

Report on the combat sports-related research at the 27th Annual Congress of the European College of Sport Science

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REVIEW

Abstract

This short report describes the combat sports-related research presented at the 27th Annual Congress of the European College of Sport Science (ECSS), as well as the special session about this topic at the event. The Annual Congress of the ECSS is one of the most important events in the field of Sport Sciences worldwide, bringing together some of the leading researchers in this area. In 2022, it was held in Seville, Spain, from August 30 to September 2. Although combat sports and martial arts have their own specific events and journals, it is important that research conducted on these topics be presented to a broader audience. This presentation can increase awareness among other scientists regarding the relevance of these topics which, in turn, may have a positive impact on obtaining grant for research and positions in universities. Therefore, this report provides a brief overview of the martial arts and combat sports-related investigations presented at this event, along with some strategies to increase their visibility.

Keywords: Martial arts; combat sports; conference; science; education; training.

Informe sobre las investigaciones en deportes de combate presentadas en el 27th Annual Congress of the European College of Sport Science

Resumen

Este breve informe describe los estudios sobre deportes de combate presentados en el 27th Annual Congress of the European College of Sport Science (ECSS), así como la sesión especial que se realizó sobre este tema. El Congreso Anual de la ECSS es uno de los eventos más importantes en el campo de las Ciencias del Deporte a nivel mundial, reuniendo a algunos de los investigadores más destacados en el área. En 2022, se celebró en Sevilla, España, del 30 de agosto al 2 de septiembre. Aunque los deportes de combate y las artes marciales tienen sus propios eventos y revistas especializadas, es importante que las investigaciones sobre estas prácticas se presenten a una audiencia más amplia, con el objeto de aumentar la conciencia entre otros científicos sobre su relevancia, lo que, a su vez, puede tener un impacto positivo en la obtención de subvenciones para la realización de investigaciones y plazas en universidades. Así, este informe describe brevemente las investigaciones presentadas en el evento, junto con algunas estrategias para aumentar su visibilidad.

Palabras clave: Artes marciales; deportes de combate; conferencia; ciencia; educación; entrenamiento.

Relatório sobre a investigações relacionadas aos esportes de combate no 27th Annual Congress of the European College of Sport Science

Resumo

Este breve relatório descreve as investigações relacionadas aos esportes de combate apresentadas no 27th Annual Congress of the European College of Sport Science (ECSS), bem como a sessão especial sobre este tema no evento. O Congresso Anual da ECSS é um dos eventos mais importantes na área das Ciências do Esporte a nível mundial, reunindo alguns dos principais investigadores nesta área. Em 2022, foi realizado em Sevilha, Espanha, de 30 de agosto a 2 de setembro. Embora os esportes de combate e as artes marciais tenham eventos e revistas específicas, é importante que as pesquisas sobre esses temas sejam apresentadas a um público mais amplo. Esta apresentação pode aumentar a conscientização de outros cientistas sobre sua relevância, o que, por sua vez, poderá ter um impacto positivo na obtenção de bolsas para pesquisas e vagas em universidades. Portanto, este relatório fornece uma breve visão geral das investigações relacionadas às artes marciais e aos esportes de combate apresentadas neste evento, juntamente com algumas estratégias para aumentar sua visibilidade.

Palavras-chave: Artes marciais; esportes de combate; conferência; ciência; educação; treinamento.

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1. Introduction

Scientific conferences, much like those organized today, began to take place in the 17th and 18th centuries, affording researchers the opportunity to discuss their discoveries and projects (Crosland, 1969). During that time this was the optimal way to interact, as letters and publications would take time to be disseminated, and scientists could dedicate their time to exchanging ideas with their peers (Mlodinow, 2016). Despite the technology now providing faster and easier forms of interaction among scientists, and notwithstanding some criticism regarding in-person meetings (Saribipour et al., 2021), researchers continue to actively participate in conferences.

In certain fields, such as Sport Sciences, the attendance count for significant events (for instance, the American College of Sports Medicine Annual Meeting and the Annual Congress of the European College of Sport Science) rarely surpasses 3,000. In more specialized gatherings, like Martial Arts and Combat Sports congresses, it is improbable for more than 500 individuals to take part. Nevertheless, the advantage of attendees being able to dedicate their full attention to the event, coupled with social activities that facilitate discussions and the emergence of new ideas, continues to foster collaboration. Consequently, in-person scientific events retain their significance.

Martial arts and combat sports-specific events, such as those organized by institutions like the International Martial Arts and Combat Sport Scientific Society, Japanese Budo Academy, Martial Arts Society, JORRESCAM, among others, offer a platform for research presentation and interaction among experts. However, these events might not effectively reach other scientists and stakeholders who play a role in decision-making for research grants and hiring processes within universities or research institutes. Consequently, the inclusion of martial arts and combat sports research in larger scientific events holds importance in increasing its visibility. Previous investigations have indicated that the majority of martial arts and combat sports research is conducted and published within the Sport Sciences field (Franchini et al., 2018). Thus, the objective of this report was to describe the martial arts and combat sports-related research presented at the 27th Annual Congress of the European College of Sport Science (ECSS), along with the invited session focused on this topic at the event. This description was based on the authors' experience during the event and on a search within the event's Book of Abstracts (Dela et al., 2022).

2. Research in Martial Arts and Combat Sports presented at the 27th Annual Congress of the European College of Sport Science

Table 1 presents the abstracts and topics published in the Book of Abstracts for the event. Most of the presented research investigated performance-related aspects, specially concerning Olympic and Paralympic athletes, but emerging themes such as neuroscience and injury prevention have also appeared. It is important to note that investigations were presented for all combat sports contested in Tokyo Olympic Games 2020+1, possibly indicating the attraction of sport scientists to Olympic sports. Additionally, given the number of abstracts presented, a dedicated session for combat sports could be considered. However, this approach might decrease the visibility of investigations in this area among sport scientists not involved with martial arts and combat sports. Therefore, a mixed approach (with a session featuring 4-5 abstract presentations and the integration in other sessions throughout the congress) could provide both the opportunity for specialists to convene during a specific moment of the congress, while still enabling the presentation this type of research to a broader audience. Figure 1 shows the frequency of each presentation mode.

Figure 1. Number of presentations related to combat sports and their presentation modes.

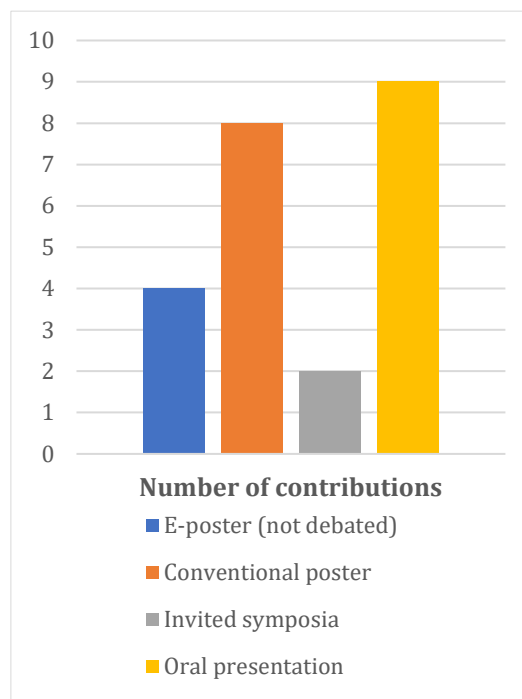


Table 1. Topics, titles, presentation formats and areas of abstracts related to combat sports/martial arts presented at the 27th Annual Congress of European College of Sport Science.

Topic	Title (Authors). Presentation Format/Session	Page
Combat sports	• Epidemiological data and persistence of clinical symptoms of covid-19 positive elite athletes. (Diebold K. et al.). <i>Oral presentation - Impact on exercise capacity, fitness and quality of life</i>	123
	• Combat sports performance optimization: Physiology, testing and rapid weight loss. (Divided in three presentations; see details in the text) (Franchini, E. et al.). <i>Invited symposia - Combat sports performance optimization: Physiology, testing and rapid weight loss</i>	215
	• Coaching judo for older adults: results from seven national focus groups. (Ciaccioni, S. et al.). <i>Oral presentation - Physical activity and education</i>	346
	• Vitamin d metabolites status, body composition and physical activity in healthy men and athletes. (Ksiazek, A. et al.). <i>Conventional poster - Vitamins and hydration</i>	374
	• Athletes' protection from concussion in different olympic combat sports. Let's start from the rules. (Arriaza, R. et al.). <i>Oral presentation - Injury Prevention</i>	429
	• Heart rate variability: how often and which protocol should we use in athletes? (Crongale, D. et al.). <i>Conventional poster - Cardiovascular physiology and regulation</i>	501
	• Differences in reaction times between open skill and closed skill sports using the bataipro, a crosssectional observational study. (Coocke, L. et al.). <i>Conventional poster - Sport Performance</i>	493
Martial arts	• Cognitive effects of exercise in children born preterm: neurocognitive mechanisms of martial arts. (Ludyga, S. et al.). <i>Invited symposia - Exercise, fitness, and brain health during childhood: from healthy to clinical population</i>	463
Judo	• Influence of the current score on the final result in judo fights. (Moussa, I. et al.). <i>Conventional poster - Equipment / Analysis</i>	145
	• Coaching judo for older adults: results from seven national focus groups. (Ciaccioni, S. et al.). <i>Oral presentation - Physical activity and education</i>	346
	• Effects of judo training on working memory capacity in children with adhd. (Ludyga, S. et al.). <i>Oral presentation - Cognition</i>	348
	• An exploratory study examining the relationship between session rate of perceived exertion and heart rate during judo specific conditioning in female judoka. (Cloak, R. & Lane, A. et al.). <i>E-poster not debated - Coaching</i>	539
	• Judo match exercise intensities in the judo weight divisions. (Santos, L. & Federolf, P.A. et al.). <i>E-poster not debated - Training and Testing</i>	603
Boxing	• Post activation performance enhancement of punch force and neuromuscular performance of amateur boxers following two punch-specific upper-body conditioning activities. (Finlay, M. et al.). <i>Oral presentation - Strength testing and training</i>	27
	• Key performance indicators in boxing: a 3d markerless protocol based on action cameras. (Pagnon, D. et al.). <i>Conventional poster - Upper extremity</i>	369
	• Understanding head impact exposure in male and female amateur olympic boxers. (Jones, C. et al.). <i>Oral presentation - Injury Prevention</i>	430
Taekwondo	• From the lab to the field: the relationship between inhibitory control and sports performance in taekwondo. (Hsieh, W.L. et al.). <i>Oral presentation. Psychology</i>	82
Wrestling	• Efficacy of covid-19 safety protocol at the 2021 wrestling european olympic games qualifier organized in Budapest. (Ambrus, M. et al.). <i>Conventional poster - COVID-19: Effects on sports and physical functions</i>	353
Fencing	• Fatigue induced by a simulated competition in elite world-class fencers. (Varesco, G. et al.). <i>Oral presentation - Immobilisation and fatigue</i>	466
	• Consumer virtual reality: from entertainment to motion analytics. (Nocent, O.). <i>Conventional poster - Equipment / Analysis</i>	144
	• Eye-tracking analysis during fencing fighting. (Kato, T. et al.). <i>E-poster not debated - Sport Technology</i>	590
Karate	• Types and severity of physical impairments of para-karate athletes (Augustovicova, D. et al.). <i>Conventional poster - Sport performance</i>	491
	• Reliability and correlation between two physical tests doing specific movements by parakarate athletes. (Villaceros-Rodríguez, J. et al.). <i>E-poster not debated - Training and testing</i>	614

3. Combat sports session - “Combat sports performance optimization: physiology, testing and rapid weight loss”

The Annual Congress of the ECSS considers invited session proposals in the year prior to the event. Each proposal must adhere to specific rules with the aim of ensuring the presentation of relevant topics and the inclusion of experts in the discussed field. Martial arts and combat sports have been featured in invited sessions a few times during this congress. However, considering the number of medals contested in these sports during the Olympic Games, the popularity of the professional combat sports events, and the number of individuals engaged in martial arts and combat sports practice (Franchini et al., 2018), this topic deserves greater attention in Sport Sciences congresses. In Seville, the Combat Sport session had three 20-minute presentations: one concerning “Combat sports physiology” by Emerson Franchini (University of São Paulo, Brazil), another on “Weight loss in combat sports: prevalence, magnitude, methods, physiological and performance responses” by Raquel Escobar-Molina (University of Granada, Spain), and a third on “Combat sports-specific tests” by José Morales (University Ramon Llull, Spain). These topics were selected due to their relevance and breadth, which could contribute to future discussions among those involved in martial arts and combat sports research. The session attracted a substantial audience and led to meaningful interactions between the audience and the presenters after the session

4. Final considerations and future directions

Even though a small number of abstracts, relative to the total presentations in the event, were related to martial arts and combat sports, it is feasible to allocate a dedicated session for this topic in a large-scale event like this. Furthermore, given the attendance at the session and the interest shown by others in the field, one of the presenters was approached by an ECSS fellow to suggest the creation of a combat sport special interest group within the ECSS, which was indeed established in 2023.

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Author's biographical data

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