength development, rate of force development, neuromuscular adaptations and strength-conditioning strategies in judo and other combat sports. The collected evidence was comparatively analysed and synthesised to identify practical approaches for integrating Olympic barbell exercises into long-term judo training.

Results. The reviewed literature indicates that Olympic weightlifting derivatives are effective training means for improving explosive strength in judo athletes. Exercises such as the hang clean, clean pull, high pull and jump shrug have consistently demonstrated positive effects on rate of force development, lower-body power and neuromuscular performance, which are essential for executing explosive throwing techniques.

Several studies report that these exercises produce greater transfer to sport-specific movements than traditional resistance exercises because they require rapid force production, coordinated triple extension and whole-body power generation. Furthermore, combining Olympic lifting derivatives with technical judo training appears to enhance explosive performance without substantially increasing training volume.

The evidence also suggests that training programmes should prioritise technically appropriate derivatives rather than full competitive lifts, allowing coaches to improve power output while reducing technical complexity and injury risk. Consequently, Olympic barbell exercises may represent an effective component of strength and conditioning programmes for elite judoka.

Conclusions. Current scientific evidence supports the inclusion of Olympic weightlifting derivatives in the long-term preparation of elite judo athletes. Properly integrated barbell exercises contribute to improvements in explosive strength, neuromuscular performance and movement efficiency, which are directly related to successful execution of judo techniques. Future research should establish evidence-based recommendations regarding exercise selection, loading strategies and periodisation models specifically for high-performance judo.

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Specification of terminological definitions in social communications as a guarantee of the correct primary choice of martial arts

Key words: special terminology, combat training, *Budo karate*, sport *karate*

Problem. Special terminology in scientific research is of great importance, as it ensures the accuracy, clarity, and unambiguity of the description of the essence, definition, and interpretation of the subject, action, or concept, as well as the systemic relationship between the elements of a single terminological system. Terminology is a consensus that allows professionals to speak in one language that they understand. However, when scientific terminology extends beyond science into broader social communication, for example, pedagogy or sports, the requirements for accuracy and specificity of terms become especially important. The users of terms are ordinary people, and any variability, lack of clarity in interpretation, or incorrect application of the term can mislead, create distorted associations, and lead to the wrong choice and disappointment from unjustified expectations. As practice shows, the average person's choice is often based on subconscious associations triggered by the very name of the combat system. Generalizing terms like "*martial art*" without precise, understandable qualifiers can lead to a wide range of associations and expectations, sometimes far from reality.

The familiar term "*martial art*", which has been used to designate Far Eastern combat systems since the end of the 20th century, is not of Asian origin, but rather corresponds to the features of an invented tradition, formed to a large extent under the influence of Hollywood. A single term unites the entire variety of combat systems, without taking into account the cardinal differences, for example, between Shotokan Karate, Taijiquan, Kendo, or Jun Ri's martial arts ballet. A similar situation has developed in karate, where the common name "*karate*" requires clarification of the differences among the various forms in terms of their origins, philosophies, goals and expected results, strategies, and training methods.

Researchers, including Draeger, Buckler, Martinkova & Perry, Bolelli, Bayer, Moenig, Kim & Choi, believe that to overcome this situation, it is advisable to group the entire variety of combat systems according to certain characteristic features and use specific group names, but they have not yet reached a consensus on the criteria for systematization.

Aim and methods. The purpose of this study is to draw attention to the importance of specifying special terminology in karate practice, as it affects both the correctness of the individual choice of the form of training and the trends in modern karate. The following methods were used: analysis of long-term observations of changes in motivation for karate training, and questionnaires for athletes assessing their readiness to participate in fights of varying levels of danger. Proposals are made regarding the grouping of different forms of karate from the perspective of their practical combat application, and the specification of their names.

Results. During the long-term practice of teaching karate, the author notes the emergence in recent years of a tendency to shift motivation towards the expectation that karate classes or other oriental combat systems will satisfy philosophical-aesthetic, demonstrative, or purely competitive needs rather than acquiring combat skills. In oral interviews with parents of future adherents of "*martial arts*", a subconscious expectation is increasingly heard that the child is involved in a safe, not too burdensome process, in which he is a potential creator or consumer

of something beautiful and deeply aesthetic, related to military themes. Such an association forms, in both parents and children, their own subconscious ideas of the ultimate goals of training and the limits of the efforts required to achieve them.

The term "*martial arts*" and the most commonly used (according to Cambridge) definition of its component "*arts*" have a considerable influence on this, which is as follows: "the creation or performance of something, the purpose of which is to bring people pleasure through the enjoyment of what is beautiful and interesting, or of things often created for this purpose, such as paintings, drawings or sculptures". Despite the lack of a mandatory connection, the term implies the presence of a hypothetical viewer. At the same time, the definition of "*arts*" as "skill" is only the third most commonly used. In a dojo focused on traditional combat work, a child set up this way quickly becomes disappointed and, not having received what he wanted, leaves. In the worst case, when the number of such children and their parents becomes critical, these subconscious expectations are expressed in the need to restructure the dojo's orientation, which is a significant factor in the progressive commercialization of karate. The danger is that such changes distance the dojo from traditional values, can lead to its gradual marginalization, and can transform it into the so-called Mc-dojo.

A similar situation was confirmed by an internal survey in clubs, both traditional and sports-oriented, regarding self-assessment of technical, physical, and psychological readiness to participate in real fights of varying degrees of danger: street fighting against one or a group of opponents; against an armed enemy; in a military clash. Almost all survey participants rated their level of readiness highly. Moreover, if in style karate clubs, 1-2 special classes are held per week on active self-defense, then in sports clubs, there is not a single such class, which indicates an overestimation of one's own capabilities. It is also indicative that, in some questionnaires of sport karate representatives, even ura-mawashi geri jodan or kizami tsuki can be an effective and reliable means in a real fight, which indicates a lack of even an understanding of the specifics of a real fight.

The results of the survey confirmed the importance of a clear and precise definition for the initial choice of a karate form for one's own classes, which provided a clear explanation of the goal, the result, as well as what is not intended to be studied. As a first step towards a more substantiated classification, it is proposed to divide combat systems into three groups based on the partial study of combat training.

1. Total combat systems - professional military training.
2. Active self-defense systems - comprehensive training according to the full program of a specific style of Japanese Budo karate or Okinawan karate school. Participation in competitions is not mandatory.
3. Martial arts - modern combat systems that can be confidently attributed to the sphere of leisure, show, or sport, where there is a factor of the presence of spectators, and the mandatory study of applied combat techniques is not provided.

Conclusions. For the correct individual choice of an acceptable form of karate, avoiding disappointment from unjustified expectations and overestimation of the results of training in a particular combat system, it is important to use a clear, accurate, and unambiguous interpretation of special terms, specified for different combat systems, grouped by their direction.

The proposed system of grouping karate forms by the share of the combat component requires further development and specification, taking into account other characteristics.

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Longitudinal Evaluation of Biomotor Progress in Young Pencak Silat Athletes: A Quantitative Analysis for 2025–2026

Key words: biomotor progression, youth athletes, Pencak Silat, longitudinal evaluation, physical condition

Introduction. Physical condition is a crucial determinant of athletic performance in youth martial arts [Aziz *et al*. 2002; Mada *et al*. 2026]. However, comprehensive longitudinal evaluations that track multi-component biomotor changes over consecutive annual training cycles remain very limited. This study aims to quantitatively evaluate the annual progression of physical fitness and physiological indicators in young pencak silat athletes over 12 months (from the end of March 2025 to the beginning of April 2026).

Material and methods. The research design used in this study was a pre-experimental design (one-group pretest-posttest design), in which 15 young pencak silat athletes (male and female under 18 years old) underwent a series of standardized physical tests, including the Multistage Fitness Test (MFT) to measure VO2max, a t-test for agility, a 20-meter sprint for speed, a back-leg dynamometer for isometric strength, push-ups/sit-ups for muscular endurance, a vertical jump for power, and a sit-and-reach test for flexibility. The intervention consisted of a structured periodized physical training program comprising a general program and a specific program. Normality was assessed using the Kolmogorov-Smirnov test, and homogeneity of variances was tested using Levene's procedure. Differences between the 2025 and 2026 test data were analyzed using a Paired Samples t-test.

Results. The analysis results indicate that the research data met the criteria for using parametric statistical tests, as the data were normally distributed and homogeneous. Based on the results of the Paired Samples t-test, there was a significant improvement in physical condition from 2025 to 2026. The average physical condition score in 2025 was 48.34, then increased to 51.64 in 2026. This average increase of 3.30 points indicates that the participants' physical abilities have improved. Furthermore, the obtained p-value ($p < 0.001$) indicates that this increase is statistically significant and not merely a coincidence.

Discussion. The findings demonstrated a significant improvement in the physical capacity of young pencak silat athletes following a structured training program. Despite inter-individual variability in training adaptations, the results highlight the importance of implementing an individualized training approach to optimize long-term physical performance development [Karo-karo *et al*. 2023; Nugroho *et al*. 2024; Nugroho *et al*. 2025].

Conclusions. A periodized training program significantly improves the multi-component physical profile of junior pencak silat athletes. These findings confirm that systematic evaluation is vital for monitoring athletic talent development.

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Rapid Weight Loss Practices, Sources of Influence, and Sex Differences in Competitive Kickboxers

Key words: combat sports, body mass regulation, competition preparation, coaching influence, athlete behaviour, combat athletes

Background. Rapid weight loss (RWL) is a common practice in combat sports, allowing athletes to compete in lower weight categories [Franchini et al. 2012; Park 2026; Zhong et al. 2024].. Despite the popularity of kickboxing worldwide, information regarding weight-cutting practices and factors influencing these behaviours remains relatively limited [Barley, Harms 2025; Ranisavljev et al. 2022]..

Problem and aim. The aim of this study was to describe rapid weight loss practices among competitive kickboxers, identify the main sources influencing these practices, and examine sex differences in selected RWL-related variables

Material and methods. Seventy-five competitive kickboxers completed the Rapid Weight Loss Questionnaire (RWLQ). Only athletes who reported previous weight reduction before competition were included in the analysis (n = 60; 44 males and 16 females). Data are presented as median and interquartile range. Sex differences were evaluated using the Mann–Whitney U test. Descriptive statistics were used to identify the main sources influencing rapid weight loss practices.

Results. Eighty percent of the surveyed kickboxers reported previous weight reduction before competition. The median maximum weight loss was 5.0 kg (3.0–7.15), while the usual weight loss before competition was 2.75 kg (1.25–4.00). Athletes typically started reducing body mass 7 days before competition (4.5–10.0) and reported initiating rapid weight loss practices at the age of 16 years (15.0–19.0). Median body mass regained within 7 days after competition was higher in males than females (4.76% vs. 3.42% of body mass), although the difference was not statistically significant ($p = 0.079$). No significant sex differences were observed for maximum weight loss, usual weight loss, frequency of weight reduction, age at initiation of weight-cutting practices, or duration of weight reduction before competition. Kickboxing coaches were identified as the most influential source affecting rapid weight loss practices, whereas physicians and dietitians demonstrated limited influence.

Conclusions. Rapid weight loss was reported by 80% of surveyed kickboxers and commonly begins during adolescence. Kickboxing coaches appear to be the most influential source affecting weight-cutting behaviours, whereas healthcare professionals play a limited role.

Educational interventions targeting coaches may therefore represent an important strategy for promoting safer weight-management practices in kickboxing.

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Algorithms and Body Posture Mediatization in Fighting Arts

Key words: technology, algorithm, communication

Problem. The development of artificial intelligence, computer vision systems, and wearable technologies is increasingly interfering with the shape of fighting arts. For centuries, these disciplines have relied on internal proprioception, intuition, and the direct relationship between master and disciple [Filipović 2011]. Today, telemetry enters this space, forcing the mathematical optimization of movement in real time. This phenomenon can be interpreted as a manifestation of deep mediatization, in which the human body ceases to be a purely biological system and becomes a digital interface subjected to technonormativity [Hepp 2020]. The main challenge for contemporary researchers is the lack of a unified conceptual and methodological framework that would allow for the simultaneous capture of the technical structure of algorithms and their socio-cultural impact on embodiment. This presentation aims to provide a critical review and classification of digital tools that can be used to describe this transformation. The connection between the researched issue and martial arts will address the potential use of modern algorithm-based communication and virtual reality in the 21st century.

Method. The study adopts an approach based on a selective literature review and a critical functional analysis of chosen software. Available technologies were categorized in terms of their utility in research on the mediatization of physical culture. Within this review, a broad spectrum of digital solutions was examined: from advanced, commercial telemetric platforms (such as Jabbr.ai or FightCamp) to free, academic, and community-driven open-source solutions. Among the free models, the kinematic software Kinovea, the OpenCap platform, and universal pose estimation libraries—led by Google MediaPipe—were discussed as representative examples. The typologies of these tools were constructed through the prism of their capacity to generate instant biofeedback and impose specific patterns of "correct posture" on users. This has applications, among others, in teaching fighting arts to individuals with varying levels of technical proficiency.

Results. The conducted analysis allowed for the delineation of three main research pathways facing contemporary sports humanities: 1) one focusing on commercially closed systems [Cynarski *et al.* 2005], 2) one revealing the potential of free computer vision tools, and 3) one of a purely phenomenological nature, centered on the human being and their reactions to the functionality of new technologies [Wiles *et al*. 2006]. Another element is the adaptation of these paths to analyses of fighting arts in more than just technical aspects.

Conclusions. Algorithmic posture verification redefines the ontology of movement itself. Moreover, widely accessible open-source solutions constitute a fully-fledged, autonomous, and methodologically valuable alternative to expensive market systems. They allow independent researchers to deconstruct the way artificial intelligence translates the fluid reality of combat into a mathematized universe of data. Future projects in this field should boldly combine digital biomechanical analysis with classic gym ethnography. Such a combination will make it possible to monitor the extent to which algorithms eliminate intuitive and artistic elements in favor of the technocratic optimization of techniques in fighting arts

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Pedagogical Content Knowledge in the Teaching of Martial Arts in Brazilian Universities: A Case Study

Key words: pedagogical content knowledge, martial arts, physical education

Introduction. Pedagogical Content Knowledge (PCK), defined as the teacher's ability to understand the content to be taught and transform it into forms accessible to students, represents an important framework for the teaching–learning process [Shulman 1987]. Martial arts teaching still presents weaknesses, such as a lack of teaching experience and the belief that it is necessary to be a practitioner of martial arts in order to teach it [Pereira *et al*. 2023; Pereira, Graça, Farias 2024]. Therefore, it is necessary to investigate PCK among university professors responsible for the education of future teachers. The aim of this study is to analyse the PCK of university professors who teach martial arts disciplines.

Material and methods. This study was conducted with seven professors from Brazilian universities who teach martial arts disciplines. Narrative interviews were used, and the data were analysed through content analysis, supported by NVivo software.

Results. The focus of the disciplines and the teaching strategies included lectures delivered by all professors and the use of opposition games. Only four professors articulated the course content with the context of school Physical Education and teacher education.

Discussion. This case study was conducted with seven professors from four public universities in Brazil who teach martial arts courses. Narrative interviews were used, and the data were analyzed through content analysis, resulting in two categories: teaching strategies and the relationship between the content and school Physical Education. The analysis was also supported by NVivo software and the PCK construct.

Conclusions. Martial arts teaching in Physical Education teacher education programs still presents pedagogical weaknesses, which require greater mobilization of PCK by both professors and pre-service teachers.

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Kinematic chain efficiency and rate of force development as key determinants of punch force in combat sports

Key words: combat sports, punch force, biomechanics, kinematic chain, rate of force development (RFD), striking performance

Problem. Punch force is a key determinant of effectiveness in combat sports; however, its underlying mechanisms remain complex. Although body mass is traditionally considered a primary factor, empirical observations suggest that lighter athletes can generate comparable or even greater striking force. Previous studies indicate that punch force results from coordinated segmental motion within the kinematic chain [Turner, Baker, Miller 2011], while the rate of force development (RFD) plays a crucial role in explosive performance [Cormie, McGuigan, Newton 2011]. Therefore, the present study aims to identify the primary biomechanical and neuromuscular determinants of punch force.

Method. The study involved 110 combat sports practitioners (84 men, 26 women) from clubs located in south-eastern Poland. Participants performed maximal punches on a heavy bag (>80 kg) over a 30-second interval. Measurements were conducted using the UFC Force Tracker (Model IS291), which records the force–time curve and parameters such as Peak Force, impulse, and RFD. Statistical analysis included the Shapiro–Wilk test, which indicated non-normal data distribution ($p < 0.001$), justifying the use of non-parametric methods. The applied approach aligns with biomechanical research emphasizing force–time analysis in striking performance [Lenetsky, Harris, Brughelli 2013].

Results. Highly trained athletes achieved punch forces exceeding 981 N and demonstrated a greater number of strikes within the time limit. Approximately 25% of participants exceeded 1200 N. A decline in force output was observed after approximately 25 seconds, indicating neuromuscular fatigue. The findings confirm that effective force generation depends on sequential energy transfer between body segments [Putnam 1993] and intersegmental coordination [Fleisig *et al*. 1999]. Athletes combining high strike frequency with high force output demonstrated the greatest effectiveness.

Conclusion. Body mass is not the primary determinant of punch force. Instead, coordination, efficient use of the kinematic chain, and rapid force production (RFD) are critical factors. The most effective athletes exhibit high neuromuscular synchronization and short premotor times. These findings suggest that training programs should prioritize dynamic strength, coordination, and rapid force generation. This supports previous research emphasizing the importance of explosive strength capabilities in combat sports performance [Cormie, McGuigan, Newton 2011].

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Bibliometric analysis of the features of the development of national martial arts

Key words: national martial art, bibliometric mapping, VOSviewer

Introduction. martial arts are among the most widespread and popular sports globally. This is due to the wide variety of disciplines, their entertainment value, and their impact on key physical qualities. National martial arts (NMA) are sports that have developed primarily within a single country [Cheng Y *et al*. 2024; Pérez-Gutiérrez *et al*. 2013]. They reflect national characteristics and have a significant influence on the development of society. Currently, many of them have spread beyond national borders and have become popular worldwide. The aim of this study is to analyse publications on national martial arts using bibliometric methods and to identify priority research areas in this field.

Methods. As of 31 December 2025, the bibliometric databases Web of Science Core Collection (WoS) and Research Commons (RC) were selected for the analysis. The publication sample was compiled using the search query "national martial art". The sample size for WoS was 552 publications, and 367 publications for RC. The analysis period covered 2015–2025. Bibliometric methods were used to process the obtained data. The VOSviewer 1.6.20 program was used for keyword analysis and direct citation analysis, including the construction of bibliometric maps and the visualisation of cluster density and citation weights [Van Eck *et al*. 2010]. The minimum threshold for including keywords in the analysis was five occurrences for the WoS database. For the RC database, all keywords were used given their limited total number.

Results. the WoS database identifies the following priority research areas: sociology, sports, education, history, and medicine (in descending order of the number of publications). The RC database does not specify research areas. Authors from China produced the largest number of publications across both databases. Poland is also represented by a considerable number of publications in both databases. Publications by Ukrainian authors account for a small proportion within the RC database. However, an analysis of leading journals shows that Ukrainian journals account for a substantial share of the RC database. The most cited authors identified in the WoS database include Cynarski, W.J., Franchini, E., Sieber, L., Drid, P., and Gutiérrez-García, C. The constructed bibliometric maps facilitated the identification of leading research subject areas and current research trends in this field. Seven clusters were identified. These clusters reflect issues relating to the anthropometric, functional, and psychophysiological examinations of athletes. They also encompass the sporting, pedagogical, social, historical, and philosophical components of NMA; issues regarding injuries in combat sports (including their prevalence, prevention, and the organisation of rehabilitation); and the use of training sessions to neutralise risk factors, improve quality of life, enhance motivation, and optimise overall physical activity. The keywords comprising these clusters were also analysed. However, formatting shortcomings within publications in the RC database significantly hindered the analysis.

Discussion and Conclusions. the bibliometric method significantly enhances the quality of the analysis by shifting it to a quantitative level. The VOSviewer program generates bibliometric maps, and their analysis enables the identification of the most significant keywords and the

leading experts in the field under study. This software is frequently used in sports science [Podrigalo *et al*. 2025].

The analysis of publications in the WoS and RC databases confirms the relevance of the ongoing development of NMA. Priority areas for scientific research in this field have been identified, and the bibliometric analysis indicates a predominance of publications thematically related to sports, recreation, and rehabilitation.

This aligns with the results obtained from previous bibliometric analyses of publications on kickboxing [Podrigalo *et al*. 2022] and strength sports [Podrigalo *et al*. 2025]. The unique nature of NMA dictates research directions that are exclusive to these sports. Consequently, a significant proportion of publications with a historical, social, and philosophical focus has been identified.

NMA are practised in various countries, although they are most popular in East and Southeast Asia (China, the Philippines, Indonesia, Korea). NMA also maintain a degree of popularity in Latin America, while Ukrainian NMA form a distinct cluster in academic research. Evidence confirms that NMA in these countries are integrated not only into the sporting sphere but also into the educational process. Educational programmes are aimed at training specialists and increasing the popularity of these sports. Significant emphasis is placed on the ethnic and sociocultural aspects of NMA. Academic studies highlight their role in fostering national identity and preserving cultural heritage. There are significant differences in the publication standards between the WoS and RC databases. The WoS database contains works from highly indexed journals. These journals maintain rigorous standards for article quality and ensure strict adherence to bibliographic formatting requirements.

Ukrainian NMA are represented primarily by publications in the RC database. It should be noted that the structural differences identified between the WoS and RC databases reflect specific indexing features, metadata completeness, and the structure of bibliographic descriptions within the publications. The absence of network connections in the RC sample may be due to the technical characteristics of keyword and citation representation, rather than serving as a direct indicator of the quality of scientific research. Therefore, the observed differences should be interpreted merely as structural features of the respective databases.

A structural bibliometric analysis of publications in the WoS and RC databases devoted to national martial arts for the period 2015–2025 was conducted. The obtained results reflect the thematic structure of the scientific field, the dominant research areas, and the distribution of publication activity across countries, authors, and journals. Based on a bibliometric analysis of publication metadata, the thematic areas most frequently represented in the scientific literature on national martial arts were identified. The most prominent areas are sports, recreation, and rehabilitation, as well as the historical, social, and philosophical aspects of NMA. The conclusions drawn are descriptive in nature and are limited by the scope of the applied bibliometric method and the characteristics of the databases analysed.

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Fighting with two sabres of the Polish winged hussars-

Key words: hussar saber, dual wielding, martial arts

The article is an attempt to present the art of dual wielding a hussar saber in the 16th and 17th and 18th centuries. Its aim is to show the above issues, which have been relatively rarely discussed in Polish literature [Pokojski 2024]. The material for the study was obtained thanks to the analysis of iconographic material and specimens of weapons both from the period (sources of the 16th-19th centuries [Hundt 1611; Heredia 1610; Agrippa 1574]) and from the scarce available literature on a wide spectrum of topics (monographs [Karwicki 1882], articles in magazines, periodicals, or the Internet) dealing with the subject matter, also in comparative way by demonstrating fencing treaties from Western Europe that may have an impact on martial arts in Poland. The result is the presentation is to demonstrate the possibility of a real fulfilment of the research hypothesis regarding the use of two sabres – dual wielding - by Polish winged hussars. The aim of this article is therefore to draw attention to the issue of the issue of the possibility of wielding two weapons by a Polish warrior , which has so far been rarely discussed in the literature, important, m.in for a better understanding of Polish heritage and Polish martial arts, so far rarely discussed in the literature, and to encourage further research in this field.

Problem. The article discusses the issue of use by Polish winged hussars, or more broadly Polish warriors in the 16th-18th centuries. Despite the lack of direct sources, by considering several source materials, including comparative ones, the author aims to present the above research hypothesis. An important aspect is the statement that the hypothesis refers to fighting on the ground, because fighting on horseback with two long weapons at once may not have been very effective, moreover, it also does not resolve the aspect of the type of sabre used in such a fight – Polish winged hussars used various weapons for almost 300 years of their existence like kord or many types of sabres, with and without thumb ring - paluch, so this is not the subject of the article.

Method. Through the analysis of fencing treatises from Western Europe from the 16th and 17th centuries, talking about fighting with two long weapons (usually swords, but not only) and their possible reception on the territory of Polish, along with the indication of a common trunk, which is sword fighting. In addition, the knowledge of the fact of wielding two sabers on the territory of Polish has been demonstrated based on iconography from the seventeenth century. Finally, a narrative source from the nineteenth century directly indicates the fact that at the turn of the eighteenth and nineteenth centuries in Polish he wielded two weapons at once, together with the art of the cross.

Results. The result of the presented work is, based on the existing source premises, that Polish winged hussars could use two sabers at the same time during foot combat on the ground, not horseback – but it does not prejudge the frequency of this phenomenon or the types and types of sabres used for this purpose

Conclusion. The article aims to draw attention to the subject matter, important, m.in, for a better understanding of Polish heritage and Polish martial arts, so far rarely discussed in the literature, and to encourage further research in this field.

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The Effect of Different Warm-Up Methods on Performance and Range of Motion in the High Kick

Problem. From the perspective of acute preparation for a high kick, the choice of an appropriate warm-up protocol plays a crucial role in ensuring sufficient joint mobility without limiting force and speed production [Behm et al. 2016; Matsuo *et al*. 2025; Opplert, Babault 2018]. The main objective of this study was to determine the difference in the acute effects of dynamic stretching and neuromuscular stretching (the CRAC method) on performance parameters (impact power and transferred kinetic energy) of the high roundhouse kick.

Method. The study sample consisted of MMA and kickboxing fighters—20 men and 4 women. Data on the performance parameters of the high roundhouse kick were collected using the PowerKube® diagnostic device (Strike Research Ltd, Unit 8 Home Farm, Norwich Road, Norfolk). The participants underwent a standardized three-minute aerobic warm-up, followed by a measurement of baseline passive range of motion in the hip joint (pre-test) using a maximum front split test with a 10-second hold. The initial measurement was followed by the application of the appropriate randomized stretching protocol (dynamic stretching or the CRAC neuromuscular method). Immediately after the intervention, a follow-up measurement of passive range of motion (post-test) was performed using the same methodology as before stretching to record acute changes in flexibility. Then, each participant performed five maximum high-arc kicks with both the dominant and non-dominant limbs.

Result. No statistically significant differences between the two interventions were observed for either performance variable (peak power and transferred kinetic energy) in both the dominant and non-dominant limbs. A paired t-test revealed a statistically significant difference between the two interventions ($t = 2.217$; $p = 0.037$), and the effect size was moderate (Cohen's $d = 0.453$) when assessing the acute effect of the interventions on passive range of motion in favor of dynamic stretching.

Conclusions. The findings suggest that, while no differences between the interventions were observed in kicking performance parameters, dynamic stretching may provide a modest short-term advantage in increasing passive hip range of motion.

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The 60-Day Effects of a Single-Session Hydration Education and Encouraging Materials in Child Judokas

Key words: child athletes, dehydration, fluid intake, urine specific gravity

Introduction. Dehydration is known to be prevalent among athletes, and exercise-induced sweating may further aggravate this condition [Kavouras 2002]. Childhood and adolescence represent critical periods during which fluid consumption habits are established [Bottin *et al*. 2019]. Therefore, the use of educational interventions and encouraging materials to prevent dehydration is particularly important in younger age groups. Although previous studies have generally focused on the short-term effects of hydration education, the longer-term persistence of these effects has not been sufficiently investigated. Therefore, the aim of this study was to examine changes in USG and fluid intake following a single-session hydration education supported by hydration-promoting materials and to evaluate the persistence of these changes over a 60-day period in child judokas.

Methods. This single-group repeated-measures study was conducted with 34 male child judokas. The participants had a mean age of 11.6 ± 1.8 years and a mean body mass of 42.7 ± 13.5 kg. The judokas received approximately 40 minutes of hydration education delivered by the researcher. The educational content addressed the importance and physiological functions of water, the effects of inadequate fluid intake on health and sport performance, and the evaluation of hydration status via urine color. Participants were encouraged to monitor their hydration status throughout the day based on urine color and to adjust their fluid intake accordingly. In addition, water bottles and informative brochures were distributed to promote hydration, posters encouraging fluid intake were displayed in the sports halls, and urine color charts were placed in the restrooms. Measurements were conducted before and after training during four assessment periods: pre-education, post-education day 1, day 30, and day 60. In each period, a standardized 1-hour training session including short breaks approximately every 15 minutes was performed. Urine specific gravity (USG) was assessed before and after training, and fluid intake during training was calculated. Data were analyzed using two-way repeated

measures ANOVA and one-way repeated measures ANOVA. When the sphericity assumption was violated, the Greenhouse–Geisser correction was applied. In cases of significant main effects, multiple comparisons with Holm correction were used to identify the source of the differences.

Results. At baseline, the child judokas were found to be dehydrated during the pre-education period (USG ≥ 1.020). Significant differences were found in USG values across the assessment periods ($F(3,99)=4.466$, $p=0.006$, $\eta^2=0.073$), with a moderate effect size. Compared with the pre-education period (pre-training: 1.020 ± 0.006, post-training: 1.021 ± 0.008), USG values obtained from urine samples decreased significantly on post-education day 1 (pre-training: 1.018 ± 0.007, post-training: 1.015 ± 0.009) and day 30 (pre-training: 1.017 ± 0.007, post-training: 1.018 ± 0.008) ($p<0.05$). However, this effect was no longer significant on day 60 (pre-training: 1.018 ± 0.007, post-training: 1.017 ± 0.009) ($p>0.05$). No significant differences were found between pre- and post-training USG values ($p>0.05$). In contrast, no significant difference was found in the amount of fluid consumed during training between the pre- (953 ± 370 mL) and post-education periods (day 1: 1081 ± 370 mL, day 30: 943 ± 355 mL, day 60: 927 ± 400 mL) ($F(2.28, 75.20)=1.332$, $p=0.271$, $\eta^2=0.039$), with a small effect size.

Discussion and conclusion. Previous studies have generally focused on the short-term effects of single-session hydration education. Atkins et al. reported that a single brief 5-minute hydration education accompanied by material support resulted in a significant reduction in USG on day 3, whereas no significant difference was observed on day 24 [Atkins *et al*. 2021]. Similarly, Kavouras *et al*. reported that a one-hour hydration education, supported by written information, urine color charts placed in bathrooms, and improved water accessibility in training, dining, and resting areas, significantly reduced USG values two days after the intervention in young athletes [Kavouras *et al*. 2012]. In the present study, the more comprehensive educational content and the more intensive use of hydration-promoting materials may help explain the longer-lasting effects. Indeed, the effect of the intervention persisted up to day 30 for USG. However, no increase was observed in fluid intake during training. Consistent with the literature, education alone does not appear to be sufficient to increase fluid intake during exercise, whereas individually prescribed drinking plans may be more effective for this purpose [Cleary *et al*. 2012]. In conclusion, a 40-minute hydration education supported by hydration-promoting materials was associated with a significant reduction in USG values for approximately 30 days in child judokas. Moreover, this education and material support do not appear to be sufficient to increase fluid intake during training. Therefore, repeated hydration education at approximately 30-day intervals, supported by new materials, may be recommended for child athletes. Although fluid intake during training did not significantly increase, future practical strategies such as repeated education, individualized drinking plans, and coach encouragement may be considered to support fluid consumption in child athletes. This study has some limitations. The absence of a control group limits causal interpretation, and the inclusion of only male child judokas limits the generalizability of the findings.

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Injury Patterns During the Inaugural Silat EVO Tournament: A Preliminary Injury Surveillance Study of Youth Athletes

Key words: amateur athletes, combat sport safety, injury surveillance, lower-extremity injury, Malay Silat, sports injury epidemiology

Introduction. Silat EVO is a cage-based competition derived from Malay Silat. It combines controlled striking, kicking, sweeping, takedowns and positional control under formal safety rules. Pencak Silat studies commonly report bruises, sprains and lower-limb injuries, with kicking and takedowns as important mechanisms [Latif *et al*. 2022; Suryaningrum, Shapie

2025]. This study described the occurrence, type, location, severity and apparent mechanisms of injuries during the inaugural Silat EVO tournament.

Methods. A prospective observational injury surveillance study was conducted during the official Silat EVO tournament. Data were collected prospectively during official matches held on 20–21 September 2025 in Kuala Lumpur, Malaysia. Thirty-nine amateur athletes participated: 24 males aged 8–16 years and 15 females aged 7–13 years. Athletes competed separately within sex, age and body-mass categories. Twenty official matches involved 40 athlete-participations. Each match consisted of three 2-minute rounds with 1-minute rest intervals, unless terminated earlier by referee stoppage or victory conditions. All athletes passed medical screenings. Competition-related injuries were defined as acute physical injuries requiring assessment by the on-site doctor or paramedic or presenting with observable clinical signs. Injury type, location, severity, mechanism and continuation status were summarized using frequencies and percentages. No inferential tests were applied because only ten cases were recorded.

Results. Ten injuries were documented, giving an athlete-level occurrence proportion of 25.6% and 25.0 injuries per 100 athlete-participations. Six injuries occurred among males (25.0%) and four among females (26.7%). Sprains or strains and contusions each represented 40.0% of cases, while non-specific musculoskeletal pain represented 20.0%. Non-specific musculoskeletal pain was classified as a competition-related injury when it required assessment by the on-site doctor or paramedic despite the absence of a definitive clinical diagnosis during the event. Lower-extremity injuries were most frequent (50.0%), followed by chest and rib injuries (30.0%). Males experienced more impact-related complaints, especially chest and rib contusions. Females experienced more sprains and strains, including an ankle sprain after a sweep, a knee strain while blocking a kick and a trunk strain during rapid rotation. All injuries were mild because the athletes continued competing. No fracture, dislocation, head trauma, hospital referral or medical withdrawal was recorded.

Discussion and conclusion. The findings agree with previous Pencak Silat research showing that bruises, sprains and lower-limb injuries are common [Latif *et al*. 2022; Afis 2025]. The absence of head and neck injuries may reflect prohibited target areas, referee control, protective equipment and medical supervision, but a single event cannot establish overall safety. Continuing to compete does not prove that an injury is clinically unimportant, particularly among young athletes. Training should emphasize ankle stability, knee control, balance, trunk strength, safe responses to sweeps, controlled blocking and correct falling. Future studies should include several tournaments, time-based exposure measures and post-event medical follow-up.

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The Pedagogical Structure of Level Five (*Pesilat* – Green Belt) within the Malaysian *Silat* Curriculum: Integrating Art, Self-Defence, Tactical Adaptability, and Character Formation

Key words: Malaysian Silat curriculum, martial arts pedagogy, Silat education, cultural heritage, tactical adaptability, character formation

Introduction. Silat is a traditional martial art of the Malay Archipelago that functions not only as a system of self-defence but also as a medium for cultural transmission, character development, and educational practice. In Malaysia, the Malaysian Silat Curriculum was developed to provide a structured framework for preserving and transmitting Silat knowledge through seven progressive levels of learning. Previous studies have highlighted the curriculum's contribution to heritage preservation, educational standardisation, and practitioner development; however, limited research has examined the pedagogical significance of individual curriculum levels, particularly Level Five (Pesilat – Green Belt), which represents a transition between intermediate and advanced training stages [Anuar 2008; Shapie, Elias 2016; Shapie et al. 2026]. Therefore, this study examined the pedagogical structure of Level Five within the Malaysian Silat Curriculum, explored its role in integrating art, self-defence, tactical adaptability, and character formation, and developed a conceptual pedagogical framework to explain these relationships.

Methods. A qualitative document analysis approach was employed. Primary data consisted of curriculum documents associated with the Malaysian Silat Curriculum, particularly the Level

Five syllabus and instructional materials. Secondary sources included academic publications relating to Silat education, martial arts pedagogy, cultural heritage, and curriculum development. Documents were analysed thematically to identify learning progression, pedagogical principles, educational objectives, and the relationships between the seven curriculum components of Level Five: Bunga Silat, Jurus Silat, Belebat Silat, Tapak Silat, Buah Pukul Silat, Tempur Seni, and Tempur Bela Diri. The analysis also aimed to synthesise these relationships into a conceptual pedagogical model explaining how Level Five supports holistic practitioner development.

Results. The analysis identified five interconnected pedagogical themes. First, Level Five functions as a transitional stage between intermediate and advanced practitioner development within the seven-level curriculum. Second, the curriculum is organised through seven progressive learning components that move practitioners from movement literacy towards combat integration. Third, artistic movement (seni) and self-defence (bela diri) are systematically integrated rather than taught as separate domains. Fourth, tactical adaptability is developed through sambut tangkap, tapak melilit, combat transition, and layered responses, encouraging practitioners to adapt to dynamic combat situations. Fifth, the curriculum promotes character formation and cultural continuity through values such as discipline, self-control, patriotism, responsibility, and Sikap Pendekar.

The seven curriculum components contributed differently to the four dimensions of the proposed model. Bunga Silat and Jurus Silat supported technical development through movement literacy, posture, coordination, attack direction, and technical precision. Belebat Silat, Tapak Silat, and Buah Pukul Silat supported tactical adaptability through sambut tangkap, positional control, angle changing, combat reception, and applied responses. Tempur Seni contributed to cultural transmission by preserving artistic combat expression, rhythm, etiquette, and traditional movement patterns, while Tempur Bela Diri reinforced character formation through controlled self-defence application, discipline, responsibility, and tactical restraint. These relationships led to the development of an Integrated Silat Pedagogy Model consisting of four interconnected dimensions: technical development, tactical adaptability, cultural transmission, and character formation.

Discussion and Conclusion. The findings suggest that Level Five represents considerably more than a stage for acquiring advanced techniques. Instead, it functions as a pedagogical bridge connecting artistic movement, self-defence application, tactical adaptability, and cultural education. Consistent with broader martial arts pedagogy literature, the curriculum demonstrates how technical skills can be integrated with cultural values and personal development within a structured educational framework. The proposed Integrated Silat Pedagogy Model provides a more concrete explanation of how specific curriculum components contribute to practitioner development across technical, tactical, cultural, and personal domains. The study contributes to martial arts studies by demonstrating that traditional martial arts curricula can function as comprehensive educational systems rather than merely technical training programmes. Future research should investigate how these pedagogical principles are implemented in practice through instructor perspectives and practitioner experiences.

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"Come on, let's give it a try"—Daily Life and Challenges in the Training of Polish Athletes in China

Key worlds: Chinese martial arts, traditional sparring, *wushu*, Poles in China

Background. Between 1986 and 2019, Polish *kung fu* students and masters traveled to China to study Chinese martial arts under Chinese masters and instructors. However, despite their dedication to practice and their acceptance by the masters, they sometimes encountered signs of jealousy from Chinese students at the same school. Some of them believed that kung fu, especially advanced forms, should remain in China and that foreigners should not be granted such honors as, for example, admission as internal students [Jacoby 2016: 377, 381; Szymankiewicz 2012: 7-8; Braksal 1991: 23].

Problem and aim. The purpose of this presentation is to highlight situations in which attempts at confrontation between Chinese and Polish students occurred during training or because of provocation, also after the training sessions. It is important to distinguish these situations from sparring, which is a component of traditional martial arts and in which Polish students also participated.

Methods. The author conducted 14 interviews between 2019 and 2022 as part of the research for the monograph *Journey to the East: Polish Martial Arts Tourism to China at the Turn of the 20th and 21st Centuries*. Seven interviews were conducted remotely due to the COVID-19 pandemic and the restrictions in place at the time; the remaining interviews were conducted at the respondents' homes.

Results. It is evident that Chinese masters welcomed Polish students, who often came to them on recommendation; there were also situations where, for example, a master would spot a Pole at a competition and invite him to join his school. These were not, therefore, people who ended up at a Chinese school by chance. While Chinese masters readily accepted new students from Poland and often incorporated them into the "Chinese *kung fu* family," some Chinese students frequently remained reserved, and at times displayed a desire to prove that they were the superior practitioners and that they deserved priority, for example, in determining the style's successor. There were instances of provocation, as well as displays of hostility, which the master's or senior students had to defuse. These should be distinguished from the traditional "testing of skills," which is an integral part of Chinese martial arts, where hierarchy is also tied to the outcome of internal competitions among practitioners—and in which Poles also participated, accepting this as a form of training.

Conclusion. According to the respondents, Chinese students liked to dominate during training sessions because they believed that the Chinese were, by nature, the guardians of traditional Chinese martial arts. There were instances where Chinese competitors were given preferential treatment at competitions in China. They emphasized, however, that in traditional schools, Chinese masters often looked to foreigners as the heirs to their styles, and they also offered them entry into the so-called "inner circle" of students, which is a great honor but also a responsibility in Chinese martial arts culture. Many Chinese students did not see Polish practitioners as a threat to their positions; respondents noted that for most of their Chinese peers, they were simply equal partners.

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Why They Begin and Why They Stay: Biographical Meanings, Agency, and Long-Term Commitment in Krav Maga

Problem. Research on martial arts participation can identify what practitioners say they seek from training, but it tells us less about how such motives become meaningful within lived experience and develop over time. Studies of martial arts and self-defense training report motives related to self-protection, fitness, confidence, and personal growth [Follo 2022; Körner *et al*. 2017]. Yet the same stated motive, such as "learning self-defense", may reflect different personal histories and experiences of threat or vulnerability. For this reason, motives for beginning *Krav Maga* need to be understood not only as individual preferences, but also as meanings shaped by lived experience and changing personal needs. Krav Maga is a particularly relevant context for examining this relationship because of its practical orientation toward real-world threats. The present study therefore examined how biographical meanings shaped entry into Krav Maga, how practitioners understood their choice to train, and how training experiences supported their long-term commitment.

Method. The qualitative study included 12 long-term Krav Maga practitioners, six women and six men, each with at least six years of continuous training. Participants were recruited through Krav Maga training centers, social networks, and snowball sampling. Semi-structured interviews explored biographical experiences relevant to training, including significant life events, previous sport participation, experiences or fears of threat and vulnerability, reasons for beginning Krav Maga, training experiences, motivations for continued participation, and perceived effects on everyday life. Data were analyzed through qualitative content analysis, repeated coding, categorization, and constant comparison, with attention to links between biography, perceived needs, learning processes, and long-term adherence. Ethical approval was obtained before data collection, and all participants provided informed consent.

Results. Four interrelated themes were identified.

The first theme, **active responsibility for one's own fate**, captured a broad orientation associated with both choosing and continuing Krav Maga training. Participants described training as a practical way of taking responsibility for their own safety, capability, and confidence in situations of potential threat. Although earlier encounters with violence, threat, or vulnerability were not necessarily presented as the sole or direct reason for beginning Krav Maga, such experiences appeared across participants' narratives and helped illuminate why self-defense training became personally meaningful. Men commonly referred to physical confrontations during childhood or adolescence. Women described experiences or fears connected to sexual harassment, unwanted physical contact, and vulnerability in everyday situations. Across these different biographies, Krav Maga was understood as a way of strengthening one's capacity to respond, cope, and act, rather than remain dependent on avoidance, luck, or external protection.

The second theme, **structured and challenging learning as a basis for persistence**, concerned features of the training experience that supported continued participation. Participants emphasized progressive learning, methodological coherence, variety, challenge, and a clear sense of advancement. Visible progress and growing competence were central to their accounts.

Long-term commitment therefore appeared to be shaped not only by what practitioners sought from training, but also by how the discipline was taught and learned.

The third theme, **Krav Maga as a multidimensional resource**, described the range of physical, emotional, and social meanings that supported continued participation. Participants valued training not only for self-defense, but also for improved fitness, strength, bodily capability, release of tension, calmness, and vitality. They also emphasized relationships with training partners, group belonging, trust, and meaningful social interaction. Several linked training to greater self-confidence, assertiveness, self-respect, and composure during interpersonal conflict. In this sense, long-term commitment was supported by the way Krav Maga combined bodily challenge, emotional regulation, and social connection.

The fourth theme, **Krav Maga as a meaningful life skill**, captured the way long-term training became integrated into practitioners' broader sense of how to live and act in the world. Participants no longer described Krav Maga merely as exercise, leisure, or a set of defensive techniques, but as an embodied orientation toward everyday life: noticing situations, setting boundaries, remaining calm under pressure, and trusting their capacity to act when needed. In this sense, years of training transformed self-defense from an activity practiced in the dojo into a practical sense of preparedness, responsibility, and agency in daily life. Several participants therefore suggested that such skills should be made more accessible, including through educational settings.

Conclusions. The findings suggest that long-term Krav Maga participation is better understood by moving beyond static lists of motives. Similar stated motives may acquire different meanings against the background of different biographical experiences. Across participants, choosing and continuing Krav Maga was described as part of a broader effort to take active responsibility for personal safety, physical and mental capability, and coping with challenging situations. Experiences of violence, threat, and vulnerability shaped this process differently, but did not fully define it.

Long-term commitment was also supported by pedagogical structure, meaningful challenge, visible progression, experiences of competence, and social belonging. Over time, however, Krav Maga became more than an activity participants continued to attend. It became part of how they understood themselves: as people who are more prepared, more capable of setting boundaries, more able to remain calm under pressure, and more responsible for their own capacity to act. These findings may help instructors and martial arts organizations distinguish between factors that bring practitioners into training and those that support long-term adherence and deeper personal identification with the practice.

Although the study is limited to experienced Krav Maga practitioners, it raises an important question for future comparative research on martial arts participation: how different training cultures, instructional structures, communities, and practical orientations shape the relationship between biography, entry into training, sustained commitment, and the integration of martial arts into practitioners' sense of self.

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The significance of acquiring competencies through travel for practitioners of various forms of fighting arts

Key words: fighting arts, martial arts studies, martial arts tourism

Background. Practitioners of various types of martial arts expand their competencies through domestic and international trips. This activity falls within the scope of the broadly defined "Martial Arts and Combat Sports Tourism" [Cynarski 2020]. The “martial arts tourism” or "tourism of martial arts" - it is about travelling of passionate for gaining knowledge and skills in martial arts [*cf*. Cynarski, Duricek 2014; Cynarski 2015; Sieber, Cynarski, Mytskan 2015; Błach, Świder, Sieber 2020; Kubala 2020; Swider *et al*. 2022].

Aim. The aim of the study is to determine whether practitioners of various martial arts and combat sports frequently participate in such off-site training sessions and to identify the motivations behind these activities. Additionally, the study seeks to establish the primary motive for such trips—specifically, which competencies are being sought.

Methods. The primary research method employed was a diagnostic survey. The main technique used was a questionnaire comprising 16 core questions and 6 demographic questions. The study was further supplemented by interviews and a detailed review of the relevant literature. A total of N=300 individuals, representing eight martial arts disciplines and combat sports, participated in the study.

Results. The study provides a basis for further analysis. The specific types of martial arts and combat sports practiced, as well as gender, fundamentally influence the choice of competencies acquired. The study population consists of 300 individuals, with women making up 33.6% of the group. Some disciplines are almost entirely dominated by men—such as MMA (90%), kickboxing (90%), and Jujutsu (75%)—while in others, women slightly outnumber men, specifically in Krav Maga (55%) and Judo (55%). Karate is the most popular discipline, consisting of 20% of the study population, with an even gender split. In this case, participation in training camps or seminars stands at 66% for men and 80% for women. The primary factor discouraging men from traveling to competitions and training events is the fear of failure, whereas for women, it is the cost of travel. However, the main motivation for traveling in both groups is the pursuit of higher technical ranks.

Conclusion. For practitioners of various forms of martial arts and combat sports, traveling to acquire competencies is primarily driven by the desire to gain new knowledge and skills and to achieve higher technical ranks; the main barrier, however, is the cost associated with these activities. Ultimately, the feasibility of such activities is determined by the specific requirements of each discipline.

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On sport, martial art and human violence from perspective of cultural anthropology, sociology and history

Key words: sport, violence, aggression, martial art, *Jixiao Xinshu*, Bubishi, self-defense, sport fight, art of self-defense, vector analysis

Introduction. Basically, there are three sorts of fighting: war, sport fight and self-defense. Author made the definition – description of sport fights based on power, durability and skill on one side and on other side martial art of self-defense based only on skills and knowledges. According to the author, the human need for violence is one of the reasons for the differences between sports and original martial arts.

Aims. The aim of the research was to define what is sport and what is martial art and if the human need for violence is reason that they differ so much.

Method. For the research, the author used a qualitative method. His goal was to use the research to gain understanding of a human approach to understanding and explanation of martial arts.

Author metaphorically followed Chinese proverb: if you stay enough time in one place all people will come to you. Therefore, author opted 25 years for probabilistic sampling i.e. completely random in absence of pattern, structure, or predictability as he was getting in touch with other martial art artist by chance. Author obtained his conclusions through research based on various sciences such as history, anthropology, psychology, philosophy, kinesiology, acupuncture, mathematics, physics and vector analysis.

Author focused on Chinese martial arts because from others there is nearly no written pre twenty century documents mostly not discovering much. Author searched for texts more than 20 years and did not find other valuable pre 20th century text then *Jixiao Xhinshu* and *Bubishi* which both have Chinese roots where the only exception is Nicolaes Petter *Worstel konst*. There is no original source document from Japan with date earlier than beginning 20th century.

To understand drawings and symbolic texts in both books author used content analysis focused on written and visual objects and the repetitive patterns present in them, relying mainly on indirect information, as texts and drawings are made in a way that is incomprehensible to "ordinary" observers. To understand writings and drawing author made at first his dictionary of Chinese symbols, myths, words, stories and other meanings. In doing so, he devoted himself to conceptual analysis.

Results and Discussion. Difference between sport fight and real-life fight could be best understood by observing how a lioness hunts a bull in nature and how a bull in the ring kills a lion. The lioness uses her hunting art knowledge and the open space to win. In the ring, a limited place where there is no retreat, the bull wins through brute force.

Several authors wrote about human need for violence. Human beings have innate tendency to exhibit violence behavior [Itumo 2014]. So elemental is the human need to endow the shedding

of blood with some great and even sublime significance that it renders the intellect almost entirely helpless [Van Creveld 1991]. Freud made conclusion that there is some dark flaw in the human psyche, a perverse desire to destroy, countering eros and the will to live (Freud as cited in: [Ehrenreich 2020]). Need for violence is even introduced to sacral rituals [Ehrenreich 2020]. Violence is lower among nomadic peoples [Phelan 2022], therefore cruel gladiator fights arose in the ancient, overpopulated city of Rome.

When Europeans started at end of the nineteenth century to engage with sport again, they introduced Agon and Ludus [Huizinga 2003]. Agon means equality of fighters and Ludus are the rules that prolong fights to satiate need for violence and set rules for fair play, "civilized" fighting (Fig.1), like twelve Queensberry rules for boxing (Queensberry, 1867).

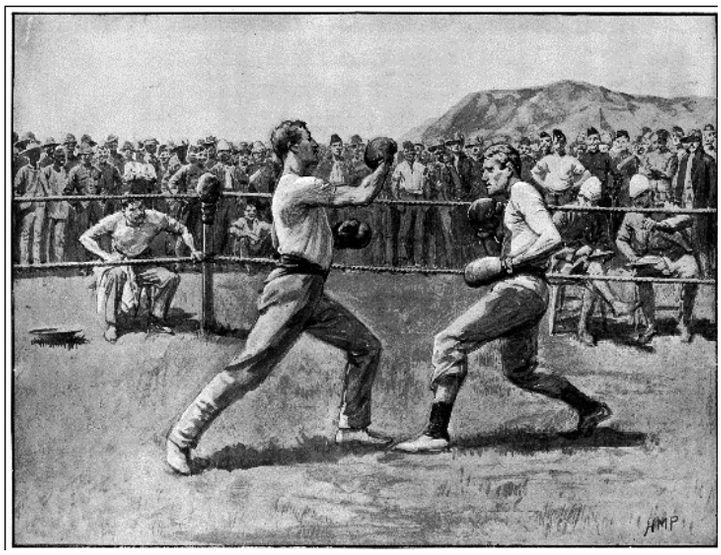


Figure 1. Civilized fighting.

Note: Duncan painting (1890).

Understanding of original martial art begins with fact that weaker person needs to learn and know self-defense because only stronger person attacks.

In *Jixiao Xinshu* it is written that unarmed – empty hand techniques (Kara Te 空手) are meant for those who cannot be strong, which is confirmed trough drawings (Fig. 2), where "fighters" are adult or older age, have small breasts, belly and no muscles on their hand.

These drawings are not symbolic but exactly presenting the most important position in each self-defense action and are accompanied with poetic-mystic text (Fig. 4) using Chinese symbols, myths, mythology and perceptions accepted in Chinese culture of those times and are therefore understandable only to knowers of Chinese culture and history.



Figure 2. *Jixiao Xinshu* and *Bubishi* "Warrior".

Note: Drawing extracted from *Jixiao Xinshu* (16th century) and the general Tian *Wubeizhi*: the *Bubishi* in Chinese martial arts history (2016).

There are three levels of real-life fight, i.e. self-defense: policy, strategy and tactics.

Policy can be found in *Yin* and *Yang* principle.

Strategy can be found in Chinese philosophy (Sun, 5th century), authors of six rules [Šefer 2013], and vector analysis which are especially important because they have base in exact science of mathematics and physics what make these results indisputable.

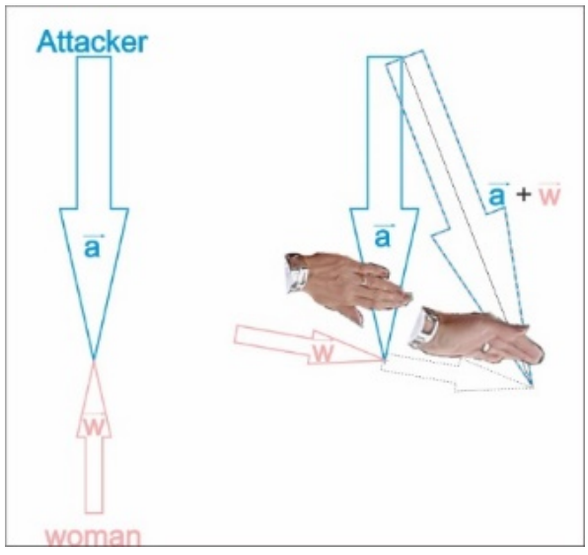


Figure 3. Vector analyses.

Note: Made by author.

Tactics can be found in pre–sport era books. In those books are drawings of warriors and symbolic texts understandable only to those who are familiar with original martial art, Chinese philosophy, history, and mythology. The author managed to explain all the posters which enabled him to understand original martial art.



懶扎衣、出門架子、變
下勢、雲步、單鞭、對敵
若無膽、向先空、自眼
明手便、
金雞獨立、顛起、裝腿
橫拳、相兼、搶背臥牛
雙倒、遭着叫苦連天、

Figure 4. *Jixiao Xinshu*, verse no. 1.

Note: Poster extracted from *Jixiao Xinshu* (16th century).





Article 27: Zheng's Twenty-Four Iron Hand Applications and White Monkey Style

鄭二伯

鄭二母

鉄沙手法應手四變化

白猿手法應手四轉身

There is no explanation to accompany this illustration. However, it does say "Aunt and Uncle Zheng." I assume that they are in some way related to Zheng Lishu (see Article 1, p. 97). In the Chinese ranking system, terms like big brother and uncle are used to denote seniority. (TR)

Figure 5. *Bubishi* drawings.

Note: Drawings extracted from Nissan [2016] and McCarthy [2008].

Conclusion. Humans are inclined towards violence and urge to inflict pain to others what prevents them to understand the original martial art meant for self-defense.

In sports, fighters of the same weight fight for several rounds following rules that prevent them from seriously injuring themselves to satisfy the need for violence of the spectators who have paid to see their painful and bloody performance.

Most obvious difference between fighting sports and martial art of self-defense is that sport fighters fight face to face causing each other pain for several rounds. As opposed to sportsman, martial artists defend themselves by assuring their own invulnerability and then knock out or kill attacker with minimal efforts as fast as possible.

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Exploring the Relationships between Body Composition Indexes and Physical Performance in Youth Judokas

Key words: combat sports, body morphology, training, testing, development

Introduction. Body composition is a key determinant of judo performance. In youth judokas, regular monitoring is particularly important because growth, biological maturation, and training continuously influence physical development and performance [Šimenko *et al*. 2024]. In addition to conventional body composition measures, several body composition-derived indexes obtained from bioelectrical impedance analysis (BIA), including the Protein–Fat Index (PFI), Fat-Free Mass Index (FFMI), Fat Mass Index (FMI), Protein Mass Index (PMI), and Skeletal Muscle Mass Index (SMMI), have been proposed as complementary indicators of athletes' morphological status [Dopsaj *et al*. 2017, 2020]. Therefore, the aim of this exploratory cross-sectional study was to examine the relationships between selected body composition indexes and physical performance in youth judokas.

Methods. The study involved 14 youth judokas from the U16 age category (12 boys and 2 girls) (age 14,7±0,85 years; body_height_1,72±0,09 m; body_mass_68,3±14,4_kg). They have been training in judo for 7,9±2,1 year and hold a 2±0,9 kyu belt. All participants were free of any musculoskeletal injuries. Body height was measured using a GPM anthropometer (GPM, Switzerland), while body composition was assessed by bioelectrical impedance analysis using the InBody 720 (Biospace Co., Seoul, South Korea) according to standardised measurement procedures [Dopsaj *et al*. 2017] to analyse the following variables: body mass (kg), skeletal muscle mass (SMM, kg), body fat mass (BFM, kg), fat-free mass (FFM, kg), and protein mass (PM, kg). Based on these variables, the following body composition indexes were calculated: PFI, FFMI, FMI, PMI and SMMI. PFI was calculated as the ratio between protein mass and body fat mass (kg/kg), whereas FFMI, FMI, PMI, and SMMI were calculated by dividing fat-free mass, fat mass, protein mass, and skeletal muscle mass, respectively, by height squared ($kg \cdot m^{-2}$) [Dopsaj *et al*. 2020]. Handgrip strength was measured using a Jamar Plus+ Dynamometer (Patterson Medical, Warrenville, IL, USA). Three maximal trials with each hand were done while the highest value achieved with each hand was retained, and the average of the highest dominant and non-dominant hand values was used for statistical analysis. Seated medicine ball throw was assessed over three maximal trials using a 5-kg (males) or 3-kg (females) medicine ball. The longest throwing distance was retained for analysis. Squat jump (SJ) and countermovement jump (CMJ) performance were assessed using a tensiometric force plate following standardized testing procedures. Three maximal trials of each jump were performed, and the best result was used for statistical analysis.

Results. Table 1 presents that the Handgrip strength was positively correlated with the fat-free mass index (FFMI) (r_s=0.626, p=0.017), protein mass index (PMI) (r_s=0.622, p=0.018), and skeletal muscle mass index (SMMI) (r_s=0.622, p=0.018). No significant association was observed between handgrip strength and the protein–fat index (PFI) or fat mass index (FMI). The squat jump (SJ) demonstrated a moderate positive correlation with PFI (r_s=0.642, p=0.013),

whereas no significant relationships were found with FFMI, FMI, PMI, or SMMI. Countermovement jump (CMJ) showed a very strong positive correlation with PFI (r_s=0.873, p<0.001) and a strong negative correlation with FMI (r_s=−0.684, p=0.007), while its associations with FFMI, PMI, and SMMI were not statistically significant. Medicine ball throw performance was positively associated with FFMI (r_s=0.660, p=0.010), PMI (r_s=0.673, p=0.008), and SMMI (r_s=0.673, p=0.008), whereas no significant correlations were observed with PFI or FMI.

Table 1. Correlational table of body composition indexes with selected strength tests.

Index descriptive stats			Correlation with Indexses			
Index	**Mean**	**SD**	**Handgrip**	**SJ**	**CMJ**	**Medicine Ball Throw**
PFI	1,94	1,25	–	**0.642***	**0.873****	–
FFMI	19,50	2,16	**0.626***	–	–	**0.660***
FMI	3,41	4,48	–	–	**−0.684****	–
PMI	3,86	0,44	**0.622***	–	–	**0.673****
SMMI	10,96	1,37	**0.622***	–	–	**0.673****

PFI = Protein–Fat Index; FFMI = Fat-Free Mass Index; FMI = Fat Mass Index; PMI = Protein Mass Index; SMMI = Skeletal Muscle Mass Index. * $p < 0.05$; ** $p < 0.01$.

Discussion and conclusion. The findings suggest that body composition indexes reflect different aspects of physical performance in youth judokas. PFI was most strongly associated with lower-limb explosive performance, whereas FFMI, PMI, and SMMI were primarily related to upper-body strength and power. The negative association between FMI and CMJ further highlights the importance of maintaining a favourable body composition for optimal performance with low body fat. Although limited by the small sample size, these preliminary findings indicate that body composition indices derived from routine bioelectrical impedance analysis may serve as a practical, non-invasive tool for monitoring physical development and performance in youth judokas. Future studies should confirm these relationships in larger cohorts.

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Learning Formats and Contest Modulation in Budo in School Physical Education

Key words: *Budo*, school physical education, contest, test, otherness, learning formats

Problem. Competition in school physical education can motivate challenge and skill development, but it has also been associated with negative experiences such as humiliation, exclusion, inferiority, and avoidance of participation. Therefore, how competition should be handled is an important normative issue in school physical education. However, when examining this issue, it is necessary to distinguish whether the target of avoidance or suppression is contest as win–loss comparison and comparison of superiority, or the relation to others and interpersonal learning itself. For example, Japanese school physical education is, in principle, compulsory, and students cannot always freely choose whether to participate in competitive activities. Therefore, the issue is not simply whether competition should be introduced or eliminated, but how contest is positioned within lessons. Kretchmar's distinction between test and contest is useful for clarifying this issue because it distinguishes test as task achievement or self-challenge from contest as comparison of superiority with others [Kretchmar 1975; Kretchmar 2019]. Aggerholm *et al*. proposed four normative positions toward competition in physical education—AVOID, ASK, ADAPT, and ACCEPT—but what AVOID is meant to avoid or suppress remains insufficiently specified [Aggerholm *et al*. 2018]. This study aims to clarify how differences among learning formats in Budo—kata, interpersonal skill practice, and matches—change the positioning of contest, using Budo in Japanese school physical education as a case.

Method. This study employs conceptual analysis and normative examination based on the literature. First, it uses Kretchmar's test/contest distinction to clarify the scope of competition that becomes problematic in school physical education. Second, referring to Aggerholm *et al*.'s discussion of AVOID, it distinguishes between the suppression of contest and the elimination of the relation to others itself. Third, it examines Budo in Japanese lower secondary school health and physical education as a case. Based on descriptions of offense and defense, and winning and losing during Study [MEXT 2018], it analytically distinguishes three learning formats in Budo: *kata*, interpersonal skill practice, and matches. It then examines how otherness and contest are related in each learning format.

Results. The analysis shows that the three learning formats in Budo have different characteristics regarding the positioning of contest. First, matches are the format in which contest is most likely to be foregrounded because winning and losing are made explicit. In this format, the other is easily positioned as an opponent in a comparison of superiority, and win–loss comparison may occupy the center of the learning experience. Second, interpersonal skill practice includes bodily interaction with an opponent or partner, but it does not necessarily require the determination of winning or losing. Learning such as distance, timing, and response to movement can be structured as skill acquisition or task achievement while still involving relation to others. Third, kata can be understood as action directed toward a presupposed other, even when no opponent is physically present. In this respect, kata can preserve otherness while weakening or suspending win–loss comparison. Therefore, the presence of another person, or action directed toward another, does not in itself mean contest. The key issue is whether

winning and losing, or comparison of superiority, becomes the central organizing principle of the lesson.

Conclusions. By distinguishing kata, interpersonal skill practice, and matches, this study presents a simple conceptual framework for considering contest modulation in Budo within school physical education. AVOID should not be understood as a position that rejects competition in general or eliminates all relations with others. Rather, it should be understood as suppressing situations in which contest, as win–loss comparison and comparison of superiority, dominates the learning experience. The educational significance of Budo lies in its capacity to vary the intensity of contest according to learning format while preserving relations with others. Kata shows the possibility of weakening contest without losing otherness, because it can be understood as action toward a presupposed other. Future research should examine whether this framework can also be applied to other interpersonal activities and combat-sport-related teaching materials in school physical education.

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The Encounter of Zen and Tao in Jikishinkage-ryu Kenjutsu: The Philosophical Foundations of a Classical Japanese Sword Fighting Tradition

Key words: fudoshin, in–yō, hojo no kata, aun breathing, kamae system, martial arts pedagogy

Background and Problem. Kashima Shinden Jikishinkage-ryu is one of Japan's oldest surviving classical sword-fighting schools (koryu), characterized by a profound integration of technical, philosophical, and pedagogical dimensions [Vida 2014; Friday, Humitake 1997]. Its doctrinal framework draws on three religious-philosophical traditions: Zen Buddhism, Taoism (Daoism), and Shinto, although Zen and Taoism do the heaviest interpretive work within the school's teachings [Hall 1983]. The esoteric transmission materials disclose a layered conceptual world in which the disciplining of the mind and the ordering of cosmic forces are not supplementary to swordsmanship but constitutive of it [Suzuki 1959; Draeger 1973]. This study asks how these two traditions intersect in the technical and secret teachings of Jikishinkage-ryu, and what that intersection reveals when approached through the lenses of martial arts pedagogy and anthropology of physical practice [Cynarski 2009].

Methods. This study draws on qualitative, hermeneutic, and thematic text analyses. The primary sources are the author's monographs and translated densho (transmission scrolls) covering the school's history, kata system, breathing techniques, and esoteric teachings [Vida 2008, 2014]. The analysis was organised around four variables: Zen-related concepts and pedagogical principles, Taoist elements, their technical expression in the kamae and kata systems, and the anthropological and pedagogical implications of the practice.

Results. However, the material does not support a clean separation between these two traditions. Within the school's teachings, Zen and Taoism function less as distinct doctrinal layers than as conceptual fields whose boundaries are consistently blurred. The Zen dimension is most directly traceable in the ideal of fudoshin — the unshakable mind — in the deliberate erosion of ego-driven response and in the cultivation of concentrated awareness; Yamada Jirokichi himself named these not as preparatory virtues but as the terminal goals of swordsmanship. The Taoist dimension manifests in the in–yo (yin-yang) polarity, which structures the kamae pairs, as well as in the correspondence of the five elements assigned to the basic defensive stances: jodan (fire), hasso (wood), waki (metal), seigan (water), gedan (earth). These correspondences are not merely symbolic but determine the logic of combat positions. Hojo no kata holds cosmological significance, corresponding to seasons, times of day, and life phases. Aun breathing serves as both a technical tool and a spiritual practice, symbolising birth-death polarity, aiding mind emptying, and enhancing combat presence.

Discussion and Conclusions. Jikishinkage-ryu's doctrinal coherence is not based on a neat division between Zen for mental cultivation and Taoism for cosmological structure. Fudoshin is both a Zen ideal and a precondition for the in–yo responsiveness of the kamae system, while aun breathing is both meditative and Taoist in cosmological terms. Densho does not show a synthesis of two systems but a tradition where their contributions are inseparable [Herrigel 1953; Suzuki 1959]. Our analysis suggests that this system could be an integrated form of embodied practice and philosophical thought [Cynarski 2009; Draeger 1973]. Anthropologically, Jikishinkage-ryu differs from modern martial sports in several ways. This system exemplifies an Asian martial tradition in which technical and philosophical formation

are a single process [Farrer, Whalen-Bridge 2011]. The kata are not just mnemonic devices but transmit an understanding of the mind, cosmos, and relationships — an understanding inseparable from practice. Each sequence engages posture, breath, timing, and spatial relations in ways that rehearse Zen and Taoist principles bodily, not intellectually.

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ABSTRACTS OF DEMONSTRATIONS AND WORKSHOPS
(IN ALPHABETICAL ORDER ACCORDING NAMES OF FIRST AUTHORS)

GALA OF MARTIAL ARTS DEMONSTRATIONS

Artur Krzyżanowski

Sensei, 9 dan *karatedō* (*Shōtōkan*), 6 dan *kobudō*, 5 dan *iaidō*, Poland;

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Kobudō kata **demonstration**

Artur Krzyżanowski (*bō, nunchaku, sai, iai*); Oktawian Szubert (*iai*)

Kata Kongo no Kon – Diamentowy Kij (Piorunujący Kij, Niezniszczalny Kij, Kij Prawdy, Starszy Kij Shushi – Koshiki Shushi nu Kun czy Kij Serca – Kokkoro no Kon). Kata opracowane przez mistrza Taira Shinken (1897-1970), poprzez kompilację różnorodnych technik, którego celem jest rozwijanie silnej, niewzruszonej, *niezłomnej* techniki, w tradycyjnym przekazie. Koncentruje się na treningu praktycznej obrony i ataku, kładąc nacisk na silne, *adamantynowe*, stabilne techniki, gwałtowne, dynamiczne przejścia i zaskakujące zmiany kierunków ataku wyprzedzającego, często z pominięciem bloku, a także techniki o charakterze izometrycznym. Praktykowanie tej formy oprócz nauki taktyki *złamania ducha przeciwnika,* ma na celu uczynienie adepta niezłomnym mentalnie i *niezniszczalnym* w walce.

Kata Isshin no Nunchaku – jedna z nielicznych okinawskich form, która nie została ujęta w ścisłe, sztywne ramy, co pozwala na różne jej modyfikacje pod warunkiem zachowania *szkieletu* i unikalnej mechaniki Kata. Stanowi formę, która zawiera techniki, opierające się na metodzie *jednego serca* (Ichi Geki Hissatsu) – bezpośrednie, szybkie, gwałtowne ataki, efektywne bloki, harmonijne włączanie technik ręcznych i nożnych, zmierzające do natychmiastowego rozstrzygnięcia walki, które były udoskonalane od czasów inwazji klanu Satsuma na Okinawę w 1609 roku. Pomimo swojego agresywnego charakteru, Kata to stanowi część tradycyjnej okinawskiej sztuki obronnej.

Kata Chatan Yara no Sai – Kata Mistrza Yara z wioski Chatan. Forma opracowana przez Kitani Yara (1668-1756), uważanego za jednego z pierwszych Mistrzów, którzy rozpowszechnili sztuki walki na Okinawie. Wielu ekspertów twierdzi, że to właśnie Yara opracował najlepsze techniki Sai, które było jego ulubionym przyrządem. Jest jednym z najstarszych Kata wykonywanych tą bronią i jak wiele dawnych form poddawane było wielu wpływom, co skutkowało powstawaniu różnych jego wariantów. Charakterystycznym elementem tej formy, stanowiącym o jej skuteczności jest zaadaptowanie technik walki wręcz do ruchów wykonywanych z Sai.

Mugen Shintoryu Iaijutsu – prezentacja wybranych Kata z grupy Tachi, Handachi i Zagi wraz z ich interpretacją w formie dynamicznej stylu *Nieskończonego Miecza* – ponad

czterystuletniego systemu władania mieczem rodu Aizu – klanu samurajów z gór Takeda. Techniki Mugen skodyfikował Yamamoto Ittosai Kakuyoshi, uczeń ostatniego samuraja klanu Aizu – Sokaku Takeda Minamotono Masayoshi mistrza Daito Ryu Aiki Jujutsu i Aiki Ken Jutsu. System został wpisany do rejestru tradycyjnych japońskich sztuk walk pod numerem 54, a w Polsce zaszczepił go Tsutomu Ittosai Iwakuma, który dzięki swojemu ogromnemu zaangażowaniu promuje system w Europie.

Leonard Marynowski

Signum Polonicum, Wrocław (Poland)

5th dan in Polish Sabre Fencing, instructor of *Signum Polonicum*

The Circle of Palcaty Fighters: From Structured Formation to Full-Circle Combat

The fifteen-minute demonstration presents a progressive training method rooted in the Polish tradition of palcat fencing. Performed by six or seven practitioners, the presentation develops through three spatial formations : a semicircle, a three-quarter circle, and a complete circle.

Each successive stage introduces more demanding technical and tactical tasks, gradually expanding the number of directions, threats, and possible responses. The sequence demonstrates the participants' development from controlled execution of fundamental offensive and defensive actions to increasingly complex applications requiring spatial awareness, timing, adaptability, precision, and composure under pressure.

The changing geometry of the formation makes the learning process clearly visible: technical competence evolves into tactical independence, while individual actions become part of a coordinated martial structure. The presentation combines the reconstruction and transmission of Old Polish martial heritage with a systematic approach to skill development.

The demonstration integrates historical interpretation, pedagogical methodology, martial credibility, and a concise performative form.

Jakub Pokojski

Signum Polonicum, Katowice (Poland)

5th dan in Polish Sabre Fencing, instructor of *Signum Polonicum*

The Polish Sabre Fencing

The Old Polish fencing demonstration will be conducted by the instructor of *Signum Polonicum* Katowice together with his students. Old Polish sabre fencing with a Polish combat sabre in historical costumes will be presented. The focus will be on showing the sabre ceremony, horse fencing, pedestrian fencing, elements of movement, Polish cross art and the use of two sabers in both hands and the techniques related to it. The show will present the saber fighting system taught in the *Signum Polonicum* Association.

The duration is about 15 minutes.

Mohamad Nizam Mohamed Shapie

ORCID: 0000-0002-3254-6943

Martial Arts & Combat Sports Research Network (AIRBORNE),

Faculty of Sports Science and Recreation, Universiti Teknologi MARA, Shah Alam, Selangor (Malaysia)

Malay Silat: Heritage, Art and Combat – A Cultural Performance from Malaysia

Performance Abstract

Malay Silat is one of Malaysia's traditional martial arts and an important expression of the nation's intangible cultural heritage. Beyond its function as a combat system, Malay Silat integrates martial effectiveness, artistic expression, traditional etiquette, philosophy, and character development. This cultural performance presents selected elements of the Malaysian Silat Curriculum (Level Five – Pesilat/Green Belt), demonstrating how traditional knowledge is preserved and transmitted through structured pedagogy and performance.

The presentation consists of five complementary segments that illustrate the progression from artistic movement to practical combat application:

1. Bunga Silat (2 minutes) – Demonstration of ceremonial and tactical movements performed with and without traditional weapons, highlighting posture, balance, coordination, rhythm, and combat readiness.

2. Jurus Silat (2 minutes) – Solo performance of structured movement sequences without weapons, demonstrating body mechanics, precision, timing, tactical footwork, and technical discipline.

3. Solo Weapon Performance (3 minutes) – Individual demonstration using traditional Malay weapons, showcasing technical control, weapon manipulation, fluid movement, and the principles of armed combat.

4. Gayung Pulut – The Art of Combat Silat (5 minutes) – A traditional paired performance illustrating the artistic dimension of combat through controlled exchanges, tactical responses, etiquette, mutual respect, and the cultural philosophy embedded within Malay Silat.

5. Buah Pukulan (3 minutes) – Practical combat applications featuring empty-hand techniques, locking (kuncian), counter-locking (pelepas kuncian), and selected

Malay Silat: Heritage, Art and Combat – A Cultural Performance from Malaysia by Assoc. Prof. Dr. Mohamad Nizam Mohamed Shapie applications with and without traditional weapons, demonstrating realistic self-defence principles and tactical adaptability.

Collectively, these demonstrations illustrate the unique integration of heritage, artistry, pedagogy, and combat effectiveness that characterises Malay Silat. Beyond presenting technical skills, the performance aims to promote intercultural understanding, preserve Malaysia's martial heritage, and highlight the educational value of traditional martial arts within contemporary society and the international martial arts community.

Performance duration: approximately 15 minutes

WORKSHOPS

Leonard Marynowski

Signum Polonicum, Wrocław (Poland)

5th dan in Polish Sabre Fencing, instructor of *Signum Polonicum*

The Circle of Palcaty as a Training Model in Old Polish Fencing

The workshop introduces the group exercise known as the **Circle of Palcaty** within the training paradigm of Old Polish fencing. The class will present Palcaty not merely as a historical weapon practice, but as a structured pedagogical tool for developing distance control, tactical initiative, striking mechanics, footwork coordination, and rule-sensitive decision-making in a dynamic training environment.

The instructor, Leonard Marynowski, is a 5th dan holder in Polish Sabre Fencing and an experienced instructor of Signum Polonicum Wrocław, specialising in the transmission of Old Polish fencing methods, sabre-related training systems, and historical combat pedagogy. The workshop will be supported by members of the Signum Polonicum Wrocław club.

The principal aim of the class is to familiarise participants with the basic assumptions of sabre-oriented combat training through the use of singlesticks, understood here as safe pedagogical substitutes for traditional palcaty. The exercise will focus on fundamental strikes, correct striking distance, elementary footwork patterns, basic tactical progressions, and the development of predesigned fencing solutions in a “one against many” teaching model. Particular emphasis will be placed on how the circular format modifies perception, timing, spatial orientation, and tactical pressure.

Participants will practise controlled offensive and defensive actions, with attention to safety, discipline of movement, and the functional logic of Old Polish fencing. The workshop is intended for participants holding at least a **2nd dan degree** or an equivalent level of technical and tactical competence in a recognised martial arts or fencing system.

Weapons and equipment: singlesticks / training palcaty provided by Signum Polonicum Wrocław for approximately 20–30 participants.

Level: intermediate to advanced; recommended minimum level: 2nd dan or equivalent experience.

Duration: 40 minutes.

Jakub Pokojski

Signum Polonicum, Katowice (Poland)

5th dan in Polish Sabre Fencing, instructor of *Signum Polonicum*

Workshop of Polish Palcat fencing

The workshop will be conducted by the instructor of *Signum Polonicum* Katowice together with his students as assistants, the topic will be an introduction to Old Polish sabre fencing along with the most important, iconic elements of the saber fighting system and a comparative demonstration of Old Polish sabre fencing with other styles of melee combat. The techniques will be learned individually and then move on to exercises in pairs. The exercises will be performed with an old Polish wooden training weapon – a wooden stick, i.e. a Polish Palcat. Combat postures on the ground, ceremonies, as well as movement will also be reworked. The level of the workshop will be from beginner to intermediate.

Duration approx.: 35 minutes.

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Malay Silat Combat Systems: Advanced Locking, Counter-Locking and Traditional Weapons



Instructor

Associate Professor Dr. Mohamad Nizam Mohamed Shapie is a martial arts researcher, educator, and practitioner specialising in Malay Silat, martial arts pedagogy, and combat sports science. He is an Associate Professor at the Faculty of Sports Science and Recreation, Universiti Teknologi MARA (UiTM), Malaysia, and founder of the Martial Arts and Combat Sports Research Network (AIRBORNE). Dr. Shapie has more than 35 years of experience in Silat practice and instruction and has published extensively on Silat education, coaching, performance analysis, and martial arts studies. He has conducted workshops, seminars, and demonstrations in Malaysia, Europe, East Asia, and Southeast Asia, promoting Malaysian Silat as both a cultural heritage and a contemporary martial arts system. He has also served as an expert panel member for the UNESCO International Centre of Martial Arts for Youth Development and Engagement (ICM), contributing to international initiatives in martial arts education and cultural heritage preservation. In addition, he serves as a Board Member of the International Martial Arts and Combat Sports Scientific Society (IMACSSS). He was the Chair of the IMACSSS International Conference held in Putrajaya, Malaysia, in 2020 and 2024, contributing significantly to the advancement of international martial arts and combat sports scholarship. In recognition of his international contributions to martial arts scholarship and practice, he was awarded the title of Expert Professor of Martial Arts by the European Martial Arts Committee in Rzeszów, Poland, and received the Golden Medal of Honour and Merit from the International Martial Arts and Combat Sports Scientific Society (IMACSSS) in 2022.

Workshop Goal

This workshop introduces participants to the pedagogical and practical foundations of Level Five (*Pesilat* – Green Belt) within the Malaysian Silat Curriculum. Level Five represents a critical stage in practitioner development, where students progress from fundamental movement competencies towards advanced combat applications involving locking techniques, counter-locking methods, tactical transitions, and traditional weapon systems.

The workshop aims to demonstrate how Malay Silat integrates technical proficiency, tactical adaptability, cultural knowledge, and character development within a structured educational framework. Participants will experience how advanced combat skills are progressively introduced through the concepts of control, leverage, timing, positioning, and adaptive response. The session will also highlight the relationship between traditional Silat knowledge and contemporary martial arts pedagogy, illustrating how heritage-based combat systems can remain relevant within modern training environments.

Workshop Content

The workshop will consist of a progressive sequence of practical exercises derived from the Malaysian Silat Curriculum:

Phase 1: Combat Control and Locking Systems

- Introduction to the principles of balance disruption, leverage, and body positioning.
- Application of selected standing locking techniques (*kuncian*) used to establish control over an opponent.
- Understanding structural weaknesses and directional control within close-range encounters.

Phase 2: Counter-Locking and Tactical Adaptation

- Escape methods (*pelepas kuncian*) against common locking situations.
- Tactical responses when control is lost or compromised.
- Development of adaptability through offensive and defensive role exchanges.
- Application of *sambut tangkap* principles during dynamic interaction.

Phase 3: Combat Transition and Integration

- Linking striking, locking, and takedown actions into continuous combat sequences.
- Understanding transition points between attack, defence, and control.
- Development of tactical decision-making under changing combat conditions.

Phase 4: Traditional Weapon Applications

- Introduction to selected principles involving the *keris, parang*, and *tongkat*.
- Understanding similarities between weapon-based and empty-hand movement patterns.
- Application of distance management, timing, positioning, and defensive responses using traditional weapons.

Phase 5: Pedagogical Reflection

- Explanation of how these technical components are organised within the Malaysian Silat Curriculum.
- Discussion on the role of Silat in cultural transmission, character formation, and lifelong martial arts education.

Throughout the workshop, participants will train in pairs under guided instruction and will be encouraged to experience both offensive and defensive perspectives. Safety procedures and progressive learning methods will be emphasised throughout all practical activities.

Learning Outcomes

Upon completion of the workshop, participants will be able to:

1. Demonstrate selected advanced locking techniques (*kuncian*) derived from the Malaysian Silat Curriculum.
2. Apply basic counter-locking and escape responses (*pelepas kuncian*) in controlled partner exercises.
3. Understand the tactical principles of leverage, positional control, timing, and combat transition.

4. Perform selected traditional weapon applications involving the *keris, parang*, and *tongkat.*
5. Explain how advanced combat skills are progressively taught within Level Five (Pesilat – Green Belt) of the Malaysian Silat Curriculum.
6. Recognise the relationship between martial arts pedagogy, cultural heritage preservation, and practical combat effectiveness in Malay Silat.

Edvard Šefer

Founder of Monk Art, Martial art school of self-defense based on *tang shou* and *kata* forms, IMACSSS division member for Sociology & Anthropology and Security & Self Defense division;

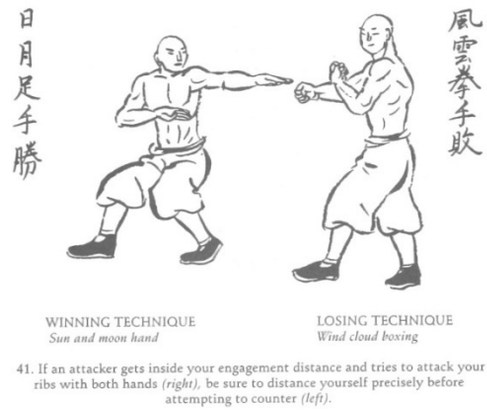
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Sun and the Moon Hand

Author found “Sun and the Moon hand” in Bubishi







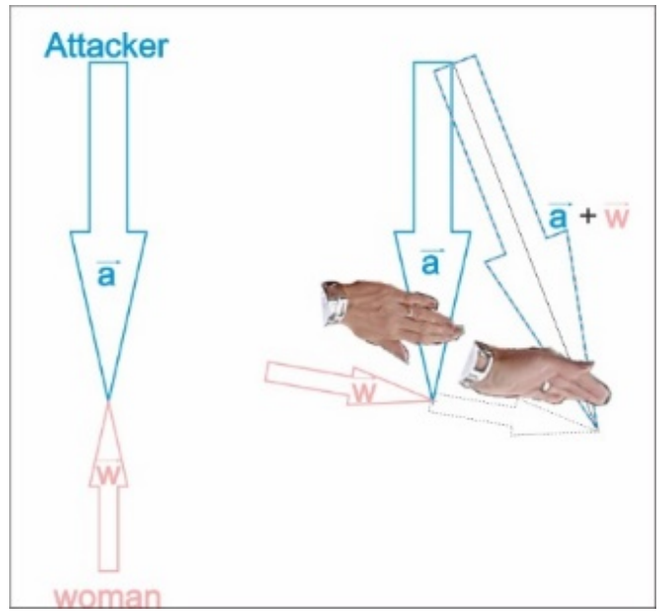
General Tien Bubishi Patric Mc Carthy Bubishi

Sun and the Moon hand is fundamental for understanding the martial art of Tang Show from which modern sport Karate had developed. This is biggest, most important, forgotten, lost and nowadays wrong performed knowledge. Knowing principles of Sun and the Moon hand and knowing how to perform it open the door to understanding the Kata and Art of Self-defense.

In sun and the moon hand there are included all sort of as today in Japanese language named with hand done *uke* forms what mean in everyday language receiving but in sport martial art it is translated as blocks.

Defender can perform block only in sport where Agon and Ludus are present but in real life where stronger attacker attack weaker defender block cannot be performed because to block something defender must be at least same size and, in most cases, even much heavier and stronger than attacker.

In original martial art defender receive and divert attacker force, because this can be done with much smaller energy and with no harm for defender body. Answer how to this can be found in vector analysis.



(Performing time: workshop up to 30 minutes)

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