SPECIAL EDITION

IJF ACADEMY

THE ARTS AND SCIENCES OF JUDO

AN INTERNATIONAL INTERDISCIPLINARY JOURNAL
Vol. 4 No. 2 2024

THE INVENTION OF OLYMPIC JUDO

„The Arts and Sciences of Judo“
Interdisciplinary journal of International Judo Federation

Vol. 4 No. 2 2024; ISSN 2788-5208 - Indexed in: ERIH PLUS, Google Scholar

AIMS AND SCOPE: “The Arts and Sciences of Judo” (ASJ) is a newly established international interdisciplinary journal of the International Judo Federation (IJF). It is a research journal that welcomes submissions related to all aspects of judo – kinesiology, psychology, economy, marketing and management, history, arts, technology, communication sciences and all other related fields. It is an international platform for presentation of innovative research and scholarly works and for expressing opinions and views on the development of judo, giving a significant contribution to an understanding of the theory and practice of judo. In that way “The Arts and Sciences of Judo” serves as a reference source for education, but it also offers possibilities for exchange of ideas and keeping up with the latest developments in judo. ASJ publishes academic papers (original scientific papers, preliminary communications, and review papers) and research notes, professional papers and critical reviews on relevant topics. All submitted manuscripts are subject to initial appraisal by the Editor, and, if found suitable for further consideration, to peer review by at least two anonymous expert reviewers.

PUBLICATION POLICY: International Judo Federation (IJF) supports open access policy that enables everyone to access the knowledge on judo and all its aspects through published research papers and other contributions. As costs of publishing are covered by the publisher (IJF), ASJ does not charge any fees to authors for submission or publishing their papers. Full texts is available free of charge on IJF website. The ASJ editorial policy strongly encourages research integrity, respect of human rights, respect of personal data and supports ethics in conducting research and academic communication. The ASJ is committed to peer-review integrity and upholding the highest standards of review.

Publisher: IJF Academy Foundation (Malta, Ta Xbiex)
Co-publisher: International Judo Federation (IJF)
Layout: Nicolas Messner, IJF Media
Front page: Nicolas Messner

Table of Contents

INTRODUCTION

By Michel Brousse - Guest Editor

For the generation of pioneers who developed Kano's method in Europe and the United States in the immediate post-World War II period, judo's inclusion in the Olympic programme was a crowning achievement. The long-confidential and marginal practice they had endeavoured to transmit was now on show to the world from its country of origin. Benefiting from extensive media coverage for the first time, judo struck a chord with the world, with results that were to prove unexpected and irreversible. For the Japanese people, after the disappointment of their supremacy dented by Akio Kaminaga's defeat in his final match, everyone knew just how much Anton Geesink was steeped in Japanese culture. Everyone recognised the deep respect for tradition in his gesture to repel the spectators who wanted to invade the *tatami* and celebrate his victory. For Westerners, the Dutch champion's victory was a beacon of hope. It made adventure possible. Far from being dispossessed from 'its judo,' Japan provided proof of a successful cultural transfer.

The 1964 Tokyo Olympic Games marked the dawn of a new era. They marked the internationalisation of judo and its transformation into a modern sport. Very quickly, the Japanese art of combat took on new spaces and new challenges. Confronted with other customs and cultures, it was sometimes adopted, sometimes transformed, sometimes criticised or belatedly appreciated, but above all increasingly practised. To follow the transformation of Kodokan judo is to highlight all the elements that distinguish modern sports from pre-sport forms. Allen Guttmann and Melvin Adelman draw up a precise list of the transformations, those characteristic of the change: the creation of national and international institutions, the establishment of rules, the setting up of an organised system of competitions, the multiplication and differentiation of roles, public information and the establishment of statistics and records.

The aim of this special issue of the Arts and Sciences of Judo is to shed light on the transformations that have taken place in practices, operating methods and decision-making. Tracking this evolution means considering a wide range of factors, from the role of institutions to the influence of political regimes on the objectives pursued and the cultural conflicts that are bound to arise. It also means appreciating the scientific developments and growing economic stakes that growth brings, while identifying the influence of contexts, so as to better place and assess the nature of individual contributions.

In 2007, the creation of the IJF World Tour and the alignment of judo with a model of professional media sport marked a further step. Another threshold has been crossed, which is worth noting, as it places judo and its champions on an equal footing, in terms of public recognition, with champions of other, better-known disciplines.

Pierre de Coubertin's motto "Citius, Altius Fortius" and Kano's "Best use of energy" and "Mutual aid and prosperity" illustrate the initial gap in terms of logic and concepts. However, an historical look at the evolution of both cannot ignore the

rapprochement that took place in 2021, when the Olympic Committee added “Communiter” (all together), to its motto. The contents of this special issue take this mutual evolution into account in presenting the relationship between judo and the Olympic movement over the long term.

Three areas are covered. The first concerns the gradual recognition of Kano's method in the world of modern sport. In other words, it deals with the invention of Olympic judo from the 1880’s to the 1960’s. Patrick Clastres discusses the relationship between Jigoro Kano and Pierre de Coubertin. Then, Tetsuya Nakajima studies the beginnings of ‘sport judo’ in the interwar period in Japan. The slow recognition of women's judo in Japan is discussed by Noriko Mizoguchi, and by Amanda Spenn and Mike Callan in Western countries. Michel Brousse then analyses the factors leading to the inclusion of judo in the Olympic programme.

The second part examines the relationship between judo and science, the transition from empiricism to scientific approaches. The growth of the sporting phenomenon and the increasing importance of competition have led to a specialisation of roles and a constant search for ways to optimise performance. Emerson Franchini examines the evolution of training methods. Jose Manuel Garcia y Garcia discusses transitions in the field of physical preparation. Luis Monteiro presents new fields of scientific study. A final text outlines the evolutionary logic of sport and refereeing regulations.

The final section brings together contributions relating to the evolution of judo today. Emanuela Pierantozzi presents the inclusive approach prevailing in the Kano method, addressing the problem of the place of judo in the context of the Paralympic Games. Lisa Allan and Larisa Kiss highlight current developments and requirements in the organisation of international events such as the Olympic Games and world championships. Vlad Marinescu takes an in-depth look at major advances in media and marketing over the last twenty years.

In conclusion, David Matsumoto and David Fukuda show the impact of judo's post-Olympic popularity on long-term club practice.

The Co-option of Jigoro Kano to the International Olympic Committee by Pierre de Coubertin (1909)

By Patrick Clastres

Abstract: *It was not self-evident that Pierre de Coubertin should turn to Jigorō Kanō in 1909 to make him an IOC member. At the time, he did not consider jiu-jitsu to be a sport and he knew very little about Kano's pedagogical and sporting activities. What interested him most was his position as director of the Higher Normal School in Tokyo and the fact that Japan had become a military power to be reckoned with in East Asia since its victory over Russia in 1905. At the time, Coubertin was looking for support to spread Olympism far from Europe and block the YMCA's influence in Latin America and Asia.*

Civilizational differences aside, the two men have very similar biographical backgrounds: aristocratic origins, an education focused on political philosophy and the arts, the construction of their virility in the late discovery of bodily exercises, a taste for travel, a keen interest in foreign societies, an early desire to influence their country's education system, a conservative approach to modernity, the rejection of women from the field of bodily exercises.

Keywords: *Kano, Coubertin, International Olympic Committee, comparative biography, education, ideology*

Pierre de Coubertin (1863-1937) and Jigoro Kano (1860-1938) are among the best-known sports personalities in the century and a half since sporting competitions spread around the world, the former as the renovator of the Olympic Games and the latter as the inventor of judo. Paradoxically, despite a considerable number of scholarly publications, there are no scientific editions of the whole autobiographical manuscripts and correspondence of these two figures, nor any biographies of them that have been produced according to the rules of the historian's art, i.e. without any patriotic or Olympic bias and comparing a variety of sources, including those from the ranks of their adversaries. Coubertin's proposal to Kano in 1909 to join the International Olympic Committee was far from obvious. On the one hand, the renewal of the Games was an adventure that had failed on several occasions before 1908 and it only involved a small group of sporting communities in Western Europe and North America, to which should be added a few individuals from the British dominions (Australasia, South Africa). Moreover, at that time, Kano's reputation had hardly spread beyond Japan and the spread of *jujutsu* was limited to rare spectacular and commercial demonstrations in London and Paris.

In the reference work entitled The Legacy of Kanō Jigorō, Judo and Education (2010), from which we borrow all our information on Kano, four reasons are put forward why Coubertin chose him and Kano accepted his proposal: as well as being multilingual, he was the founder of Kodokan judo, the promoter of athletic sports in Japan and the director of the Higher Normal School in Tokyo. According to the same authors, at their first meeting in Stockholm in 1912, Coubertin told Kano of his desire to see Japan play a leading role in the Eastern world within the Olympic movement. As for Jigorō Kanō, he would have accepted the offer with a view to promoting friendly relations with other countries, boosting Japanese interest in sport and raising their level of athletic ability and morality. What's more, when he saw the 1912 Olympic competitions with his own eyes, he would have realised the extent to which Olympic values infuse every athlete (impeccable physical preparation, discipline, courtesy) and combine with patriotic fervour. These interpretations, which give Japan a central role in the development of the Olympic movement in Asia and which make the inventor of judo a pacifist and a promoter of Olympic values, which in 1909 had not yet been defined by Coubertin, deserve to be questioned.

First of all, it should be noted that Coubertin knew nothing about Kano and his work when he asked the French ambassador, Auguste Gérard, to Japan to recommend a personality involved in the dissemination of sports; secondly, that the two men met briefly in Stockholm in 1912; and thirdly, that they did not keep up any correspondence which would suggest that their pedagogical ideas were in any way similar. Furthermore, Coubertin never thought for a moment of including *jujutsu* in the Olympic Games programme, even though there was already a hand-to-hand event: Greco-Roman wrestling. What's more, at the time, Kano's method of *jujutsu* was above all a form of education through confrontation that existed in Japan and was not primarily intended to be transformed into a competitive practice and spread to the rest of the world. Kano himself, in a 1936 letter to

Gunji Koizumi, did “not feel inclined to take any initiative (for having) judo introduced with other games and sports at the Olympic Games” and stated that “judo in reality is not a mere sport and game (but) a principle of art, life and science.” (Brousse, 2015, 90). Coubertin was thinking the same in 1906, “No, it's not a sport or, at least, if we wanted to use it as such, it would be a mediocre sport; on the contrary, it is a remarkable means of defence (...) what distinguishes and enhances it is the combination of intellectual and physical qualities required to succeed in it.” (Coubertin, 1933).

Based on this unlikely meeting between Coubertin and Kano, which was also a missed opportunity, the aim is to understand why their biographical paths, though geographically and culturally distant, ended up intersecting.

Family Traditionalism, Academicism and Openness to New Ideas

With an age gap of just three years, Kano and Coubertin had, after all, quite similar family origins, upbringings and schooling, as they were largely rooted in the traditions of the French and Japanese social elites.

11 year-old Kano Jigoro (right) ©Kodokan Institute

The biographical information on Coubertin is taken from my doctoral thesis in history (Clastres, 2011), the thirty or so scholarly articles I have published on him, my book on the history of the Olympic Games (Clastres, 2015) and my forthcoming biographical essay (Clastres, 2026). The same seven years elapsed between Kano's birth in 1860 and the accession to the throne of the reformist prince Meiji, who was to lead Japan into industrial and parliamentary modernity, and between Coubertin's birth in 1863 and the fall of the Second Empire, which led to the establishment of the Third French Republic. They both belonged to families with a strong religious background and a great interest in the arts and culture. Jirosaku, Kano's father, was the son of a priest who chose the path of Confucian studies and painting, while Charles de Coubertin was trained as both a lawyer and a religious painter, which led him to become close to the Jesuits and the papacy. One notable difference was that Jirosaku then embarked on a business career as a brewer, real estate agent and shipowner for the Imperial Navy, while Charles lived off the income from his rural estates until the end of his life.

It was from their mothers though that Kano and Coubertin learned strict discipline and studied calligraphy and the Confucian classics for the former, and French authors and Latin and Greek humanities for the latter. Both had a hard time being uprooted from their mother's homes and were sent to boarding school, at the age of nine for Kano, following the death of his mother, and Pierre at the age of ten. Kano enrolled in a public school in Tokyo with his older brother to improve his knowledge of Confucianism and familiarise himself with Western culture by taking English classes in Kanda. Three years later, his father took a further step towards modern Japan by sending him to a Tokyo boarding school where half the pupils were English and German. He became the whipping boy there and servant (*fag*) of the strongest, modelled on the integration rituals of public schools. In the same way, Coubertin very quickly changed schools, having had a very bad experience at the boarding school run by the Jesuits, which his older brothers, much older than him, had already attended. This is why he was enrolled a year later, in 1874, in the first day school opened by the Jesuits in Paris on rue de Madrid.

Trained for Senior Administrative or Political Positions

Kano's father and Coubertin's parents influenced their sons to follow higher education courses that would prepare them to occupy high positions in the civil service. Their former military worlds were in the process of collapsing with the end of the Tokugawa shogunate in 1869 and the abolition of the estates, the dismantling of the Samurai caste and the establishment of national conscription in 1873, and the adoption of the Japanese constitution in 1889, on the one hand, and the French Republicans’ conquest of the Senate and the presidency, on the other. If it is not apocryphal, I propose to relate the anecdote according to which, in 1872

Jirosaku refused to pay Kano for a *jujutsu* instructor on the grounds that it was a relic of the old world, along with the more precise fact that a career in arms may have seemed to him to have no future. As for Coubertin, he initially toyed with the hope of a military career like his older brothers but he failed the entrance exam for the Saint-Cyr military academy, perhaps because he did not belong to a republican family but to a monarchist one.

Kano continued his studies at the School of Foreign Languages during the 1874-75 academic year before joining the predecessor of the Imperial University of Tokyo. For four years, he studied economics and Chinese, Indian and Western political philosophy from Descartes to Spencer, which was a way of opening himself up to the arts of government specific to the great Asian and European powers of his time. In 1881-1882, he spent more time studying moral sciences and aesthetics, with an emphasis on international law. In particular, he benefited from the teachings of a Harvard alumnus named Fennolosa, who introduced him to North American realities.

Kano Jigoro and student friends at Tokyo university (second from right) ©Kodokan Institute

Although Coubertin completed his artistic education at home, attending the opera every week and the Academic Painting Salon every year, he was taught in much the same way as Kano: law at the Catholic University of Paris. He apparently failed to obtain his degree despite the innovative teaching at the École Libre des Sciences Politiques, which he attended as an auditor from 1884 to 1886. It was at this school, founded in 1872 to produce a new French elite orientated towards British and American modernity, that he discovered Tocqueville and Spencer, and was introduced to comparative constitutional law, political economy, commercial geography and the diplomatic history of Europe. He also frequented the Paris group of Unions de la Paix Sociale (Unions of Social Peace), inspired by the sociologist Frédéric Le Play, who advocated social reform, i.e. an improvement in the conditions of workers, not with the aim of emancipating them, but to avoid social and political revolution. Coubertin's reformism aimed to keep power in the hands of the aristocratic and bourgeois elite who had merged into fin-de-siècle modernity.

Two Heirs to the Fighting Culture of the Traditional Elite

It would be completely anachronistic to see Kano and Coubertin as sportsmen in the competitive sense we use today, as they are not known to have taken part in any competitions. At most, in 1879 Kano gave a demonstration in the presence of American President Ulysses Grant, who was visiting Japan at the time. We would like to know how he was able to raise his level after only two years of practice, why he was chosen and not someone else and what the purpose of this exhibition was. Admittedly, Kano never failed to include demonstrations in his teaching but he never fought in theatres to defeat his opponents and he does not seem to have done much of the athletic exercise himself (running, jumping, throwing, swimming) that he recommended to his students. Similarly, Coubertin, who never explained the circumstances under which he became involved in sport, never took part in competitions, nor did he appear on stage practising sports. On the contrary, he played in places where people could not see him, such as fencing halls or tennis and rowing clubs, which were socially closed to people of modest means.

It is also true that both belonged to the first generations of converts to physical exercise and that their social origins prevented them from taking part in fairs and competitions awarding prizes in kind or in cash. Kano was 17 when he was introduced to *jujutsu* and Coubertin was barely 20 when he discovered rowing and tennis. Coubertin would later confess to having had a hard time with the gymnastics apparatus he had been taught with at the Madrid day school in his teens and to having developed a passion for fencing much later than his sister, probably around the age of 16-18. It is no coincidence that Kano took up a martial art at a time when the Samurai were disarmed, and that Coubertin did adopt fencing first, which was the sport par excellence of the sword nobility as opposed to the nobility of dress in charge of the royal administration.

In any case, the two young men carried the legacy of the code of honour of the fighting elite, which, reworked under British influence, came to be known as fair play. They developed the same obsession with self-control of emotions through the tension of the body, which set them apart from other social elites of their time who opted for bodily entertainment and the pleasures of sporting appearance. Similarly, they were not on the side of the emancipation of social classes through bodily exercise. Coubertin, for example, only converted to the idea of sport for all in 1910 to counter the emergence of the first workers' and socialist sports clubs. Kano and Coubertin set themselves the goal of contributing to the virilisation of the young elite with a view to patriotic uplift and, in this sense, the former contributed to Japanese expansionism in the Asian Pacific (Mukden, Tsushima, and the Treaty of Eulsa with the Korean Empire in 1905), and the latter's contribution to the Third Republic's policy of colonial expansion, which he strongly supported (West and Equatorial Africa in the 1880's and 90's, annexation of Madagascar in 1896, protectorate of Morocco in 1912).

The Same Patriotic Desire to Emulate Foreign Education Systems

From their respective studies, Kano and Coubertin acquired a similar interest, not to say fascination, for the socio-political models of the imperial powers that dominated the world at the time. The precociousness of their choice of a career in education is not without interest, at the age of 22 for Kano and 23 for Coubertin, as is their interest in study trips to explore foreign education systems. However, there was one essential difference between the two men: Kano was invested with high-level official responsibilities, while Coubertin was reduced to private initiatives with little effectiveness.

In 1882, aged just 22, Kano taught political science and finance at Gakushuin as a lecturer and opened an English-style public school, Kano Juku, at the request of his friends. He then transformed part of the temple into a dojo, the future Kodokan. He targeted children lacking in confidence and offered them an extremely strict education. In 1885, he became a full professor and administrator of the Gakushuin, while the Kodokan judo team proved its worth in a famous tournament against the Metropolitan Police. It was around this time, in September 1889, that Jigorō Kano embarked on a sixteen-month study tour of European education systems. After a stopover in Shanghai, in 1890 he visited Berlin, Vienna, Copenhagen, Stockholm, Amsterdam and London. He returned to Japan in January 1891 after passing through Cairo and the following August he married Takezoe Sumako. In 1891, he recruited Lafcadio Hearn as his English teacher, an Irishman born in Greece and naturalised as a Japanese citizen after arriving in Japan in 1890 at the age of 40 and marrying the daughter of a Samurai, who left a first-hand account of the beginnings of judo.

Students of the Kano Juku private school ©Kodokan Institute

We would like to have a complete scientific edition, in English, of the notebooks he kept between 1889 and 1931, which are archived at the Kodokan, without any restrictions on his private life, to understand how his observations may have influenced his future projects. Similarly, light has yet to be shed on the controversy with his school's chancellor which led to him being placed on leave at the end of the summer of 1889 and then being recruited from August 1891 to January 1893 both as headmaster of Kumamoto College and as adviser to the Minister of Education. What happened to explain this sidelining and then what seems like a rehabilitation or even a promotion? What was his place in the various educational currents and what were his networks?

Because his family was based in Normandy, a short distance from the Atlantic port of Le Havre, Coubertin was able to travel to the British Isles to study society and political life almost every year from 1883 to 1888. He returned convinced that sport was the most effective means of educating the elite, not the people, for the new industrial, commercial and imperial modernity. In the winter of 1889-90, he was commissioned by the president of the Republic to observe the athletic associations of colleges and universities in the United States and he concluded that sports education could work just as well in republican regimes as in monarchies. For his part, Coubertin never held a position as head of a school or adviser to a minister. However, from 1888 onwards, he tried to implement his sports reform on an experimental basis in a number of Parisian establishments, initially private institutions, then state lycées, and in only one Catholic school, that of Father Henri Didon, who suggested the Olympic motto to him. His press campaigns and lobbying of liberal governments, open to monarchists who had rallied to the regime, were not really successful, as sport did not begin to replace gymnastics in the French school curriculum until the 1960's.

Sporting Convergence and Olympic Divergence

On the threshold of the 1890's, realising that he would not succeed in imposing his sporting reform on the Ministry of Public Education, Coubertin turned his patronage towards the development of civilian amateur sports clubs and support for competitions between young French and foreign athletes. Inspired by the Peace Congress held in Paris in 1889 and by Hodgson Pratt's project for athletic competitions between young European students, in 1892 he proposed to re-establish the Olympic Games in a modern form, i.e. with the new athletic sports, to promote international harmony. The success of the first Games in Athens in 1896 made it all the more important for him to get involved in this international sportsmen's project. As he was outvoted in 1898 within the French sports movement and as the French government also deprived him of the organisation of the Paris Games in 1900, he over-invested in his position as president of the International Olympic

Committee, which he had held since 1896, and devoted himself wholeheartedly to recruiting colleagues with sufficient influence in their respective countries, to protect the Olympic idea.

For his part, Kano reached the pinnacle of his career when, in 1893, he became director of the Higher Normal School in Tokyo, a position he held until 1920, apart from being sidelined in 1897. The process of exclusion-rehabilitation-promotion of the years 1889-93 was repeated in July 1897, when he was removed from his position as director and then reinstated from November 1897 to June 1898. That month, he became director of the Office of Common Education at the Ministry of Education but only until the following November. It is assumed that his dismissal and reinstatement were linked to the sports reform he was leading at the same time.

Indeed, in the context of the victorious war against China in 1894-95, he converted his school to European-inspired athletic education, while developing judo clubs in Japan. In 1894, he even organised an athletics meeting between students and teachers, and the following year he abolished the military organisation of the boarding school in a more liberal British style. In the year of the first Games in Athens, he set up an athletics association to encourage students to take up sport and opened his private academy to Chinese students. After two more years, he made the marathon compulsory for students, although we don't know where he got his inspiration for this type of event from. Had he heard of the event resurrected in Greece in 1896 or was he influenced by the long-distance running culture practised in other countries such as those in Scandinavia? Similarly, at the beginning of his third term in office, the dissolution of the athletics association in 1901 and its replacement by the school council, followed by the introduction of a moral gymnastics course in 1902 and the creation of a swimming club, all looked very much like a rejection of sports education and a new choice of hygienist pedagogy was imposed on him.

How are we to interpret his mission at the invitation of the Chinese government from July to October 1902 and that of Yamashita Yoshiaki in May of the same year in the United States, where he introduced judo? What place should they be given in this period of intense diplomatic and military activity, from the Anglo-Japanese agreement of January 1902 to the Russo-Japanese war of 1904-05, and the militarisation of Japanese society? Did Kano's decision in 1908 to make judo and kendo (taught since 1906) compulsory for all students, as well as running competitions, indicate that he had regained the favour of the government?

Kano and Coubertin differed on the question of whether or not women should have access to the virile dimension of sport. Coubertin remained opposed to the participation of women in sporting competitions and in particular in the Olympic Games until the end of his life, for two reasons: firstly, his religious and moral upbringing, which disapproved of putting women's bodies on show, and secondly, his ambition to create new men rather than new women. For Coubertin, women could practise gymnastics to better prepare themselves for motherhood but always in a private setting. Otherwise, their role in the public arena of sport was limited to crowning the winners. Kano, for his part, adopted a similar position in that he was always opposed to women competing and practising *randori* techniques, on the grounds that they were destined for motherhood and that it was out of the question for them to practise such self-transcendence, which could lead to injury and illness. It was within this moral framework that he welcomed the first women to the Kodokan in 1895, after seeking the advice of his wife, who was also his sparring partner. When he received Yasuda Kinko in 1904, he told her that there were indeed four or five young women training but that he had devoted very little time to them because he was still wondering whether judo had any benefits for women. Later, he used Yasuda as a test to see how far she could go with his physical strengthening and judo training. Finally, it wasn't until 1926 that a women's division was created within the Kodokan.

The Co-option of Kano in Relation to Coubertin's Olympisation of the World

Although they shared a project for the virile education of young social elites through physical exercise for patriotic purposes, it was not a foregone conclusion that Pierre de Coubertin and Jigoro Kano would meet. In fact, they developed their respective projects in very different cultural and geographical worlds. Coubertin campaigned for Olympic competition between sporting nations for peaceful purposes, without ever forgetting French interests, while Kano was fully committed to the physical armament of the Japanese youth for the purposes of imperial expansion. Kano's co-option was made official at the Olympic session in Berlin in May 1909 and in the following year Japan was invited to take part in the Olympic Games in Stockholm.

How then are we to understand Coubertin's request in 1908 to the French ambassador to Japan, Auguste Gérard, who was a former classmate, to recommend the name of a Japanese man who was sufficiently influential in the world of sport to co-opt him onto the IOC? Although he had been aware of the existence of *jujutsu* since the first demonstrations in Paris, Coubertin had never heard of Kano at that time. If he decided to ask him, it was not because he was the inventor of judo but because he was informed that he was the head of a renowned educational institution and that he held a leading position in the spread of athletic sports in Japan. Perhaps he also has some information about the isolated successes of certain Japanese sportsmen in the West or the East.

Much better informed about military and diplomatic issues, for which he wrote a weekly column in the famous daily Parisian newspaper *Le Figaro*, Pierre de Coubertin was

all the more aware of Japan's future importance in world geopolitics, as the military victory over Russia in 1905 had left a particularly strong impression on French minds. Moreover, even though he was very concerned about the influence of the YMCA sports clubs in Latin America, it is not impossible that he wanted to include Japan in his Olympic universe to block its advances in the Far East. Although it came a few years later, it should be remembered that Elwood Brown, the YMCA's sport director, set up the first *Far Eastern Games* in Manila in 1913 and was extremely active in the organisation of the Inter-Allied Military Games in Paris in 1919.

Los Angeles Olympic Games,
1932 ©Kodokan Institute

If we now look at the recruits made to the IOC between the London Olympic Games in 1908 and the European war of 1914, we can see a discrepancy between the profile of Kano, who was more of an administrator and teacher committed to the development of judo and athletics, and that of the other recruits; they were almost all aristocrats, with no sporting skills, but were well introduced to the various European sovereigns and therefore able to intervene in defence of the Olympic project. In the chapter he devoted to the IOC session in Budapest in 1911 in his *Olympic Memoirs*, written in 1930, Coubertin justified his choices, after the event, by drawing up a portrait of the ideal IOC member, “Sportsmen in the true sense of the word, and not slaves to exclusive specialism, men who were international enough rather than dominated by their strictly national prejudices, and finally men capable of standing up to the technical groups.” From this point of view, Kano was indeed open to a wide range of sporting practices in an amateur and chivalrous spirit of respect for the opponent. He was also intensely patriotic, as Coubertin might have been, with an obvious interest in foreign cultures.

To resist sports organisations acting against Olympic interests, Coubertin suggested to Kano, in one of his letters, that a National Olympic Committee should be created. The IOC president then had in mind what was happening in several Western countries, including France, namely the coalition of sports federations against the IOC in order to subjugate it or take its place. So, in order to prevail over them, he placed his trust in the National Olympic Committees, which had to be independent in their composition and directly attached to his authority. It is not certain that Kano understood this internal subtlety in the geopolitics of Olympism because, on 10th July 1911, he decided to create and preside over the Japan Amateur Athletic Association, rather than an Olympic Committee in the strict sense. Given the configuration of the Japanese sports scene, which was just emerging at the time, it was clearly more important for him to bring together all the amateur sports clubs (Niehaus, 2021, 8-9). Indeed, the Japanese Olympic Committee was not founded in 1911; this Olympic graft would be formalised much later.

REFERENCES

Brousse, M. (2005). *Les racines du judo français. Histoire d’une culture sportive*. Bordeaux, Presses Universitaires de Bordeaux.

Brousse, M. (2015). *Judo for the World*. Paris, éditions de la Martinière (International Judo Federation).

Clastres, P. (2010). Playing with Greece: Pierre de Coubertin and the Motherland of Humanities and Olympics. *Histoire@Politique*, 12 (3), p. 9.

Clastres, P. (2011). *La chevalerie des sportsmen. Pierre de Coubertin (1863-1937)*. Contemporary History PhD, 2011, Institut d’études politiques de Paris, dir. Prof. Jean-François Sirinelli.

Clastres, P. (2016). Pierre de Coubertin from Writings to Archives. In Wassong S., Müller N., Chappelet J.-L. (eds.), *Pierre de Coubertin and the Future*, Agon Sportverlag, 37-54.

Clastres, P. (2018). Pierre de Coubertin: The Inventor of the Olympic tradition. In Bayle E., Clastres P. (eds.), *Global Sport Leaders - A Biographical Analysis of International Sport Management*, Palgrave Macmillan, 33-60.

Clastres, P. (2023). The allegedly ‘Olympic Manifesto’ of Pierre de Coubertin (25 November 1892). In Bolz D., Krüger M. (eds.), *A History of Sport in Europe in 100 Objects*, Arete Verlag, 246-249 .

Clastres, P. (2025). *Les Jeux olympiques de 1892 à 2024. Une aventure mondiale*. Rennes, Presses universitaires de Rennes.

Clastres, P. (to be published 2026). *Pierre de Coubertin ou la paix par le sport*. Rennes, Presses universitaires de Rennes.

Coubertin, P. de (1931). *Mémoires olympiques (Olympic memoirs)*. Lausanne, BIPC, 109-110.
Coubertin, P. de (possibly 1933). Le jiu-jitsu est-il un sport ?. *Bulletin du Bureau international de pédagogie sportive*, 9, 11-13.

Niehaus, A. (2021). Kanō Jigorō – "The Father of the Olympic Movement" in Japan. *Journal of Olympic History*, 2, 6-17.

The Committee for the Commemoration of the 150th Anniversary of the Birth of Jigoro Kano (eds) (2020). *The Legacy of Kanō Jigorō, Judo and Education*. Tokyo, JPIC, English edition for Kigai to kodo no kyoikush Kano Jigoro, Tsukuba, University of Tsukuba Press, 2011.

Wada, K. (2013). Letters from Kano Jigoro to Pierre de Coubertin (2) from World War I to Coubertin's resignation as President of the International Olympic Committee. 講道館柔道科学研究会紀要 第十四輯, 11-29-

Article history
Received : 7 October, 2024
Accepted : 12 December, 2024

The Controversy Over the Sportification of Japanese Judo in the Interwar Period

By Tetsuya Nakajima

Abstract: *This paper focuses on the Interwar period and clarifies the process of sportification of Japanese judo. Due to the controversy that arose regarding the sportification of judo, the 1920s is an important period as the starting point for contemporary Japanese judo. However, previous studies have been no detailed investigation of Japanese judo history after the 1920s. Although the approach of this study is to enter into a complex relationship, we aim to clarify the discussion by focusing not only on Kanō's discourse, but also on the discourse of those involved in the student judo community who opposed him.*

Four main results will be identified: first, the sportification of judo was advocated by the student judo community; second, Kano's emphasis on the martiality of judo; third, Kano's emphasis on the martiality of judo had not penetrated the student judo world or even the Kodokan; fourth, these debates between Kanō and those opposed to him were not unrelated to the post-World War I trend toward democracy. In other words, the rise of democracy may have encouraged the idea that the martiality of judo was considered barbaric. In conclusion, it seems that modern judo has become a sport by moving away from Kanō's emphasis on actual fighting.

Keywords: *democracy, Jigoro Kanō, martiality, sportification, student judo*

1. The Interwar Period as the Starting Point of Contemporary Judo

Judo was established by Jigorō Kanō (1860-1938) in 1882. Kanō mastered *Kito-ryu jujutsu* and *Tenjinshinyo-ryu jujutsu* and studied other schools of *jujutsu* as well. Then, he recreated *jujutsu* based on Herbert Spencer's Education model. Moreover, when he founded judo, he introduced a new scientific epistemology into jujutsu, while abandoning traditional spiritual disciplines. Thus, the modernisation from *jujutsu* to judo was carried out.

In the last few decades, there has been a surge of interest in the modernisation from *jujutsu* to judo. However, previous studies showed two debatable arguments. First, the studies tended to depend on the discourse of Kanō to describe Japanese judo history (Kevin, 1993; Inoue, 1998; Sato, 2013). No doubt we must follow Kanō's discourse to clarify the founding period of judo but Kanō was not the only one who contributed to the development of judo in Japan. We will describe Japanese judo history by reconsidering Kanō as one character of it. Second, there has been no detailed investigation of Japanese judo history after the 1920s. Due to the controversy that arose regarding the sportification of judo, the 1920s is an important period as the starting point for contemporary Japanese judo.

Therefore, this study makes a major contribution to research on the sportification of judo by clarifying aspects of Japanese judo in the interwar period. In other words, sport-like judo which we image recently, and the problems associated with it, were formed in the 1920s, strictly speaking, in the interwar period between 1918, when World War I ended, and the Sino-Japanese War of 1937. Although the approach of this study will be to enter into complex conversation, we aim for clarity in the discussion by focusing on the discourses that oppose Kanō as well as Kanō's discourses. The short chronology for this study is as follows. Refer to it as appropriate.

Table 1. Chronology of the sportification of judo in Japan, 1912-1928

Period	Event
1912	For the first time, Kanō explains the principles of judo as the effective use of body and mind (*seiryoku-zenyo*)
December 1914	The establishment of *Kōsen judo Taikai* (National High School and Vocational School Judo Championship).
April 1918	The match between First and Second Higher Schools.
June 1918	Kanō criticised the *ne-waza* of the Second Higher School.
December 1918	Tsunetane Oda published 'Personal Opinion on Judo Reform (*judo kaikaku shiken*)' in a journal named *Chūōkōron* and criticised the Kodokan.
March 1919	K-sei criticised Tsunetane Oda.
January 1922	Kodokan Cultural Association (*Kodokan Bunkakai*) established.
March 1922	Passage of the Disarmament Bill in the House of Representatives and the democratisation of Japanese society progressed.

December 1922	Kanō's advocacy of *jita-kyoei*.
July 1924	The revised refereeing rules were published.
March 1926	Kanō contributed the article titled 'Judo as Martial Arts' to the *Kodokan Journal*.
October 1926	Kibisaburō Sasaki continued the article in the *Teikoku Daigaku Shinbun* (Imperial University Newspaper) and criticised the Kodokan.
May 1928	*Teidai-Judo-Kai* (Imperial University Judo Association) was organised.

2. Formation of *Seiryoku-Zenyo* and *Jita-Kyoei*

Seiryoku-zenyo (using physical and mental strength most effectively) and *jita-kyoei* (coprosperity for oneself and others) that are asserted as the ideals of judo today, were invented in the interwar period. In 1915, Kanō defined the judo principle as "the path to use body and mind effectively" (Kanō, 1915, p.26) and this was established as the meaning of *seiryoku-zenyo* afterwards. Recent work by Tanaka and Ishikawa has found that the article written by Kanō in 1912 mentioned the meaning of *seiryoku-zenyo* (Tanaka & Ishikawa, 2008), but much uncertainly still existed about the process by which it was established. However, it was not until the Kodokan Cultural Association (*Kodokan Bunkakai*) was established in January 1922 that the terms of *seiryoku-zenyo* and *jita-kyoei* were established and their concepts were mirrored a mission statement of the council (Suzuki, 1997).

As for the symbolised events of the interwar period, we should focus on the establishment of *jita-kyoei* rather than *seiryoku-zenyo*. What is *jita-kyoei*? Kanō explains as follow. "Human beings cannot leave a social life because happiness is achieved in the social life. In order to make the best use of our vigorous energy in our social life, we need to give to and help each other. This is the essence of *jita-kyoei*. Moral principles come from it." (Kanō, 1926b, pp.653-654.) With a distinction between oneself and others, co-existence with others and the good use of one's energies for this purpose, is *jita-kyoei*.

The reason why *jita-kyoei* was an event that characterised judo during the interwar period was because of the influence of WWI on its formation. Kanō inspected the Western situation after WWI, from June 1920 to February 1921. In the meantime, he also attended the Antwerp Olympics as IOC commissioner in September 1920. Kanō felt Westerners had a bad impression of the Japanese through this inspection. Kanō said that the Westerners misconceived that Japan is a "second Germany that invade other countries" (Kanō, 1921b, p.90), but "we must make them realise that we are all friends who will work together with other nations to promote the welfare of mankind and world harmony" (Kanō, 1921b, p.90) after his return. Kanō argued for global harmony but that didn't mean that the whole world would become Westernised. He remarked that "Japanese people show their strengths to each country and strive to Japanise the world. Along with that, Japanese people should learn from other countries about their immature aspects in order to make progress." (Kanō, 1921a, p.27). Moreover, he stated, "In my opinion, eternal peace in the world can only be achieved through efforts to Orientalise him and Westernise us." (Kanō, 1922b, p.15) In summary, Kanō believed that the civilisation of the East and the West should mix after acknowledging each other's existence. After returning to Japan, he instituted the Kodokan Cultural Association and indicated in the charter that, "We shall strive to eliminate racism, to improve and equalise culture and to promote the common prosperity of humankind." (Kanō, 1922a, p.6).

3. Criticism Against Kanō

Though the interwar period is the time in which Kanō's idea of judo was completed, on the other hand, it was also a time when his thought faced public criticism. The beginning of the relativisation of Kanō's idea of judo was the match between the First Higher School and the Second Higher School in April 1918. There had been four matches between them until then but most of the fights were settled by throws or draws and rarely by ground techniques (referred to hereafter as ne-waza). However, the percentage of matches decided by draws and *ne-waza* was clearly increasing in the fifth round. A total of 18 contests were arranged in the fifth round but fourteen were draws, three were decided by *ne-waza* and only one was decided by a throw. Over 70% were drawn. Moreover, all the wins were from Second Higher School players (fig.1).

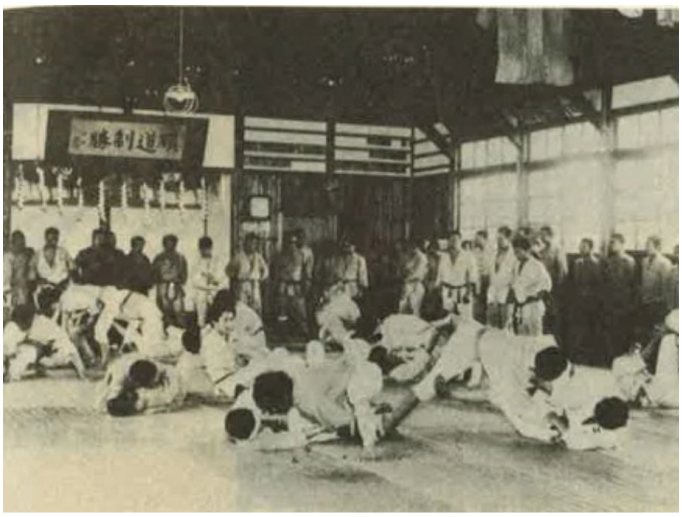

Fig1. Practice scene at the Second Higher School, circa 1935. (In *Dainikōtōgakkōshi-Hensaniinkai*, ed. (1979). "*Dainikōtōgakkōshi*", *Dainikōtōgakkō-shōsidōsōkai*)

When Kanō heard about this match, he became angry and stated the following about the weak point of ne-waza, in June 1918.

“The match in the dojo is based on rules for the sake of convenience but a genuine match for the purpose of judo training must be *shinken-shobu*. We should use mainly throws and strikes more than *ne-waza* in actual fighting. Usually, we can grab each other because we both agree not to use strikes to prevent injury…. You can only attack one person if you are attacked by multiple people. The above explanation should make it clear that just because *ne-waza* is beneficial under the rules established for the sake of convenience, it does not mean that *ne-waza* is particularly valuable.” (Kanō, 1918a, pp.7-8.)

Kanō use the word *shinken-shobu* as the meaning of actual fighting, but it is also used with the meaning of seriousness in Japan. According to *Daigenkai*, a Japanese dictionary published in 1933, '*shinken*' refers to a sword for practical use (Ōtsuki, 1933, p.718). However, the same section also includes the meaning of fighting with a sword, citing the example of '*shinken-shobu*' (Ōtsuki, 1933, p.718). Additionally, the section mentions 'seriousness' as another meaning of '*shinken*' (Ōtsuki, 1933, p.718). In the following discussion, we will note this difference in usage. Anyway, from above the quotes, we grasp that Kanō recognised *ne-waza* inadequacy in the actual fighting. Kanō believed that judo techniques must work in actual fighting. He encouraged his pupils to learn dangerous techniques through *kata* (set movement).

The following July, Kanō published the article in a journal named Judo and argued, “The practising of offence and defence is the foundation of judo. I call it ‘the bottom of judo.’ The final stage is to investigate ways to fulfill our own potential in life. I call it ‘the upper stage of judo.’ Physical training or mental training etc. are a kind of byproduct of training offence and defence. I call it ‘the middle stage of judo.’” (Kanō, 1918b, p.4). Kanō emphasised again that practising actual fighting technique is the foundation of judo.

Tsunetane Oda (1892-1955), a general manager of Second Higher school judo club, responded to Kanō’s assertion. After Oda trained at the Kodokan, to start with, he took up a new post as manager of Seventh High School judo club. In this time, his team participated in *Kosen Judo Taikai* (National High School and Vocational School Judo Competition which was hosted by Kyoto Imperial University from 1914; referred to hereafter as KJT) and went through a lot of hardship because of the other school’s skillful *ne-waza* and tactics for a draw (Nakajima, 2014, p.724). Through this bitter experience, he recognised the effectiveness of *ne-waza* and began to study it. In 1918, Oda became general manager of the Second Higher School judo club and changed the style of judo from a throw-centered style to a ne-waza-centred style. As a result, the Second Higher School won the match against the First Higher School by using *ne-waza* and drawing tactics.

Oda published ‘Personal Opinion on Judo Reform (*judo kaikaku shiken*)’ in a journal named *Chūōkōron* and criticised judo world. He stated, “The genuine purpose of judo must be based on practising offence and defence because judo is one of the martial arts, whereas the secondary purpose is that we obtain natural physical and mental improvements. If you treat the secondary purpose as well as the purpose of the training of actual fighting, it must be said that you are overestimating the by-product. No matter how Kodokan advertises the secondary purpose for commercial policy, the original purpose of judo must be practising for actual fighting. As a result of Jigoro Kanō Shihan’s daring efforts, judo was welcomed by the young people of the time, who were nationally enlightened and judo made great progress and seemed to be taking the athletic world by storm. However, judo originally possessed bushido but its appearance and by-products had been so advertised that a template had been created. As a result, the combat skills that should have created the spirit of judo have been neglected and the spirit had been forgotten. I wonder if Kanō Shihan is really pleased with this situation.” (Oda, 1918, p.27).

Oda criticised the situation that the ‘middle stage of judo,’ as a by-product, was spread and consequently the ‘bottom of judo’ was paid little heed. However, unlike Kanō, Oda defended *ne-waza* from the standpoint of actual fighting, although he stressed its importance .

The Kodokan disciples protested against Oda although Kanō didn’t respond to his criticism. For example, using the pseudonym K-sei, an article was contributed to the ‘*Yuko no Katsudo* (beneficial activities),’ one of the *Kodokan journal*s, in March 1918. K-sei criticised Oda by name. K-sei argued, “Today, our society has emerged from the period of the Samurai topknot. We no longer use crude swords instead of high-precision weapons. How can you say that the purpose of the old *jujutsu* is to promote judo to the public today? The true life of judo in the new era will not be greater than the training of mind and body. The purpose of combat training, has now lost its purpose as it has become a means for physical and mental training, except for those with special needs.” (K-sei, 1919, pp.59-60)

K-sei protested against Oda from the standpoint of emphasising mental and physical training. K-sei criticised actual fighting as conventional and old-fashioned jujutsu, insisting that the purpose of judo was not to practise actual fighting and that spirituality was decidedly not a by-product of practising actual combat. The new age of judo, K-sei insisted, had the potential to dismiss not only Oda's but also Kano's ‘bottom of judo.’

As stated above, Kano’s theory of judo was not made deification and various discussions of judo were developed publicity through such as journalism in the interwar. The inter high school match was an occasion of dispute, but the end of WWI was also involved in it. In 1935, Takeshi Sakuraba, one of Kanō's best pupils, argued the situation of judo after WWI as follow,

"In Japan, the idea of democracy, which arose as a reaction to the European War, dominated the world of thought for a time and the military was regarded as barbaric. As a result, people who considered *budo* a relic from an earlier age increased in both the city and the countryside." (Sakuraba, 1935, p.191.)

Under the circumstances of the democracy immediately after WWI, not only judo but the entire martial arts world was condemned as a relic of the previous century. As a result, the acquisition of serious fighting techniques, which had been the goal of Kano's judo training, was downplayed, and the emphasis shifted to mental training and physical discipline.

4. Sportification of Judo

Debate has long prevailed as to whether judo is a sport but that controversy began since the interwar. The sportification of judo is controversial because it may indicate the modernisation of judo as well as its Westernisation. In other words, it is sometimes argued, at least in Japan, that the sportification of judo tarnishes its authenticity as a Japanese cultural activity. So, what does it mean to be sportified? Recently, it has been reported that in the first half of the 19th century, matches (*randori, shiai*) were held actively among the various *jujutsu* schools and that Kano's teachers, such as Fukuda Hachinosuke, Iso Masatomo and Iikubo Tsunetoshi, were also enthusiastic about matches (Nakajima, 2017). Therefore, it is nonsense to use the presence or absence of matches as a feature of sportification, which includes the intention of Westernisation. The presence or absence of matches were rarely discussed in interwar judo circles. Therefore, what was the centre of the controversy around the sportification of judo at that time?

For the first time, it was also the student judo community that advocated for the sportification of judo. Kanō, together with the Butokukai and Kodokan overlords, decided to revise the rules of the game to control ne-waza-centreed student judo. The revised refereeing rules were published in July 1924. The regulations were codified as follows:

Article 2. Matches shall consist mainly of *tachi-shobu* (standing fighting). *Ne-shobu* (ne-waza) shall be performed only in the following cases:

(i) When a technique works well, although it does not result in an ippon, and the fighter continues to move into ne-waza.

(r) When one side fails to throw and falls or almost falls on the *tatami*. (Kodokan, 1924, p.86.)

The current rule against pulling into *ne-waza* in judo matches has its origins in this revised refereeing rule. In addition, from this regulation, the two-point first system (*Nihon-Shobu*) was changed in favour of the ippon system (Oimatsu, 1976, pp.75-78.). This change pointed to contemporary judo.

However, the student judo community didn't accept the revised rule and stuck to unique rules and held a competition. In December 1918, the Japanese government implemented a plan to expand higher education and the number of high schools was increasing. The number of high school judo clubs increased accordingly. Moreover, the KJT was co-managed by the imperial University of Kyoto (IUK), the Imperial University of Tokyo (IUT), the Imperial University of Kyushu, and the Imperial University of Tohoku and it had developed into a national organisation in both name and substance. On 6th May 1928, the organisation was named *Teidai-Judo-Kai* (Imperial University Judo Association) and held its opening ceremony in the IUK. At that time, a constitution was drafted, chapters and secretaries were selected and headquarters were located at the IUT (fig. 2).

Fig.2 Preliminary round of *Kōsen Judo Taikai* in 1933. Matsuyama High School vs Sixth Higher School. The Sixth Higher School student is attacking a triangle choke from the bottom. (In Kōsen Judo Gijutsu Kenkyūkai, ed. (1985) Bunshū Kōsen Judo to Watashi.)

While student judo expanded, Kibisaburō Sasaki, a student *judoka* objected to the Kodokan's revision of the refereeing rules. Sasaki entered the IUT after graduating from the 6th Higher School. Sasaki continued the article in the *Teikoku Daigaku Shinbun* (Imperial University newspaper) and criticised the Kodokan on 11th October 1926. Sasaki argued, "I deplore that there is a considerable difference between the Kodokan's refereeing regulations and our Imperial University's rules…. because they are stuck in convention, I think they don't stand on a fair point of view. They have encouraged *tachi-waza* (standing throws) but on the other hand they have clearly banned *ne-waza* (ground techniques) as stated in the rules. Imperial University students are mainly from high schools and their graduates. The high schools, especially in the West, mainly studied *ne-waza* and unlike the match between the First Higher School and the Second Higher School about ten years before, it was being studied scientifically…. We will study the technique of judo scientifically to develop judo from the standpoint of sport. They claim the purposes of judo are for self-defence or practical use but we don't

want to forget our stand as an all-encompassing activity." (Sasaki, 1926, p.4).

Sasaki's perspective on the Kodokan and Kano's position on 'practicality' and 'self-defence' is sharp and captures their position accurately. Furthermore, Sasaki criticised the position of the Kodokan and Kanō as old-fashioned and argued that ne-waza-centered student judo is a "sport." Initially, the controversy over the sportification of judo implied the elimination of the purpose of actual combat training, which Kano insisted on.

5. The Gap Between Definitions of *Shinken-Shobu*

These findings suggest that Kano was strongly aware of the continuity between judo and jujutsu. However, why had Kano sought to leave out a character of *jujutsu* or martial arts? One reason was that Kano planned a formation of nationality by traditional culture (Inoue, 1998), but the other one was a lack of public safety. Actually, politicians or captains of industry were often attacked by ruffians or lobbyists. Judo was sought by people of high social status to protect themselves from violent groups (Eiko, 2008).

Kanō continued to preach the importance of actual fighting even after the rules were revised. He contributed the article titled 'Judo as a Martial Art' to the *Kodokan Journal* in March 1926. Kanō argued, "The aim is to build on the foundation of our nation's unique martial arts, to study and improve the martial arts of other countries, to practise martial arts to inspire morale, to cultivate the spirit of always upholding the national spirit, supporting justice, and eliminating evil, and to prepare all of our people to dedicate themselves to the nation in the event of an emergency." (Kano, 1926a, p.5)

After this article, Kano often used the word *bujutsu* (martial arts) or *budo* instead of *shinken-shobu*. At least, *shinken-shobu* had the meaning of fighting seriously alongside combative technique. In practice, it was often used to mean fighting seriously. Therefore, Kano's concern that *shinken-shobu* implied a serious commitment to the game may have led him to use terms that had a clear connection to the tradition of *bujutsu* or budo. In any case, a great gap emerged within the meaning of *shinken-shobu* between the sport-orientated student judo and Kanō's judo, which was based on actual fighting. The emergence of this gap in the interwar period symbolically indicated the beginning of a change in Japanese judo towards the modern, competition-oriented style of judo.

6. Conclusion

From the study of the history of judo during the interwar period, it is also necessary to reconsider the history of judo before and after the interwar period. Although Kano's insistence on actual fighting is unthinkable today, the interwar period is the precise stage in which modern judo, which is both athletic and educational, entered its formation, moving away from Kano's insistence on actual fighting.

The issues discussed in this paper represent only one aspect of the changes in Japanese judo during the interwar period. What did the people of the interwar period seek from judo and how did they act? And how do the consequences of their actions affect our view of judo today? When we consider the ideal form of judo in the future, there may be much to learn from the controversial world of judo during the interwar period.

REFERENCES

Fumihiko, Ōtsuki. (1933). *Daigenkai*, vol2. Tokyo: Fuzanbo

Jigorō, Kanō. (1915). Judo Hongi (the essence of Judo) *Judo*,1(2). Tokyo: Judo Kai.

Jigorō, Kanō. (1918a). Kodokan Judo Shugyosha no Shinkyū Shōdan no Hōshin wo Nobete Tokyo Sendai Ryo Kōtōgakkō Judo Shiai ni Kansuru Sehyō ni Oyobu (Commentary on the Tokyo-Sendai High School Judo Tournament, with a discussion of the Kodokan Judo's policy for kyū and dan promotion) Judo, 4(6). Tokyo: *Judo* Kai

Jigorō, Kanō. (1918b). Judo ni Jō Chū Ge Sandan no Betsu Aru Koto wo Ronzu (Discussing the three levels of Judo) *Judo*, 4(7). Tokyo: Judo Kai

Jigorō, Kanō, (1921a). Ōbei Shisatsu kara Kaerite (Returning from a tour of Europe and the U.S.). *Teikoku Seinen* 6(6). Tokyo: Teikoku Seinen Kenkyūjo

Jigorō, Kanō. (1921b) Ōbei Shisatsu no Kanso (Impressions from the U.S. and European Visits). *Kyouiku Kenkyū*, 222. Tokyo: Shotō Kyouiku Kenkyū Kai.

Jigorō, Kanō. (1922a) Honshi Hakkō no Shushi (Purpose of this journal). Taisei, 1(1). Tokyo: Kodokan Bunkakai.

Jigorō, Kanō. (1922b) Kokusai Orimupikku wo Oete (After the International Olympics (continued)). *Yuko no Katsudō* 8(3). Tokyo: Judo Kai Honbu.

Jigorō, Kanō. (1926a) Kodokan Judo to Kodokan no Shimei Oyobi Jigyō ni tsuite (Kodokan Judo, Kodokan's Mission and its Projects). *Sakkō*, 5(3). Tokyo: Kodokan Bunkakai.

Jigorō, Kanō. (1926b). Budo Hen Judo (Martial Arts: Judo). *Shin Nihonshi* (New Japanese History), vol.4. Tokyo: Yorozu Chōhō Sha.

Kevin, Gray, Carr. (1993). Making way: war, philosophy and sport in Japanese judo. *Journal of Sport History*, 20(2). 167–188.

Kibisaburō, Sasaki. (1926) Judo Shinpan Kitei ni Tsuite Kodokan Kitei wo Danzu (Impeachment of Kodokan Judo Referee Regulations) *Teikoku Daigaku Shinbun* 180. Tokyo: Teikoku Daigaku Shinbun Hakkōjo.

Kodokan. (1924) Shinpan Kitei no Kaisei (Revision of the Rules of Appeal). *Sakkō*, 3(7). Tokyo: Kodokan Bunkakai.

Koshi, Suzuki. (1997). Experiences, Words and Advertising: The thought of Jigorou Kano. *Bulletin of the Thought in Sport and Physical Education*, 1 17-39.

K-sei. (1919). Nyozegakan (My opinion) *Yuko no Katsudō*, 5(3). Tokyo: Judo Kai Honbu.

Shinichi, Oimatsu. (1976) *Judo Hyakunen*. Tokyo: Jiji Tsushin Sha.

Shohei, Sato. (2013). The sportification of judo: global convergence and evolution. *Journal of Global History*, 8(2). 299-317.

Shun, Inoue. (1998). The invention of the martial arts, Kano Jigoro and Kodokan judo. Mirror of Modernity, The In-vented Traditions of Modern Japan. ed. by Stephen Vlastos, Berkeley: California Press.

Siniawer, Eiko Maruko. (2008). *Ruffians, yakuza, nationalists: the violent politics of modern Japan, 1860-1960*. New York: Cornell University Press.

Takeshi, Sakuraba. (1935). *Judo Shi Kō*. Tokyo: Meguro Shoten.

Tetsuya, Nakajima. (2014). Emergence of the discourse about “sportication of judo” during the process leading to establishment of the Four Imperial Universities Competition and its historic significance, focusing on the relationship between “student judo” and Kodokan judo from 1918 to 1928. *Japan J. Phys. Educ. Hlth. Sport Sci*. 59. 721-744

Tetsuya, Nakajima. (2017). Emergence of jujutsu match and its fact in the end of Tokugawa period: Analysis of Tenjinshinyo-ryu's record "Taryu Shiai Seimei Hikae". *Bulletin of the Association for the Scientific Studies on Judo, Kodokan*, 16. Tokyo: Kodokan

Tsunetane, Oda. (1918). Judo Kaikaku Shiken (Personal Opinion on Judo Reform) *Chūōkōron*, 364. Tokyo: Chūōkōron Sha

Youhei, TANAKA. and Yoshihisa, ISHIKAWA. (2009). List of historical remarks by Jigoro Kano (1) : "*Kano Jigoro Taikei*" Uncollected historical materials in the Meiji period and others. *Research Journal of Budo*, 42(2). Japanese academy of Budo.

Article history
Received : 9 September, 2024
Accepted : 25 November, 2024

Judo and Gender In Japan

By Noriko Mizoguchi

Abstract: *The evolution of women's sport in Japan, particularly judo, provides a unique lens to examine the intersection of gender, culture and institutional influence. Societal norms and gender roles have often dictated the opportunities available to women in sport. This study investigates how the societal norms and institutional structures shaped by gender roles have influenced the development of women's judo in pre-war Japan, particularly within the Kōdōkan and local judo federations. It adopts a qualitative approach, drawing on historical texts and archival materials to analyse the development of women's judo.*

This study reveals that gender distinctions were not only prevalent but institutionalised within the organisational practices of judo federations, with Jigōrō Kanō's pedagogical stance supporting education over competition. While the Kōdōkan maintained strict regulations prohibiting women's competitions and mixed-gender training, local federations exhibited greater leniency, fostering an environment where women could participate more equitably. This divergence illustrates the complex interplay between institutional constraints and the potential for gender equity in sport.

This article re-evaluates Kanō's educational philosophies and judo practices across various federations, highlighting judo's dual role as a competitive sport and a means for social change. It reveals how judo empowers women to challenge societal norms, thereby encouraging their recognition. This study thus enriches the conversation about women's rights in sport and lays the groundwork for future inquiries into gender equality in athletics, suggesting a broader potential for sport in societal transformation.

Keywords: *women's judo; gender in sport; Olympics; Jigōrō Kanō; Kōdōkan judo*

Figure 1

In the Meiji era (1868–1912), a transformative era in Japan characterised by rapid modernisation and Western influence, women still faced significant societal constraints, including the denial of suffrage and limited social rights (Mahmud, 1996). Within this context, Jigōrō Kanō (嘉納治五郎, 1860–1938), the founder of the Kōdōkan Judo Institute, emerged as a pioneering figure who recognised the potential of physical education as a vehicle for empowering women. In 1926, Kanō's establishment of the Women's Division of the Kōdōkan marked a significant milestone in the promotion of women's judo, highlighting his forward-thinking vision that extended beyond the mere acquisition of physical techniques. His approach aimed at elevating women's social status through education and physical empowerment, which aligned with broader conversations on gender and education during the period (Miarka, Marques, & Franchini, 2011).

However, Kanō approached the sportification of judo with caution, expressing concerns about negative consequences of competitive pressure on women participants or the risk that they might push themselves too hard to win. He instituted a dual standard by prohibiting women's competitions (Yanagisawa et al., 1992), a decision that delayed the competitive development of women's judo within Japan significantly. This prohibition reflected prevailing societal norms that associated femininity with modesty and restraint, ultimately constraining women's opportunities for competitive engagement in sport. As a result, women's judo in Japan remained predominantly focused on etiquette, health and self-defence rather than competition until the late 20th century (Callan, Heffernan & Spenn, 2018).

In contrast to the Kōdōkan's restrictive policies, local judo federations adopted a more flexible approach, promoting inclusive training environments where men and women could engage in judo activity on more equal terms. This shift was crucial in fostering a culture of participation and skill development among women judoka. Despite the limitations imposed by Kanō's policies, international movements advocating for women's sport began to gain momentum, culminating in the first Women's World Judo Championships in 1980, which served as a pivotal moment in the global recognition of women's judo.

This study revisits Jigōrō Kanō's philosophy and examines the development of women's judo within the Kōdōkan and local judo federations, exploring how gender roles influenced the institutional structures and practices of the time. By analysing the historical trajectory of women's judo, it illuminates how the sport provided a unique foundation for self-expression and social advancement for women in Japan. Further, it explores the contemporary significance of women's judo in discussions of gender equality, situating the sport within ongoing debates about women's rights and empowerment in Japan and beyond (Miarka, Marques, & Franchini, 2011).

This article presents a novel examination of the intersection between gender, sport and societal norms through the lens of women's judo in Japan, particularly during the transformative Meiji era and beyond. While existing literature has acknowledged Jigōrō Kanō's pivotal role in the establishment of judo as a sport, this study emphasises his dualistic approach towards women's participation, highlighting the complexities and contradictions inherent in his philosophy. By scrutinising the historical context in which Kanō operated, how his efforts to empower women through physical education and the simultaneous constraints of prevailing societal norms prioritising modesty and restraint, can be deduced.

Investigating the contrasting practices of local judo federations adds a significant layer to the discourse on women's sport in Japan. Unlike the Kōdōkan's restrictive policies, these federations fostered more inclusive environments, thereby facilitating women's engagement in judo on equitable terms. A comparative analysis of their policies not only underscores the varying institutional responses to gender roles but also illustrates the gradual evolution of women's judo from a focus on etiquette and self-defence to a more competitive framework.

Additionally, the development of women's judo can be situated within the broader context of global movements advocating for women's sport. This historical lens provides a rich backdrop for understanding the contemporary significance of women's judo as a platform for social advancement and gender equality.

Ultimately, the findings contribute to a deeper understanding of how sport can serve as a transformative medium for challenging traditional gender norms. By illuminating the interplay between sport, gender and societal change, it not only enriches current academic discourse on women's empowerment in Japan, but offers valuable insights into ongoing debates surrounding gender equality in sport worldwide. In doing so, it highlights the potential of judo as a vehicle for fostering inclusivity and challenging entrenched societal expectations.

METHODS

The study utilises a qualitative historical research approach, which is suitable for exploring the intricate relationships between gender, organisational practices and societal norms within the context of women's judo. It also enables an examination of primary and secondary sources that documented the evolving practices of judo from its inception to the pre-war period in Japan. This research adopts a comparative framework, allowing for a juxtaposition of practices at the Kōdōkan against those of local judo federations. This has facilitated a critical analysis of the divergent attitudes towards women's participation in judo within different organisations, thereby providing insight into how institutional policies and practices reflect and reinforce gender norms. Further case studies are employed to highlight examples that illustrate broader trends.

A multi-source data triangulation strategy has been implemented to enrich the findings. Primary data sources include archival documents such as meeting minutes from the

Kōdōkan and local federations, letters, policy documents and photographs that illustrate women's participation in judo. These documents provide direct insights into the organisational practices and discourses surrounding gender roles in judo. In addition to archival materials, interviews were conducted with historians, martial arts practitioners and experts in gender studies who possessed in-depth knowledge about the historical context of women's judo and gender roles in Japan. This qualitative data adds depth and personal narratives to the formal documentation, capturing the multifaceted experiences of women involved in the sport. Secondary data sources also play a crucial role in contextualising the primary findings within the broader societal framework. Academic journal articles, books on Japanese martial arts history, feminist analyses of sports and sociological studies on gender in Japan have provided theoretical grounding and relevant historical context, enriching the overall narrative.

Data analysis was conducted using thematic analysis, which allowed for the identification of key themes and patterns in the collected data. Thematic coding facilitated the systematic organisation of information related to gender roles, institutional policies and the pedagogical philosophies espoused by prominent figures such as Jigōrō Kanō. Categories were established based on recurring motifs that emerged from the texts, oral histories and visual materials, enabling a robust interpretation of the ways judo has been depicted as both an empowering avenue for women and a reflection of societal constraints. Additionally, a content analysis approach was employed to examine the language used in the archival documents and public discourse surrounding women's judo. This method provides insights into the societal attitudes towards women in sports, facilitating a critical examination of how language and rhetoric have shaped public perceptions of female athletes. This content analysis highlights the disparities in acceptance and support for women's judo across different organisations, emphasising the role of local federations that demonstrated more progressive stances compared to the Kōdōkan.

Women's *Jujutsu* in the Meiji Era

The historical record provided by the Tokyo Nichi Shimbun of 27th May 1873 (Meiji 5) reveals that a *jujutsu* tournament took place in late May at the former Sakai residence located in Goken-chō, Moto Oonarikaidō, Tokyo (Nihon Shoki Shimbun Zenshū 52, 215). This event was primarily organised by Hachinosuke Fukuda (福田八之助) and Masatomo Iso (磯正智, also known as Iso Mataemon, 磯又衛門) of the Tenjin Shin'yō-ryū judo school, both of whom served as mentors to the eminent Jigōrō Kanō. The accompanying *ukiyo-e* illustration (Figure 1) depicts a gathering of female *jujutsu* practitioners from various schools who participated in this tournament, thereby providing a rare and invaluable insight into the existence of women's *jujutsu* matches during the early Meiji era.

This *ukiyo-e* serves as valuable evidence that women's *jujutsu* competitions were held during this era, suggesting such events were a popular form of entertainment. This choice of subject matter by Toyokuni Utagawa IV, a preeminent *ukiyo-e* artist of his time, underscores the significant public interest in these matches. Furthermore, the inscription 'Treasure Collector Kinnosuke (Takara-shū-ka Kin'nosuke, 宝集家金之助)' indicates that the role of announcer during the event was performed by Hōshūya Kinnosuke, a female musical performer. This detail raises intriguing possibilities regarding the nature of the performances, hinting that they may have incorporated elements of eroticism, such as the untying of obi sashes or the disarray of garments during the contests (Mizoguchi,2015).

During the same period, sumo exhibitions featuring women and blind wrestlers were also held. The combined nature of these events reflected the discriminatory attitudes towards women and the visually impaired that were prevalent in society at the time (Yoshizaki et al., 2008).

By 1912, interest in women's judo had increased notably, particularly in the Tohoku region. One article, published in the Asahi Shimbun on 17th February 1912, emphasised the value of women's judo as a means of self-defence. This discourse was influenced significantly by the tragic murder of a female judo practitioner in 1905, which had been cited as a compelling argument for the necessity of judo training for self-protection. In 1911, a training seminar was conducted featuring Yoshitsugu Yamashita (山下義韶, 1865–1935) from the Kōdōkan as a guest instructor. This event attracted 100 female participants, twenty-five of whom received attendance awards. Many attendees were female instructors or teachers from girls' high schools, marking a pivotal moment in the dissemination of judo as a form of physical education for women.

The Meiji era thus witnessed the emergence of women's *jujutsu* as a recognised activity. Though it began as a curiosity meant to highlight its novelty - and perhaps even voyeuristic nature - by the twentieth century it had become recognised as a legitimate means of both self-defence and physical enrichment for women and girls. The emphasis on women's self-defence in particular would continue well into judo's wider popularisation.

The Spread of Women's *Jujutsu*

In the Tohoku region of Japan, a significant initiative emerged under the auspices of Mori, the then-governor of Akita Prefecture, to conduct women's judo through targeted training sessions led by the aforementioned Yamashita. This initiative was notable not only for its goal of advancing the sport among women but also for its inclusivity, as it welcomed foreign women to participate in both *kata* and *ukemi* practice as components of self-defence training. Historical accounts indicate that the leaders of this movement sought to reconstruct judo kata, intending to integrate it into women's physical education curricula as a vital form of self-defence.

A seminal contribution to this discourse came in 1929 when Yukimasa Yamada, affiliated with the Dalian Manchurian Railway Judo Club, authored Women's Judo Self-Defence (Fujin Jūdō Goshin-Jutsu, 婦人柔道護身術). This work underscored the importance of judo as self-defence, promoting both physical fitness and personal security for women. Similarly, in 1936, Keina Tajima from the Nihon Shidokai school published Household Defence Methods and Women's Self-Defence (Katei Keibi-Hō to Fujin Goshin-Jutsu, 家庭警備法と婦人護身術), further advocating for the integration of *kata* into women's self-defence training and asserting its utility not merely as a competitive sport but as a practical exercise for everyday safety.

Until the pre-war era, the wider sporting landscape in Japan was characterised by a notable segregation along gender lines. However, judo presents a unique divergence from this norm: women actively participated in matches and *randori* (free sparring) with their male counterparts. This illustrates not only the broader acceptance of women in martial arts but also signifies their burgeoning leadership roles within this domain. In a remarkable advancement, several women took the initiative to establish and manage their own dojos, thereby contributing to the evolution of the sport and paving the way for future generations of female practitioners.

It is crucial to acknowledge the complex social and cultural milieu of the time, wherein women's *jujutsu* matches still frequently contained elements of eroticism and served as spectacles within public consciousness. These matches were not merely athletic contests; they were imbued with societal fascination and showcased varying interpretations of femininity and strength. Amidst this confluence of practices and perceptions, Kanō began to develop pedagogical approaches specifically tailored for women. His vision prioritised both the protection and education of women, establishing a framework that acknowledged their potential while advocating for their empowerment through judo as both a sport and a means of personal defence.

Through the concerted efforts of individuals like Mori, Yamada and Tajima, as well as the pioneering spirit of women who broke through conventional barriers, the spread of women's *jujutsu* not only marked a significant chapter in the history of martial arts but also reflected broader societal shifts regarding gender roles. This movement towards inclusivity and empowerment became a foundational element in the ongoing development of women's judo, both at the Kōdōkan and elsewhere.

The Dawn of Women's Judo at the Kōdōkan

The narrative surrounding the inception of women's judo at the Kōdōkan is exemplified by Hisako Miyagawa, the principal of Ohin High School for Girls. Miyagawa was a visionary educator who recognised the value of physical training alongside academic enlightenment, positing that the cultivation of both mind and spirit was essential for a holistic education (Matsushita,1977). It was during this transformative period in the early twentieth century that Miyagawa approached Kanō to seek his guidance in imparting this aspect of physical education.

In 1904, Kanō made his first efforts to teach women judo by teaching Kinuko Yasuda following a consultation with a physician regarding the physical capabilities and training regimen suitable for women. His pedagogical methods encompassed a robust regimen, which included iron dumbbell exercises, *ju-no-kata*, *ukemi* and *randori*. The efficacy of Kanō's instructional approach was vividly illustrated by Yasuda's remarkable recovery of physical strength, culminating in her successful ascent of Mount Fuji the subsequent year. Through this experience, Kanō recognised the educational value of women's judo and became increasingly confident in his teaching methods.

At this point, women's judo at the Kōdōkan was primarily conducted in Kanō's private dojo (the Katei Dojo) and Kōdōkan Academy, with a focus on training the women who were already closely associated with Kanō. Prominent instructors, including Tsutomu Honda and Jōjiro Tomita, played vital roles in delivering this instruction (Noritomi, 1972). In a notable instance, as the Tokyo Asahi Shimbun reported in 1912, a Miss Fredholm, who was described as a Swedish advocate for physical education, received instruction at the Kōdōkan. This highlights Kanō's international perspective and underscores his role in the development of women's judo worldwide.

By around 1923, Kanō had welcomed Yasuda, Utako Hori and Masako Noritomi formally as live-in female students, entrusting Honda with the task of their training. This decision marked the onset of a more organised approach to women's judo education. In 1926, Kanō further institutionalised this initiative by organising a seminar for twelve women from various parts of Japan. By November of that year, the Kōdōkan Women's Division was officially established, thereby solidifying the instructional framework for women's judo (Oimatsu, 1970). Through these developments, Kanō's vision and commitment to empowering women through judo became increasingly evident, laying the foundation for future generations.

Black Belts for Women

During the early Shōwa era (1926–1945), the Kōdōkan Women's Division functioned under Kanō's direct supervision, operating within a closed, segregated environment that was distinct from men's judo. By 1931, the division implemented a formal pledge book alongside more stringent entry requirements that included investigations into family background and social standing, criteria that were notably more rigorous than those applied to men (Yamaguchi, 2009).

Kanō prohibited competitive matches in women's judo, advocating instead for a moderate training approach. He believed that matches could cause excessive strain on female participants, potentially leading to injuries or illnesses that could disrupt their lives (Kanō Jigōrō Biography Editorial Committee, 1964). During this period,

wider criticisms of women's physical education began to emerge and debates surrounding women's sport became increasingly prominent (Takahashi et al., 2005). Like other areas of women's physical education, the structure of women's judo at the Kōdōkan was orientated around *kata* and *randori*, with competitive matches being banned while the practice of *kata* was promoted actively.

In 1935, the first female *shodan* (first dan, black belt) was awarded and the ranking system for women in judo continued to develop over subsequent years (Maruyama,1939). Kanō underscored the importance of women attaining ranks in judo, stipulating that promotions should be conferred by certified Kōdōkan instructors. Significantly, in 1936, his daughters and granddaughters were specifically distinguished as "women with black belt status" (Noritomi,1972), reflecting his progressive stance on women's judo.

Following Kanō's death, the Kōdōkan Women's Division continued to evolve under the leadership of his nephew, Jirō Nangō (南郷次郎), the second director of the Kōdōkan Judo Institute. He introduced self-defence techniques for women. Along with the traditional *Ju-no-kata* and *seiryoku zenyo kokumin taiiku kata* (*kata* for the maximum efficient national physical education), self-defence forms were integrated into the training regimen. However, competitive judo remained de-emphasised, with women's judo still being promoted in the context of cultivating the Japanese spirit, feminine beauty and proper etiquette.

In 1932, Katsuko Kosaki (小崎甲子, 1908–1997; see Figure 2) became the first woman to earn a black belt after successfully defeating three male opponents in her fifth attempt at the Osaka branch of the Dai Nippon Butokukai (大日本武徳会). Kosaki's promotion marked a pivotal moment in the history of women's judo. At that time, the Butokukai allowed women to engage in *randori* with men, thereby providing them with opportunities to advance under the same conditions. This development reflected broader shifts in societal attitudes towards gender roles in Japan since the Meiji era (Naito,1992).

In 1935, Kosaki established the Seigenkan Dojo in Tennoji, Osaka, which was the first judo dojo dedicated to women. By 1939, she became the first female *renshi* (練士) in judo certified by the Butokukai, an achievement that challenged the prevailing gender norms within Japanese society directly and represented a revolutionary moment in the field of judo.

Eventually Kosaki's promotion exerted influence on the Kōdōkan which had been comparatively slower in its recognition of women's contributions. The Butokukai's commitment to certifying women's promotions prompted the Kōdōkan to update its policies as well. Consequently, Kosaki received her first dan from the Kōdōkan and a comprehensive promotion system for women within the Kōdōkan Women's Department began to take shape. By 1934, additional female *judoka* had also achieved promotions, marking the gradual establishment of women's judo within the Kōdōkan framework.

However, under the leadership of Jigōrō Kanō, the Kōdōkan Women's Department continued to impose restrictions that prohibited women's competitions, with promotions primarily determined by *kata* tests and recommendations rather than competitive matches. While Kosaki's promotion sparked some changes in the Kōdōkan, the organisation maintained a generally conservative stance towards women's judo.

Postwar Women's Judo

Kosaki's promotion remained overlooked by contemporary media, probably due to its disruption of the entrenched male-dominated social structure and its challenge to the prevailing assumptions of men's physical and mental superiority over women.

Meanwhile, gender-based distinctions in judo endured into the post-war period, as can be seen in the experiences of American *judoka* Rena 'Rusty' Kanōkogi (1935–2009). During her training at the Kōdōkan in 1962, Kanōkogi articulated her confusion regarding the differences between men's and women's judo, which included the prohibitions against mixed training and women's matches.

Deeply ingrained gender-based restrictions regarding judo techniques and prevalent prejudices against women remained pervasive in Japan throughout the 1970's. Nevertheless, there were exceptions, notably in rural dojos, where women occasionally participated in *randori* with men. *Judoka* such as Kaori Yamaguchi also defied traditional gender barriers by training alongside men and competing in men's tournaments. These moments of defiance were pivotal in gradually advancing the status of women's judo.

Table 1: Women's grades in Japan in 1978

	Kōdōkan Women's Division (Joshibu)	Other Regional	Total
0 dan	45	17	62
1 dan	23	59	82
2 dan	13	8	21
3 dan	8	3	11
Total	89	87	176

Teizo Kawamura, Teruo Kaise, Atsuko Futahoshi, 1978, 'Jyoshi Jūdō no Jittai [The Reality of Women's Judo]', Kōdōkan Jūdō Kagaku Kenkyūkai Kiyō Dai V Shū,Kōdōkan. 45-54

In the 1970s, a survey of women's participation (Table 1) in judo competitions in Japan revealed a remarkable inclination towards competition among female practitioners despite the impediments to their participation (Kawamura et al., 1978). Of the 176 individuals surveyed, 110 participants (62.5%) expressed support for women's involvement in judo. In contrast, forty-five respondents (25.5%) were opposed to the idea, while twenty-one individuals (11.9%) refrained from answering, pos-

sibly due to uncertainty. Notably, this enthusiasm for competition was more pronounced among women in rural areas when compared to their counterparts in the Kōdōkan Women's Division. Additionally, when discussing refereeing regulations, an overwhelming majority, comprising ninety-two respondents (83.6%), advocated for the establishment of rules specifically tailored for female competitors. Only eighteen participants (16.4%) expressed support for the application of the same regulations for men's competitions (Kawamura et all.,1978). Notably, women *judoka* from rural areas also preferred adopting the same regulations as men.

Abroad, the inclusion of women's competitions in judo had already gained traction at the International Judo Federation (IJF) General Assembly during the 1972 Munich Summer Olympics, where Italy's representatives proposed the introduction of women's competitions and it became a topic of international discussion. By October 1975, the IJF General Assembly had adopted a resolution outlining the conditions for a women's world judo championship, stipulating that it would be organised if competitions for women were held on at least three of the five participating continents. The organisation of the Oceania Women's Judo Championship in 1974, the European Women's Judo Championship in 1975 and the Pan American Women's Judo Championship in 1977 thus marked significant strides towards realising this goal.

Meanwhile, in a pivotal move, the European proposal for women's judo refereeing regulations was adopted in 1976 during the IJF Special General Assembly.

Double Standards in Women's Judo

As the aforementioned developments occurred in other countries, Japan responded. In January 1977, the board of directors of the All-Japan Judo Federation (AJJF) approved the implementation of women's judo competitions. By November of the same year, the Kōdōkan Judo Match Refereeing Regulations for Women were established. However, this advance encountered complications due to the dual regulations between Japan's domestic women's judo rules and the international protocols, which had resulted from a power struggle between the IJF and the AJJF. The Japanese women's judo regulations, which drew upon the rules designed for junior competitors, imposed several restrictions. These mandated the wearing of short-sleeved white crew-neck shirts, stipulated the use of white stripes on black belts, required that long hair be tied back and prohibited various techniques, including the 'scissors' takedown (*kani-basami*, 蟹挟), hair grabbing, prolonged holding of an opponent's back collar, pulling an opponent down, and direct leg grabs. Additionally, when it came to choking and joint-lock techniques, referees were granted discretionary power to declare a win by submission, a practice that differed markedly from international standards. In response to the prevailing regulations, Yamaguchi commented,

> "These rules seem to reflect men's arbitrary assumptions regarding women's behaviour in judo. The prohibition against 'grabbing hair,' for example, is an etiquette guideline that any dedicated judo practitioner should naturally follow, without needing an explicit ban. Such rules are insulting to the athletes and undoubtedly impede the advancement of female judoka." *(Yamaguchi, 2012)*

The inaugural All-Japan Women's Judo Championship took place on 28th July 1978 in the Kōdōkan Main Dojo, featuring four weight classes: 50kg, 58kg, 65kg and over 65kg, with a total of thirty-seven participants. This landmark event marked Japan's initial steps towards participation in the Women's World Judo Championship, an arena in which Japan had been lagging behind Europe. Yanagisawa emphasised,

> "The fact that Japan was about ten years behind European countries in holding women's judo competitions significantly affected the athletes' skills and subsequent international results." *(Yanagisawa et al.,1992)*

At the first Women's Judo World Championship, the Japanese team competed in seven of the eight weight categories. However, only Yamaguchi managed to secure a medal (second place, -52 kg class), highlighting the gap in skill levels between the Japanese athletes and their international counterparts starkly. Notably, the selection of the Japanese team was based on domestic refereeing regulations, which differed significantly from the international rules, leading to considerable confusion. Hisashi Yanagisawa, the team's coach, commented,

> "Most of the Japanese athletes who participated had little experience in competitions, and it was their first time facing foreign opponents. Additionally, the refereeing rules differed slightly from the domestic women's regulations." *(Yanagisawa et al., 1992)*

Yamaguchi elaborated further,

> "Overseas athletes often grabbed the *oku-eri* [back collar], which is prohibited in Japan, and frequently used techniques like *kuchiki-taoshi* and *morote-gari*, skillfully taking their opponents' legs. With only a few opportunities to compete internationally each year and Japan's domestic rules being outdated, adapting to the tough global competition was extremely challenging." *(Yamaguchi, 2012)*

The World Championship meanwhile saw the pronounced dominance of European countries, with these countries winning twenty-eight out of the thirty-two medals, representing over 85% of the total. In contrast, Japan secured Yamaguchi's silver medal only. At the time, many female Japanese athletes were devoid of institutional affiliation and were thus in environments that were not conducive to dedicated judo training. Michiko Sasahara, who represented Japan in the 61kg category at the first Women's World Championship while simultaneously employed by Mitsui Construction, described her struggles,

> "When I approached some universities and police training facilities for practice, I was turned down with reasons like 'having women here could disrupt the discipline.' I was simply seeking a place to train, so why should I be rejected? I felt deep frustration and it was disheartening to realise that women's judo was viewed in this light. I hope those involved in the field will reconsider such attitudes." *(Kindai Judo,1978)*

Sasahara's testimony illustrates the challenging training conditions that female athletes faced in the late twentieth century. Seiki Nose, who helmed the Japanese women's judo team at the 1996 Atlanta Olympics, reminisced,

> "When I first started as the national coach, the environment was still far from ideal. Even though they were national team members, few female athletes trained every day. Most of them practised at the dojo half the week and did self-training on the other days." *(Yamaguchi, 2012)*

Having recognised these disadvantages, Japan embarked on a concerted effort to bridge the performance gap between Japan and the European nations by instituting a rigorous development and enhancement system for women athletes. This initiative commenced with the organisation of competitions and the procurement of training venues, which involved establishing affiliations and hosting national training camps.

This initiative included the introduction of a designated elite athlete system and the hosting of national training camps. It also covered the organisation of domestic competitions, such as the Fukuoka International Tournament, the All-Japan Women's Team Tournament (Okayama), the Student Championships and the High School Championships. Finally, it helped secure affiliations for athletes with universities and corporate entities.

National training camps began to be held three times a year. Athletes who achieved notable placements in the All-Japan Championships were categorised into A or B ranks. The camps covered the travel and training expenses for A-rank athletes, while B-rank athletes were exempt only from training camp expenses. This ranking-based system was designed to incentivise improvement.

Tournaments of the 1980's

In 1983, Japan hosted its inaugural international women's judo tournament, the Fukuoka International Tournament, which had been organised by RKB Mainichi Broadcasting Corporation to commemorate the thirty-second anniversary of its broadcasting service and elevate the profile of women's judo (Yamaguchi, 2012). This tournament would take place annually from its inception until 2006.

The Fukuoka International Tournament made two significant contributions to the advancement of women's judo. First, it invited elite international athletes to Japan, thereby enhancing the competitive level of Japanese athletes. For Japanese athletes, whose skills often lagged far behind those of their international counterparts, the opportunity to participate in competitions overseas was severely limited by high travel costs. Consequently, the arrival of strong competitors from Europe and America to compete in Japan provided an unparalleled opportunity for local athletes.

Second, national television broadcasts showcased women's judo to viewers and raised public awareness significantly. The participation of global icons like Ingrid Berghmans and Karen Briggs showcased the dynamic performances and exceptional techniques of top women athletes, making the appeal of women's judo visible throughout Japan via television.

In 1984, Yamaguchi emerged from the Fukuoka International Tournament as Japan's first female world champion, earning the nickname '*Onna Sugata Sanshirō*' (Female *Sanshirō Sugata*). Additionally, Ryoko Tani (née Tamura), who would later achieve national superstar status, made her tournament debut at age fourteen. Nicknamed '*Yawara-chan*' after the popular women's judo manga *Yawara*! She became a beloved national figure. These developments contributed to the expansion of the sport's popularity and the improvement of the competitive level in Japan.

The enactment of the Equal Employment Opportunity Law (Act on Securing, etc. of Equal Opportunity and Treatment between Men and Women in Employment) in 1985 coincided with the decision by the IOC Executive Board and General Assembly to include women's judo as an official event at the 1992 Barcelona Olympics.

From 1985 onwards, the number of international and domestic women's judo competitions grew rapidly, paralleling the expansion of men's tournaments. Historically, women's competitions had been conducted as standalone events; however, beginning with the 1985 All-Japan Women's Student Judo Tournament, integrated events for both men and women became increasingly prevalent (see Table 2). Meanwhile, the fifth world championship, held in 1987 in Essen, Germany, also marked the transition of that tournament series to a joint event for both genders.

Table 2:New Tournaments Held in Japan in the 1980s

Year	Championships or Tournament	Form
1983	Fukuoka International Women's Judo Championship	Women only
1985	Al-Japan Women's Judo Team Championship	Women only
1985	Al-Japan Student Women's Judo Championship	Joint Event
1986	Al-Women's Judo Championship (open weight)	Women only

1986	Al-Japan High School Women's Judo Weight Category Championship	Joint event
1987	Al-Japan Student Women's Judo Championship	Joint event
1989	Kinshuki High School Judo Tournament	Joint event
1989	Al-Japan Corporate Judo Individual Championships (women's open weight)	Joint event

The Fukuoka International Tournament would come to an end after twenty-four tournaments. This decision was made around 2003, coinciding with the introduction of a ranking system in Europe, which led to an increased frequency in the IJF tournaments held globally. Consequently, the tournament schedules for athletes became congested. Moreover, most international tournaments had become joint events for men and women and countries preferred to send both men's and women's teams overseas at the same time. As a result, European countries began to withdraw from the Fukuoka International, which remained an event for women's teams only.

In response to the decline of participants in the Fukuoka International Tournament, the AJJF decided to reorganise and consolidate its tournament framework. During a board meeting held in March 2006, it was resolved to discontinue the Fukuoka International Women's Judo Tournament. The event was set to be integrated with the Kanō Cup International Judo Tournament, which had historically been a men's competition taking place in Tokyo. Furthermore, it was also decided that from 2007, the All-Japan Weight Category Championships would be held jointly for men and women.

Women's Judo at the Olympics

In May 1985, the IOC accepted the IJF's request and included women's judo as a demonstration sport at the 1988 Olympic Games in Seoul. The inclusion of women's judo on the Olympic programme became definitive at the 1992 Olympic Games in Barcelona (Yamaguchi, 2012). This coincided with the enactment of the Equal Employment Opportunity Law mentioned above and took place amidst the burgeoning Bubble Economy (1986–1991). Consequently, women's judo tournaments proliferated, significantly enhancing competitive performance and drastically increasing the number of female medallists at international competitions.

The economic boom further accelerated the establishment of corporate women's judo clubs. Starting in 1989, companies began setting up their own women's judo clubs, creating an environment conducive to the athletes' focused pursuit of competitive excellence. Noteworthy early examples included Sumitomo Marine & Fire Insurance (now Mitsui Sumitomo Insurance), Komatsu, Mikihouse and Saitama Bank (now Resona Bank). These firms not only established all-female corporate clubs but also ensured secure career paths and equitable salaries for the athletes, thereby fostering a virtuous cycle of enhanced performance.

The Sumitomo Marine women's judo club serves as a particularly notable representative organisation of women's corporate judo clubs. Its establishment in 1989 came from collaborative discussions between Hisashi Yanagisawa, who was then serving as the coach of the Japan women's national team, and representatives of the Sumitomo Marine Sports Promotion Division. These discussions were initiated during the advertising campaign for the All-Japan Weight Class Championships (Yamaguchi, 2012).

The rationale for establishing the club stemmed from the belief that judo could produce Olympic athletes more rapidly and cost-effectively than track and field events, which were the typically favoured athletic investments for many financial institutions during the Bubble (Yamaguchi, 2012). Despite initial setbacks, including a shortage of members and the absence of a dedicated dojo, the club ultimately triumphed. Yuko Emoto's (恵本裕子) historic victory as the first Japanese woman to secure an Olympic gold medal in judo, at the 61 kg weight class, during the 1996 Atlanta Olympics, marked a pivotal milestone. This achievement spurred Sumitomo Marine to build its own dojo, which has since facilitated judo classes for the local youth, thereby reinforcing community engagement.

Similarly, the Komatsu women's judo club was established in 1991, inspired by the company's motto of 'not stopping once we start.' Despite facing economic headwinds, the club has thrived, gaining recognition not only as a platform for competitive excellence but also as a vital component of the company's social contribution initiatives, which actively promote judo development internationally.

Thus, from the late 1990's onwards, corporate sport in Japan began to transcend its traditional goal of mere performance enhancement by contributing significantly to social initiatives and establishing a unique sports system within the country.

CONCLUSION

Societal norms and institutional frameworks took on an intricate interplay between in the development of women's judo and *jujutsu* in pre-war Japan, all of which were profoundly influenced by entrenched gender roles. Media from the period, alongside the activities of the Kōdōkan and local *Budo* Federation branches, reveal that gender distinctions were not only accepted but systematically institutionalised. Jigōrō Kanō's prohibition of women's competitions and mixed-gender training at the Kōdōkan stemmed not from discriminatory intent, but from an educational philosophy that prioritised learning over competition. In contrast, local branches of the *Budo* Federation exhibited greater flexibility, allowing women to train alongside men on equitable terms. This difference underscores the varying interpreta-

tions and implementations of judo practices across different organisational contexts.

The core principles of judo, such as 'gentleness over strength (*ju no ri*, 柔の理)' and 'smaller individuals overcoming larger ones (*jyu yoku gowo seisu*, 柔能制剛)' facilitated women's transcendence of physical limitations. These principles positioned judo as a catalyst for gender equality. In a society characterised by gender discrimination, the equal application of judo techniques empowered women and fostered their identities both in Japan and on the international stage. Judo thus transcended mere athletic practice; it served as a medium for women to contest traditional gender roles and enhance their social status.

By revisiting Kanō's philosophy and exploring different practices within judo, it is evident that the sport provided women with a vital platform for self-assertion and social advancement. Future research could explore how the history of women's judo has contributed to the broader movement for women's rights and recognition. As is demonstrated in this study, the sport offers ample material that illustrates its influential role in shaping gender dynamics, both in prewar Japan and within contemporary discourse on gender equality in sports.

Acknowledgements

This work was supported by JSPS KAKENHI, grant number 20K19582.

References

Callan, M., Heffernan, C., & Spenn, A. (2018). Women's jūjutsu and judo in the early twentieth-century: The cases of Phoebe Roberts, Edith Garrud, and Sarah Mayer. *The International Journal of the History of Sport, 35*(6), 530–553.

Judo, K. (1978). Number Novemb. Baseball MagazineJudo, K. (1990). Number Februar. Baseball Magazine, Katsuko no jūdō icchokusen(おんな三四郎83歳宙をとぶ 女性黒帯第一号, 小崎甲子の柔道一直線). F.A. Shuppan.

Mahmud, S. S. (1996). Restoration and social transformation in early Meiji Japan. In State*, class and underdevelopment in Nigeria and early Meiji Japan*. Palgrave Macmillan.

Matsushita, S. (1978).「戦後の女子柔道」[Post-war Women's Judo], Bulletin of the Research Institute for Humanities and Sciences. Nihon University.

Miarka, B., Marques, J. B., & Franchini, E. (2011). Reinterpreting the history of women's judo in Japan. *The International Journal of the History of Sport, 28*(7), 1016–1029.

Mizoguchi Noriko. (2015) .女子柔道の誕生：講道館神話の分析 [The Birth of Women's Judo : An Analysis of theKodokan Myth], (Thesis for Ph.D. University of Tokyo,2015).

Naito Yōko. (1992) .Onna Sanjirō 83–sai chū (w)o tobu. Jōseikuro–obi dai ichigō Osaki Kaneko no jūdō icchokusen(おんな三四郎83歳宙をとぶ 女性黒帯第一号, 小崎甲子の柔道一直線) [The female Sanjirō at 83 years of age jumping through the air : the straight lineage ofjūdō of Kosaki Katsuko, the first female black belt]. F.A.Shuppan (エフエー出版) .

Noritomi,Masako .(1972). *Joshi jūdō kyōhon* (女子柔道教本)[*Textbook of women's jūdō*]. Junsensō.Sanso.

Shinichi, O. (1966). *Judo Hyakunen (100 years of judo)*. Jiji Press.

Takahashi, I., Hagiwara M., Taniguchi M., Kakemizu, M., & Kakuta S. (2005). ブルマーの社会史 女子体育へのまなざし *The social history of bloomers: A look at women's physical education*. (Seikyusha Library 36) Paperback.

Teizo, K., Teruo, K., & Atsuko, F. (1978). The reality of women's judo. *Kodokan Judo Science Research Society Bulletin, III*, 45–54.

Yamaguchi, kaori. (2009). Jyoshi jūdō no rekishito kadai (History and issues owomen's judo). *Budo, Nihon Budokan, 51*, 84–91.

Yamaguchi, Kaori. (2012) 女子柔道の歴史と課題 [*Women's judo: History and challenges*], Nihon Budokan.

Yanagisawa, H., & Yamaguchi, K. (1992). *Joshi jūdō* (Women's judo). Taishukan Shoten.

Yoshizaki, S., Kazuhiko, I. (2008) 相撲における「女人禁制の伝統」についてOn the Tradition of Sumo Wrestling Being Off Limit to Women,Journal of Hokkaido University of Education. *Humanitiesand Social Science.*

Article history
Received : 9 September, 2024
Accepted : 7 November, 2024

Out of the West: The History of the Development of Women's Judo in the West

By Mike Callan and Amanda Callan-Spenn

Abstract: *Women's judo, introduced as a demonstration sport in the 1988 Olympics and officially included in 1992, has roots tracing back to the 1890's when Jigoro Kano, judo's founder, began teaching women in Tokyo. Using a combination of primary, biographical and scholarly sources, this paper considers three key elements of the development of women's judo in the global West. The initial dissemination of judo outside Japan and the cultural engagement with the Japanese fighting arts; the challenge for women to create parity with men in competition through the second half of the twentieth century; and the determination for equity in international governance. Early twentieth-century female pioneers from the global West contributed significantly to the sport's expansion and visibility. In America, early engagement aligned with a cultural interest in martial arts for women's fitness. Meanwhile, European and Australian women were spreading judo's appeal and promoting female empowerment through self-defence around the world. Across continents, women used judo to challenge gender norms and advocate for strength and independence. This cultural movement continued into the 1920's and beyond, with women instructors and students promoting judo's benefits actively, paving the way for later innovators to extend its global reach, whilst advocating opportunities for women. Despite restrictive policies through the mid-twentieth century, notable female judoka continued to break barriers, fostering judo's growth across Europe and beyond. The inclusion of women's judo as a demonstration sport in the 1988 Olympics, marked a milestone, giving a platform to Western judoka and later showcasing the dominance of athletes from Austria, Belgium, Great Britain, Cuba and France. Female leaders now help to shape judo's future, championing gender equity and the values of judo.*

Keywords: *Women's judo, history, Olympic Games*

The first inclusion of judo for women at the Olympic Games, initially as a demonstration sport in Seoul in 1988, and then in Barcelona in 1992, belies the fact that women have been involved in practising judo since the late nineteenth century. Jigoro Kano himself was teaching women in Tokyo as early as the 1890's (Sato, 2013; Spenn, 2021) and with the dissemination of judo abroad, women around the world were encouraged to learn those skills as a method of self-defence and to improve fitness. This article, using a broadly chronological approach, identifies a selection of women from the global West and considers their contribution to the popularity and development of women's judo. Using local newspaper reports and contemporary publications, this paper also looks at the effects of these women's participation on cultural and societal norms in the century leading up to the acceptance of women's judo at the Olympics.

The development of judo for women can be aligned with significant changes within the fight for women's equality and traditional cultural practices across the Western world. This paper considers these connections through three key areas. The first is the popularity and use of *jūjutsu* as self-defence in the early twentieth century among women either with the wealth to spend their spare time indulging in a new and exotic form of physical culture, or those who used the art to generate a profession and employment. The second area illustrates the determination of women to create competitive events on par with men's events and to compete at an international level, culminating in inclusion in the Olympic Games. Thirdly, the paper concludes with a brief presentation of the current development of women within international governance in the judo sphere.

Early Twentieth Century International Promotion

With the turn of the twentieth-century, Kano's dissemination of judo across the world had begun. At the same time, newspapers in the global West were full of articles extolling the impressive nature of the Japanese fighting arts, as contemporary wars between Japan and their neighbours seemed to demonstrate their superiority in combat ('Jiu-Jitsu', 1904; 'Port Arthur: And After,' 1905; 'Jiu-Jitsu', 1905). As the popularity of what most Western countries called *jūjutsu* (spelled in various ways) grew, importantly there was a drive for the promotion of the art to women. In many ways, this is unsurprising, given the fact that these women were, for the first time, being offered the skills and ability to defend themselves against often stronger and larger individuals. This would go on to contribute to a political movement calling for social and political equality for women, often referred to as the first wave of feminism. Initially, however, there was a crucial split within society and their engagement with judo/jūjutsu. Often women of the wealthier social classes would attend physical culture lessons, being taught either by Japanese immigrants or visitors, local men who had learned the art, or women who were ahead of them with their training and had become tea-

chers themselves. However, as *jūjutsu* was also being promoted through music hall or vaudeville acts, women of the lower classes had access to demonstrations and some form of teaching from a distance.

In America, as the twentieth century began, the participation of women from the higher social classes was evident. Women in the enclaves of the White House were being taught judo by Yamashita Fude. She was the wife of Yamashita Yoshitsugu, one of Kano's earliest pupils and later the recipient of the first Kodokan 10th dan (Hanako, 2009). In 1903, The Yamashitas were invited to the U.S. by Samuel Hill, a wealthy railroad executive, to teach his son the skills and philosophy of judo. He paid for their first-class travel, initially by the ship Shinano Maru, from Yokohama to Seattle where he was based, then onwards by rail to the east of the country where his son lived (Hill, 1903). They were accompanied by an assistant, Kawaguchi Subaru who paid his own fare. Once in Washington, Yoshitsugu was engaged by President Theodore Roosevelt for his own tuition, followed by a post teaching the United States Navy, while Fude taught Washington women and their children. The American press enjoyed this idea, "With the two Japanese is a woman who is teaching *jiu-jitsu* to a large class of Washington society women, whose husbands are in a panic." (Roosevelt is learning the *jiu-jitsu* game, 1904, p. 5). Teaching Roosevelt was short lived, ending after just a few months, but Fude continued to teach her own classes.

Prof. Yamashita, Mrs. Yamashita, and Samuel Hill, ca. 1904. Yoshiaki Yamashita Photograph Album (PH 006). Special Collections and University Archives, W.E.B. Du Bois Library, University of Massachusetts Amherst.

The Yamashitas' arrival in Washington coincided with the release and promotion of Harry Irving Hancock's book, *Physical Training for Women by Japanese Methods* (1904). This publication, accompanied others by Hancock, aimed at men and children, all extolling the virtues of *jiu-jitsu* training, alongside his seminal work written with Higashi Katsukuma titled The Complete Kano Jiu-Jitsu, first published in 1905. In Physical Training for Women, Hancock claims to have studied under Matsuda, Yako and Inouye; the book is aimed at producing strong women through *jūjutsu* exercises. It begins with a treatise on 'The Absurdity of the Existence of the Weaker Sex.' The press promoted this idea with the San Francisco Examiner running a full-page article titled 'How to Be as Strong as Your Husband or Your Brother' (1904, p. 46). So, the path was smoothed for Fude's arrival and women were interested in how these Japanese skills might help with their strength and fitness.

The dedication in Hancock's book was 'To the American woman and her English cousin' and it was simultaneously released in the United States and Great Britain. Two notable women across the Atlantic who already knew about the advantages of *jūjutsu* training were Phoebe Roberts and Emily Watts. Roberts was born in 1887 in Monmouthshire, Wales, the daughter of Thomas Parry. She moved to London to live with a woman of Welsh descent and her husband, a chemist named Roberts, and she adopted their name (Callan, Heffernan & Spenn, 2018).

The Evening Express, a daily English language newspaper distributed in Cardiff ran an article on 1st September 1905 ('Welsh lady professor of ju-jitsu' p. 2) on how Miss Parry was teaching the Japanese art of self-defence in London at the Japanese School of JuJitsu in Oxford Street. This was the school founded by Yukio Tani and Taruji Miyaki (also known as Taro). Phoebe Roberts had trained with Tani and Miyaki as well as Sadakazu Uyenishi (also known as Raku). These men were instrumental in popularising *jūjutsu* in Britain from 1900 onwards through their dedication to teaching and demonstrations in the music halls and other venues. Tani later went on to become the head coach at the Budokwai in London. In 1907, Phoebe Roberts married one of the Japanese teachers at the school, Hirano Juzo, and the couple embarked on a tour of Britain demonstrating the art (General Register Office, 1907). Over the next few years, they travelled across Europe following Uyenishi through Spain and then Portugal, where they settled in 1910.

Within the Portuguese press Roberts was noted as being slight and fragile, unlike the strong women who had been seen in circuses previously, but extremely effective in self-defence. The Ilustração Portugueza ran a two-page article with images, describing how Roberts made her start in *jūjutsu* and had performed in Lisbon (J.S., 1910). Along with her husband, she continued to teach and promote *jūjutsu* in Portugal until Hirano is thought to have drowned in 1915, although his body was never found. She married the wealthy Don Carlos de Castro Henriques in 1916 and continued to live in Portugal until her death in 1936.

Roberts' earlier training partner, Emily Watts, also took up *jūjutsu* around the turn of the twentieth century under the tutelage of Tani, Miyake and Uyenishi. Watts also toured the U.K. and around the world but was more interested in lecturing about health and strength through the art (Royal

Sanitary Institute, 1908) than the demonstrations where Roberts was seen to be defending herself against hooligans (Clifton Society Talk, 1906, p. 8). Watts put her training into the form of a book titled The Fine Art of Jujutsu, published by Heinemann in 1906, for which she was assisted by Uyenishi, and she devoted a chapter to what she termed the Kano School. This was the first English language book on the Japanese martial arts written by a woman.

H. Irving Hancock. (1906). Le *Jiu-Jitsu* et la femme. Berger-Levrault & Cie.

On the other side of the world, a young woman from Australia known as Florence Le Mar was performing and teaching her skills in both her home country and in New Zealand. Born Florence Robertson in Melbourne, she was one of the few women to be successful in *jūjutsu* or judo in the period who was not taught by a Japanese teacher. Her husband, August Gertenheyer, known as Joe Gardiner, was an actor and wrestler originally from Germany; they married in Wellington, New Zealand in 1911 (Registrar General, 1911). Joe had arrived in Australia in 1909 and was wrestling professionally. The evidence shows that in that year, Fukushima Ryugoro, who was famous for the early promotion of *jūjutsu* in Australia, had accepted a challenge from Joe to a fight for £100 (Shima Willing, 1909, p. 7). Joe taught his wife, who became a sensation, performing the techniques to eager audiences in shows called Hooligan and the Lady (Vaudeville Company, 1912, p. 5). Florence and Joe also produced a book titled The Life and Adventures of Miss Florence Le Mar: The World-Famous Ju-Jitsu Girl, published in 1913. The book described fanciful situations where she had used *jūjutsu* to great effect to save the day, in addition to detailed information on different techniques. Here we can see an attempt to present women as agents of confidence and strength to members of Australian and New Zealand society. Alexander Bennett (2016, p. 195) describes the book as, "One of the earliest books on martial arts in the world that amalgamates the technique, philosophy and holistic benefits of *jūjutsu* with feminist ideology."

Back in Europe, in 1906, French periodical Mémorial D'Amiens ran a full front page cartoon image titled Le *Jiu-Jitsu* Partout (Nézière, 1906, p. 1). The first vignette held the caption, "L'année dernière, c'était le cake walk, Cette année, c'est le Jiu-Jitsu. Le *Jiu-Jitsu* est partout. On l'enseigne dans le monde." The images show different situations where *jiu-jitsu* had become part of every-day life, among women as well as men. Although one or two of the images were stereotypical of women, reminiscent of British seaside cartoons mocking the women's suffrage movement, not all were of that nature, with elegant well-dressed women taking the upper hand too. Therefore, a nuanced view of the sections of society which might engage with *jūjutsu* is presented in spite of the comedic aspect of the article. However, despite Irving Hancock's book being published in France at this time, under the title of Le *Jiu-Jitsu* et La Femme, here *jūjutsu* was seen initially as a predominantly masculine pursuit.

R. Nézière, (1906, April 29). Le *Jiu-Jitsu* Partout. Mémorial d'Amiens et du département de la Somme. Supplément illustré, p.1.

In Germany in 1906, Erich Rahn opened a school of *jūjutsu* in Berlin and it is thought that he learnt his skills from Higashi Katsukuma (Doval, 2012). 1907 saw the debut of a comedy play titled Jiu-Jitsu. It was described in the press as gentle co-

medy where the woman is triumphant at first but soon gets put down again (Jiu-Jitsu, 1907, p. 5). It is not really about *jūjutsu* as a fighting art at all, but the fact that this was considered an apt title in this period illustrates the depth of popular culture within central Europe to which this Japanese art had reached.

In Britain, the art being was taken forward to help achieve political and social autonomy for women. Edith Garrud, who had trained with Uyenishi, was teaching women of the suffrage movement to protect themselves against aggressive behaviour from anti-suffrage 'ruffians' and the police at meetings and protests. Along with her husband William, Edith had been teaching for a few years at their own school in Holborn but by late November 1906 they were teaching at Uyenishi's Golden Square dojo in Picadilly, with Edith described as Lady Superintendent (Advertisement, 1906, p. v). By 1913, the Women's Social and Political Union (W.S.P.U.), organised chiefly by the Pankhurst family, had set up a bodyguard group of women who were being trained by Edith (Callan, Spenn and Heffernan, (2018). At this point, Edith had moved away from William and was teaching just off Oxford Street, concentrating mainly on the cause of the women's movement. Initially, Edith had courted the press with reports in popular newspapers such as the Daily Mirror, which at that time was particularly supportive of women and women's rights, running photographs of her with the headline "Suffragettes to learn the art of Jiu-Jitsu" (1909, p. 9). However, with the advent of the bodyguard, a more clandestine approach was necessary and the press were kept in the dark about the training sessions.

Author Wendy Rouse (2019, p. 117) notes that, "American suffragists took lessons, both figuratively and literally, from radical English Suffragettes." Although, as early as 1871, women such as Susan B. Anthony were advocating for self-protection, claiming, "I declare to you that woman must not depend on the protection of man, but must be taught to protect herself" (Rouse, 2019, p. 118). This was a sentiment echoed some forty years later by Sylvia Pankhurst, daughter of Emmeline Pankhurst, leader of the W.S.P.U. in Britain, in a more militant vein, when she gave the rallying cry, "We have not yet made ourselves a match for the police […] The police know jiu-jitsu. I advise you to learn jiu-jitsu. Women should practice it as well as men" (*Jiu-Jitsu* for Militants, 1913, p. 4). In the West, the ability for radical women to protect themselves had become reliant on the Japanese fighting arts.

The First World War essentially brought Edith's work with the Suffragettes to a close but wartime didn't prohibit women across the world in Australia from carrying on with their training. In fact, they were encouraged train. Word even reached the U.S. press that the, "Absence of men in Australia … does not worry the women of that country. They are able to defend themselves. So declares Miss Dulcia Hall, champion *jiu-jitsu* wrestler." The article went on to state that having studied the art, women were "fully prepared to repulse any bold invader" (Jiu-Jitsu: Miss Dulcia Hall, 1916, p. 20). The use of *jūjutsu* as a form of empowerment for women in a socio-political sense, alongside a practical form of protection from whatever forces might be encountered, can therefore be seen as important framing at an international level of gendered emancipation within the pre-war period.

Interwar Self-defence and Cultural Exchange

With the war over, in the Dominion of Canada, mother and daughter Mary and Harriet Hunter were teaching and demonstrating jūjutsu. They had emigrated from England in 1929 under the assisted migration scheme (Passenger Lists leaving UK, 1929). Harry Hunter was another show fighter and as he devoted more of his time to *jūjutsu* he also began to promote the art to women. Between 1923 and 1926, records have been found of his wife Mary assisting him and demonstrating, although she was unnamed (Ju-Jitsu, 1923; Ju-Jitsu in Chester, 1926). One of these demonstrations was called Ladies Versus a Ruffian (Self-Defence, 1926, 1) which closely mirrors Florence Le Mar and Joe Gardiner's earlier shows some eleven and a half thousand miles away. However, it was Harry's daughter Harriet who was attractive to the press. The Lethbridge Herald ran a piece on her skills when she was twelve years old. "She weighed in at 84 pounds (about 38 kilos) and her father said that she could break every bone in a man's body as easily as she eats her breakfast – and she eats her breakfast very easily." (World Topsy-Turvy, 1930, p. 11). Mary and Harriet would seem to have been proficient fighters who were invested in promoting the art of self-defence for their sex.

In the same period of the 1920's, during the Weimar Republic era, like Harry Hunter, Erich Rahn is known to have taught women. In December 1925, *Die Bosche* ran a photograph of Rahn teaching a group of young women in a class, holding the caption, "Jiu-Jitsu-Kursus für Frauen: Durch Umlegen der Hand wird der Gegner bei einem Angriff von hinten kampfunfähig gemacht" (1925). This tied in with the new cultural initiative in the Weimar Republic for a stronger and fitter populace, and the Japanese fighting arts were being promoted strongly across the country (Jensen, 2013).

Jiu-Jitsu - Kursus für Frauen. (1925, December 20). Die Bosche. Accessed through Sportmuseum Berlin. Wassersportmuseum Grünau: Album Erich Rahn [PA.000194.119].

The dissemination of judo for women from Japan to the global West however, was not entirely a one-way exercise. There have been, over the last century, a few, notable, exceptional women who travelled to Japan to train and have

influenced the culture of judo training in its home space. The first of these was Sarah Mayer who began learning judo at the Budokwai in London in 1927 under Gunji Koizumi, the founder, and Yukio Tani (Callan-Spenn, 2019; 2020). Having journeyed to Japan in late 1933 as, what might now be considered, a sports tourist, she trained with the Kobe Police Force at the local Butokukai institution and then at the Kodokan. Sarah preferred to train with the men in Japan and was given permission by Jigoro Kano to use the main, male dojo for her practice sessions. Importantly, Kano was in the process of trying to encourage more women to participate in Japan and Mayer was put to task to promote judo to a local female audience. In an article in Judo published by the Kodokan she wrote, “Dear Japanese ladies, why don’t you try judo?” continuing with ‘‘Do you think judo is too rough and tough for ladies? Do you think judo will make ladies masculine? Do you think judo will make ladies aggressive?” Sarah was keen to stress that femininity was not affected by judo, stating that “losing charm and grace … is definitely not true”, adding, “Judo is a really magnificent exercise. For young ladies it is a good way to keep their youth and beauty and be intellectual” (Mayer, 1934, pp. 40-41). Here we see one of the essential aspects of Kano’s concept of judo, i.e. the improvement of intellect, being promoted to women in the interwar period. This potential intake of Japanese women were not expected to train with the men, like Sarah, and this is perhaps the first instance of a foreign woman training with men at the Kodokan.

Sarah returned to the UK in 1935 and as a global war loomed once again and the Second Sino-Japanese war intensified, interactions between Japan and many Western societies became more problematic.

Postwar Developments

After the outbreak of the Second World War, in 1941 a young woman living in California, U.S.A., visited Oakland Judo School. Her name was Helen Coolidge and it was at this club that she met her future husband, Dominic Carollo. The couple set up their own school in 1946 and a later article in Black Belt magazine describes how they were guided by Mr K. Yoshida from the Kodokan (Uyehara, 1962, p. 34). By 1950, Helen was listed in the federal census as a judo instructor based at the Y.W.C.A. while her husband was listed under his full-time job in electrical maintenance (U.S.A. Bureau of the Census, 1950).

At Helen and Dominic’s judo gym in Oakland, they had sessions four nights a week with Helen instructing the women's classes. In 1952, Helen became the first woman in the US to achieve a black belt without going to Japan, finally making the pilgrimage in 1953 to train at the Kodokan. During her two-month visit she was the subject of much interest among Japanese society and received an invitation from a member of the Imperial family to visit their home (Uyehara, 1962). As with Sarah Mayer, two decades earlier, Carollo had the opportunity to train with the legendary Kyuzō Mifune, who since 1945 had been promoted to 10th dan. She remarked on his agility and application of *maai*, commenting, “When I grabbed his uniform, I had a weird sensation that there was nothing in it, no body, just space” (Uyehara, 1962, p.36). After her own promotion to 2nd dan, Helen returned to the US along with her new friend Keiko Fukuda, a 5th dan instructor of the Kodokan Women’s section.

Fukuda’s grandfather Hachinosuke Fukuda was the first teacher that Jigoro Kano found to teach him *Tenjin Shin'yō-ryū jūjutsu*. Keiko had joined the Women’s Division of the Kodokan in around 1935 at the personal suggestion of Kano (Spenn, 2021). The development of women’s judo in Japan is outside the scope of this paper, but Keiko Fukuda’s impact on women’s judo across the United States and other nations was significant. Her dedication to teaching judo inspired countless women to follow the way. Her mantra, “Be strong, be gentle, be beautiful,” was a call to women worldwide and a nod to the concept of *jū*, often translated as gentleness. Her pedagogical approach and emphasis on judo philosophy were instrumental in shaping attitudes toward women’s involvement in judo, particularly within the United States (Fukuda, 1973).

In the post-war period, many women from overseas, including Ruth Gardner (United States, 1949) and Marie-Rose Collet (France, 1949), developed their judo having attended the women's course at the Kodokan (Darcourt, 1957).

Judo in the Performing Arts

Actors promoting judo in the West, whether intentionally or not, began back in the early twentieth century, as soon as international society was engaging with the art. The glamorous French star Gaby Deslys was joined by Surye Kichi Eida on stage in London in 1906, performing the Jiujitsu Waltz in The New Aladdin (Gardiner, 1986, p. 19).

Bassano Ltd. (1906) S.K. Eida and Gaby Deslys in the new Ju-Jitsu Waltz at the Gaiety, published by Andrew & George Taylor. Photographs Collection National Portrait Gallery, UK. Ax160269.

Eida was one of the teachers at the Oxford Street dojo in London, where they also taught the well-known actress Marie Studholme. Sarah Mayer was herself an actress and on her return to the U.K. from Japan she returned to the

stage where, in 1940 she played in the George Bernard Shaw play The Millionairess, which Shaw had altered so that the main character was proficient in judo rather than boxing after he met with Sarah. In 1960, Twentieth Century Fox released the film The Millionairess, based on the play. The main character Epifania was a *judoka* (Callan, Heffernan & Spenn, 2018; Mohan & Kumar, 2018). With Sophia Loren playing the part opposite Peter Sellers, the movie was a hit with filmgoers across the world.

Another actress presenting a positive image of judo in the 1960's was Honor Blackman (Wright, 2013), a member of the Budokwai in London, who played the character of Cathy Gale, an expert in judo in the popular TV show The Avengers from 1962 to 1964. Marie-Claire Cahen de Labzac, better known by her stage name Brigitte Auber was a French actress, best known for her role in Alfred Hitchcock's 1955 film, To Catch a Thief. As a brown belt, practising in Neuchatel, she helped promote judo in the local press (Jelmi, 1956).

International Competition

In parallel with the pioneering work of Helen Carollo and fellow pioneers in the U.S., France saw the first women's competition in Europe, organised by Mikinosuke Kawaishi. In May 1950, the Championnats de France de Judo Tournoi Feminin was held at the Palais de la Mutualite. Brousse (2005, pp. 279-280) notes that Jeannine Levannier, a finalist in the first competition, was awarded the first female black belt in France at a gala in Lyon later that year, when she took on a line up of orange belt men. Levannier was described in Qui? Magazine, a light-hearted periodical full of puzzles and stories as, "Une femme qui vaut six hommes" or "A woman who is worth six men," in a two page spread filled with photographs (Vanker, 1951). Here the affirmation of women's judo through popular culture in post-war France can be seen. Levannier continued a coaching career which increased the popularity of judo for a generation of women in the 1960's.


JANINE LEVANNIER, UN
UNE FEMME
QUE CEINTURE NOIRE DE JUDO EN EUROPE, EST
QUI VAUT SIX HOMMES

Raymond Vanker. (1951, June 4). Janine Levannier. Qui?: Le magazine de l'énigme et de l'aventure, p. 22. Bibliothèque Nationale de France, département Droit, économie, politique, FOL-JO-3923.

The British Judo Association, which had been formed in 1948, first elected a woman, Irene Edwards, to the Executive Committee, in October 1956 (Edwards and Menzies, 1956, p. 30). A meeting was convened at the Budokwai in March 1961 with around 50 women in attendance. Iris Dehnel of the Budokwai was elected as Chair (Havard, 1961, p. 16). The agenda included contest rules, a coach award and a grading syllabus. Those present expressed a wish that women's judo should be governed by the same rules as the men. However, at a joint meeting of the British Judo Executive Committee and Technical Board in October 1961, the Association Policy Concerning Judo for Women was resolved and included the following points:

a) Competitive judo for women in public shall not be permitted.
b) Belts worn by women should be marked to differentiate their grades from the men's grades. NB. – The Ladies Committee are to recommend at its first meeting what the distinguishing mark shall be.
c) As facilities become available it would be preferable to segregate women's instruction and practice from that of men.
d) The Technical Board in consultation with the Ladies Committee shall draw up a ladies' syllabus bearing in mind various points that have been made as a result of the reports received. (Edwards and Menzies, 1961, p. 35).

At the Annual General Meeting of 12th November 1961, the Ladies Committee was formally constituted, "To advise and recommend to the Executive Committee and Technical Board any matters pertaining to or in relation to judo for women" (Edwards and Menzies, 1961, p. 35). The first meeting of the Ladies Committee (renamed the National Women's Council in 1964), was held in December 1961. Just five years after the founding of the Ladies Committee, the inaugural Great Britain Women's National Area Team and Kata Championships was held at Liverpool University. One of the early committee members was 20-year-old Margot Sathaye.

A significant figure in British judo, Margot Sathaye, from Croydon Judo Club, was at the age of 16, the youngest woman to achieve a black belt. She was introduced to the audience at the Festival of Judo held at the Royal Albert Hall on 29th March 1958 (Veritas, 1958). Margot promoted judo for women through instruction and media outreach. She moved to Japan in October 1968 and was based in Tokyo for around 25 years, where she was coached by Umetsu Katsuko. She also taught in the United States, Sweden and Finland. In 1999 she became the highest graded non-Japanese woman in the world, when the Kodokan graded her to 7th Dan (Leigh, 2024).

A contemporary of Sathaye, Rena Glickman was born in 1935 in Brooklyn, New York. Later she would become known as 'the mother of women's judo' (Lewellen, 2009). From a tough background in a gang culture, she came

across judo at the age of 20 when a friend showed her a technique he learnt at the Y.M.C.A. men's judo class. She persuaded the Y.M.C.A. to let her join the lessons and famously in 1959 she bandaged her breasts and cut her hair to conceal her gender, winning the Y.M.C.A. state men's judo championships in Utica, New York. She had to return the medal when she admitted she was a woman. Not until fifty years later did the Y.M.C.A. of Greater New York reaward the gold medal at an event to celebrate her life's work. The experience cemented her determination to gain gender equality in judo and in sports and the fight for the recognition of women as competitors began (Kanokogi and Kanokogi, 2021).

Rena trod a familiar path by moving to Japan to train in the Kodokan women's section in 1962 but was quickly invited to train with the men. During those sessions she met her future husband Ryohei Kanokogi. As Rena 'Rusty' Kanokogi she made the most remarkable contribution to women's judo across the world. Working with her friend, tennis player Billie Jean King, they advocated for the United States Congress to pass the 1972 Title IX equality legislation, which prohibits gender discrimination in high school and college sports. Rusty found another advocate for gender equity in the IJF President, Matsumae Shigeyoshi. Together they initiated the first Women's World Judo Championships, on 29th and 30th November 1980 at Madison Square Garden, New York, U.S.A. which she organised and sponsored by re-mortgaging her house (Kanokogi & Kanokogi, 2021).

The first final contested was the 66 kg and the first world champion was Edith Simon from the Austrian team which topped the medal table with three golds. The best technician of the championships was the 48 kg gold medallist Jane Bridge of Great Britain who had defeated Anna de Novellis of Italy in the final with *yoko-shiho-gatame*, winning a Tiffany's sterling silver apple in the Big Apple, New York City. The championship was a testimony to the development of judo in the west, with all eight titles being won by Europeans. Japan gained a single silver medal through Kaori Yamaguchi at 52 kg (IJF, 2024).

The Fight for Olympic Gender Equity

For Rusty, the world championship event was a stepping stone towards her mission to bring women's judo into the Olympic Games. However, historically, the participation of women at the Games had been unwelcomed and challenged from the beginning.

The current Olympic Charter, drawn up in 2021, shows a commitment to gender equality at the Games, stating that the International Olympic Committee (IOC) will "encourage and support the promotion of women in sport at all levels and in all structures with a view to implementing the principle of equality of men and women" (International Olympic Committee, 2021). The IOC notes that the London Games of 2012 were the first where women competed in all the included sports and that women constituted 45 percent of the competitors at Rio 2016. At the conception of the event, however, women had not been as welcome.

Pierre de Coubertin, the founder of the modern Olympics, was not generally a supporter of women in sport. Miller describes his attitude to women and sport as contradictory. (Miller, 2003) His reasons for not wanting to include women in the Olympic Games seem to have been partly due to gendered concerns still prevalent today. In 1912, the Olympique Revue, the journal produced by the IOC, laid out its issues over women participating,

> "*There are not just tennis players and swimmers. There are also women fencers, there are horsewomen and, in America, there have been rowers. Tomorrow there will perhaps be runners or even footballers? Would such sports practised by women therefore constitute a commendable spectacle in front of the crowds assembled at an Olympiad? We don't think we can claim that. But there is another practical reason for this. Would we organise separate events for women or would we accept mixed entries without distinction of sex.*" (International Olympic Committee, 1912)

This decision over whether men and women should compete together or if there should be separate events for each, caused much debate. However, this was not Coubertin's only concern and the well-known quote about women's sport being "Impractical, uninteresting [and] unsightly" comes from this same article in consideration of a separate but connected half-Olympiad for women. Over the coming years, with new governance, the acceptance of women participating within the event improved but this was partly down to women who fought the establishment.

As noted, Rusty Kanokogi was one of these women. In order to bring gender equity to judo in the Olympics, she sued the International Olympic Committee for discrimination and finally the IOC agreed. At the 1988 Seoul Olympic Games, judo for women was introduced as an official demonstration sport. With two gold medals in 1988, from Sharon Rendle and Diane Bell, it was the British team, coached by Rusty's good friend Roy Inman, who were the most successful.

Roy Inman had started judo at the age of 23, joining the Budokwai beginners' class in 1968 as a yellow belt, progressing quickly to win two British Open titles before a training period in Japan, living with Isao Okano at the iconic Seikijuku. By 1974 Inman had become the Great Britain national coach for the First Women's European Tournament in Genoa, where the team won two gold medals with Lynn Tilley and Christine Child (better known as Cyd Child, stunt double for Diana Rigg's Emma Peel in the TV show The Avengers). Roy's coaching expertise continued over 30 years, the British *judoka* under his charge included 4-time world champion Karen Briggs, and won six Olympic medals, 14 world championship and 26 European championship gold medals.

The only person to win gold medals at both the 1980 World Championships and the 1988 Olympic Games event was the Belgian *judoka* Ingrid Berghmans (IJF, 2024). Six-time world champion, with 11 world championship medals, the seven-time European champion, Berghmans from Koersel, was awarded the Belgian Sportswoman of the Century in 1999, before later becoming the first woman to be inducted into the IJF Hall of Fame, in 2013. Preferring to practise with men, she set a high standard for women in judo. Her successes showcased the competitiveness of women's judo and increased its popularity in Europe, contributing to a broader acceptance of elite female *judoka* and providing a benchmark for aspiring women.

With these role models, female *judoka* could begin to see themselves recognised as serious competitors and women's judo achieved full Olympic status at the 1992 Olympic Games in Barcelona. The two gold and two bronze medals achieved by their female *judoka* catapulted France to second in the medal standings, marking the beginning of a strong tradition of French female *judoka* (IOC, 2024). A five-medal haul in Barcelona saw the emergence of a Cuban team led by the charismatic coach Ronaldo Vietía Valdivié, that would set a benchmark in standards for the next two decades. Across six Olympic Games the Cuban women won 24 Olympic medals including five gold. Hailing from the city of Havana, Vietia Valdivie made a significant contribution to the development of women's judo outside Japan after taking the reins of the Cuban national team in 1986. Incredibly, between 1993 and 2009, each year, Cuban women won at least one gold medal at world championships or Olympic Games. However, France was set to become one of the highest achievers in women's judo in the early twenty-first century.

Born in 1992 in Rennes, France, Clarisse Agbegnenou was to come to symbolise the strength of women's judo in France, from winning the Junior European Championship in 2008 to the mixed team gold at the 2024 Paris Olympic Games. A flag bearer who led her nation out at the 2021 Tokyo Olympic Games, at her home Games four years later in Paris she had the honour of carrying the Olympic torch up the Eiffel Tower. Including team events, Agbegnenou has three Olympic, eight world championship and seven European championship gold medals. The six-time individual world champion ranks as one of the most decorated *judoka* of all time.

Leading to Equity in Governance

Since the fight began for women's competition to be presented on a par with men's, excellence in skill and determination has become a standard for women's judo. However, the aim is now to achieve equity in international governance and progress towards that aim continues. Born into a Scottish judo family, Dr Lisa Allan took the reins as the event manager for judo at the 2012 London Olympic Games and then stepped into the role as IJF Events Director, leading the organisation of the IJF World Judo Tour for a decade. In 2017 at the request of IJF President Marius Vizer she became the first female member of the IJF Executive Committee before succeeding former world champion Jean-Luc Rougé as IJF General Secretary in 2023.

Joining Lisa as a member of the International Judo Federation Executive committee in June 2021, Croatian, Dr Sanda Corak, has worked to promote and develop both gender equity and research in judo. Winner of the Olympic Laurel Award from the European Olympic Committee, the Vice-President of the Croatian Olympic Committee and President of the Croatian Judo Federation has held a beacon for female leaders within the judo family.

The development of women's judo in the West has been a testament to the resilience and commitment of the female *judoka* who overcame cultural and social barriers. The efforts of pioneers such as Fude, Yamashita, Edith Garrud, Jeannine Levannier, Keiko Fukuda and Rusty Kanokogi, laid the foundation for future generations of women in judo, ultimately leading to international recognition and inclusion in the Olympic Games. These pioneers not only expanded opportunities for women in judo but also reshaped perceptions of women's capabilities in society. Today, women's judo continues to thrive, thanks to the legacy of these remarkable individuals.

References

Advertisement for Picadilly School of Ju-ju-tsu. (1906, November 29). *Sandows*, v.

Bennett, A. (2016). Japanese Martial Arts in Early Twentieth-Century New Zealand. *Proceedings of International Research Centre for Japanese Studies Overseas Conference, Otago*, 195.

Brousse, Michel. (2005) *Les racines du judo français: Histoire d'une culture sportive*. Presses Universitaires de Bordeaux.

Callan, M., Heffernan, C., & Spenn, A. (2018). Women's *Jūjutsu* and Judo in the Early Twentieth-Century: The Cases of Phoebe Roberts, Edith Garrud, and Sarah Mayer. *The International Journal of the History of Sport*, 35(6), pp. 530-553.

Callan-Spenn, A. (2019). Having a Bath in Japan: A Biographical Study of Actress and Black Belt Jūdōka Sarah Mayer (1896-1957). Doctoral Dissertation. University of Wolverhampton.

Callan-Spenn, A. (2020). The politicisation of sport in the interwar period: a case study of British jūdoka Sarah Mayer. *Sport in History*, 40(3), pp. 313-327.

Clifton Society Talk. (1906, December 6). Clifton Society, 8.

Darcourt, P. (1957). *Judo Adventures in the Far East*. J. Peyronnet & Cie.

Doval, M. S. (2012). The formation of German Jiu-Jitsu. *Japan Journal of Sport Anthropology*, 14, pp. 19-31.

Edwards, G. A. and Menzies, A. R. (1956, November). A message from a lady judoka. *Judo*, 30.

Edwards, G. A. and Menzies, A. R. (1961, November). British Judo Association. *Judo*, 35.

Florence Le Mar, J. G. (1913). *Life and Adventures of Miss Florence Le Mar*. Turnbull, Hickson and Gooder.

Fukuda, K. (1973). *Born for the Mat: A Kodokan Kata Textbook for Women*. Kodokan Judo Institute.

Gardiner, James. (1986). *Gaby Deslys: A Fatal Attraction*. Sidgwick and Jackson.

Gatling, L. (2024, April). Was Fukuda Keiko sensei a "direct student" of Kanō shihan? How did Kanō shihan approach jūdō training for women? *The Kano Chronicles* https://kanochronicles.com/2024/04/09/was-fukuda-keiko-sensei-a-direct-student-of-kano-shihan-how-did-kano-shihan-approach-judo-training-for-women/

General Register Office. (March quarter, 1907) Marriage Registration for Juzo Hirano and Phoebe Laughton Parry. Marylebone: 1a 1017. UK.

Goodger, B. C. (1981). *The development of judo in Britain: a sociological study* (Doctoral dissertation, Institute of Education, University of London).

Hanako, M. (2009). 講道館柔道十段物語 講道館最初の十段 山下義昭 [The Story of Kōdōkan Judo Tenth Dan (1) Yamashita Yoshitsugu]. *Judo*, 80(4), pp. 10-18.

Hancock, H. & Higashi, K. (1905). *The Complete Kano Jiu-Jitsu (Judo)*. G. P. Putnam's Sons.

Havard, Marion. (1961, March). B.J.A. Women's Meeting. *Judo*, 16.

Hill, S. (1903, July 21). Letter from Samuel Hill to Yamashita Yoshitsugu, held at Maryhill Museum of Art, Washington, USA.

How to be as Strong as your Husband or your Brother. (1904, March 27). *San Francisco Examiner*, 46.

International Judo Federation. (2024). First Women World Judo Championship New York 1980. Accessed November 2024. https://www.ijf.org/competition/2170.

International Judo Federation. (2024). Berghmans Ingrid. Accessed November 2024. https://www.ijf.org/judoka/14162.

International Olympic Committee. (1912, July). Les femmes aux Jeux Olympiques. *Revue Olympique*, 79, 109-111. PDF text, article in French published with the permission of the International Olympic Committee, Olympic ROLF79d.pdf LA84

International Olympic Committee. (2021, October). *Olympic Charter*. In force from 8 Aug 2021. Lausanne: International Olympic Committee.

International Olympic Committee. (2024). Barcelona 1992: Judo Results. Accessed November 2024. https://olympics.com/en/olympic-games/barcelona-1992/results/judo.

J.S. (1910, January 17). A Premeira Luctadora De Ju-Jutsu. *Illustração Portugueza*, 86.

Japanese Art of Self Defence. (1905, September 1). *Evening Express*, 2.

Jelmi, R. (1956, November 27). Brigitte Auber a deux passions: le judo et le theatre. *Feuille d'Avis de Neuchatel*, 278, 1.

Jensen, E. N. (2013). *Body by Weimar: Athletes, Gender and German Modernity*. Oxford University Press.

Jiu-Jitsu. (1904, January 12) *St James Gazette*, 19.

Jiu-Jitsu. (1905, December 3) *Figaro*, 1.

Jiu-Jitsu. (1907, July 15). *Leipziger Tageblatt und Handelszeitung*, 5.

Jiu-Jitsu for Militants. (1913, August 20). *New York Times*, 4.

Jiu-Jitsu - Kursus für Frauen. (1925, December 20). *Die Bosche*. Accessed through Sportmuseum Berlin. Wassersportmuseum Grünau: Album Erich Rahn [PA.000194.119].

Jiu-Jitsu: Miss Dulcia Hall. (1916, May 11). *The Day Book*, 20. Accessed from the Library of Congress, https://www.loc.gov/item/sn83045487/1916-05-11/ed-1/.

Ju-Jitsu. (1923, January 12). *Western Daily Press*, 6.

Ju-Jitsu in Chester. (1926, December 25). *Cheshire Observer*, 8.

Kanokogi, J. & Kanokogi, R. (2021). *Get Up & Fight: The Memoir of Rena "Rusty" Kanokogi, The Mother of Women's Judo*. Project Rusty, LLC.

Leigh, S. (2024). Margot Sathaye. *Kano Society Bulletin*, Issue 59, 11.

Mayer, Sarah. (1934, October). *Judo*, 40-41.

Miller, David. (2012) *The Official History of the Olympic Games and the IOC: Athens to London 1894-2012*. Mainstream Publishing.

Mohan, P. N., & Kumar, S. S. (2018). The Image of Super Woman: a Portrayal of Woman in Bernard Shaw's Pygmalion and the Millionairess. *International Journal of Linguistics, Literature and Culture*, 4(6), 1-6.

Nézière, R. (1906, April 29). Le *Jiu-Jitsu* Partout. *Mémorial d'Amiens et du département de la Somme. Supplément illustré*, 1.

Passenger Lists Leaving UK. (1929, September 9). BT26, 163. Departure Port: Liverpool, UK, Arrival Port: Quebec, Canada.

Port Arthur: And after. (1905, January 3) *New York Tribune*, 10.

Prof. Yamashita, Mrs. Yamashita, and Samuel Hill. (ca. 1904). Yoshiaki Yamashita Photograph Album (PH 006). Identifier: muph006-b001-i051. Special Collections and University Archives, W.E.B. Du Bois Library, University of Massachusetts Amherst. http://credo.library.umass.edu/view/full/muph006-b001-i051

Registrar General. (1911, August 11). Certificate of Marriage between August Joseph Gardiner and Florence (Le Mar) Warren. Wellington, New Zealand.

Roosevelt is learning the *jiu-jitsu* game. (1904, March 14). *Indianapolis Journal*, 5.

Rouse, Wendy. (2017). Her Own Hero. New York University Press.

Royal Sanitary Institute. (1908). *Second International Congress on Health and Hygiene in Schools*. Royal Sanitary Institute.

Sato, S. (2013). The sportification of judo: global convergence and evolution. *Journal of global history*, 8(2), 299-317.

Self-Defence. (1926, December 11). *Cheshire Observer*, 1.

Shima Willing. (1909, December 29). *Sydney Referee*, 7.

Spenn, Amanda. (2021). A history of *women in judo*. In M. Callan (Ed). Women in Judo (pp. 5-16). Routledge.

Suffragettes to learn the art of Jiu-Jitsu. (1909, April 13). *Daily Mirror*, 9.

United States of America, Bureau of the Census; Washington, D.C. (1950). *Seventeenth Census of the United States*. Record Group: Records of the Bureau of the Census, 1790-2007; Record Group Number: 29. Piedmont, Alameda, California.

Uyehara, M (Ed). (1962). A wife, a mother, a judoist. *Black Belt*, 1(2), 34-39. Accessed 30 October 2024: https://books.google.co.uk/books?id=bdkDAAAAMBAJ&lpg=PA38&ots=A7jMllk0LG&dq

Vanker, Raymond. (1951, June 4). Janine Levannier. *Qui ? : Le magazine de l'énigme et de l'aventure*, 22. Bibliothèque Nationale de France, département Droit, économie, politique, FOL-JO-3923.

Vaudeville Company. (1912, July 11). *Pahiatua Herald*, 5.

Veritas, (1958). Whispers in the Wind. *Judo*, 2(7), 4.

Watts, Mrs Roger. (1906). *The Fine Art of Jujutsu*. Heinemann.

Welsh Lady Professor of Ju-Jitsu. (1905, September 1). *Evening Express*, 2.

World Topsy-Turvy when Ju-Jitsu Applied. (1930, July 24). *Lethbridge Herald*, 11.

Wright, R. R. (2013). The Avengers and feminist identity development: Learning the example of critical resistance from Cathy Gale. In, K. M. Ryan and D. Macey (Eds). *Television and the self: Knowledge, identity, and media representation*, (pp. 189-204). Lexington.

Article history
Received : 11 October, 2024
Accepted : 25 November, 2024

The Path to Olympic Judo

By Michel Brousse

Abstract: *Reporting on the invention of Olympic judo involves exploring areas as varied as the role of states, institutions and individual initiatives. This also implies considering the differences in standards and uses of the body between the Western world and Japanese society. We will begin by examining the way in which judo is represented in the West and how it has evolved from an art of defence to a method of physical, intellectual and moral education, and then to a sporting activity. Secondly, we will study the origins of the constitution of national and international bodies, a sine qua non condition for Olympic recognition. We will consider the cultural and institutional obstacles that had to be overcome to allow judo to be included in the Olympic programme. In conclusion, we will discuss the impact of the 'Olympisation' of judo.*

Keywords: *1940 Olympic Games, judo ban, 1964 Olympic Games, sportification of judo*

> "*The final aim of judo, therefore, is to inculcate in the mind of man a spirit of respect for the principle of maximum efficiency and mutual welfare and benefit, leading him so to practice them that man individually and collectively can attain the highest state, and at the same time develop his body and learn the art of attack and defence.*" (Kano, 1937, 34-35)

> "*Le sport est le culte volontaire et habituel de l'exercice musculaire intensif appuyé sur le désir de progrès pouvant aller jusqu'au risqué." ["Sport is the voluntary and habitual cult of intensive muscular effort based on the desire to progress and which can go as far as the risk."].* (Coubertin de, 1922, 7)

Pierre de Coubertin (1st January 1863 – 2nd September 1937) and Jigoro Kano (10th December 1860 – 4th May 1938) were contemporaries. They shared the same desire to offer the youth of their countries a method that would strengthen their minds and bodies. Both were striving to help build a strong national identity and meet the needs of a new society born of the industrial revolution. These two quotations reveal the same desire for a sporting practice that shapes the individual, develops his body, his moral sense and his civic responsibility. At the same time, the meaning of the words reveal the distance that separates Kano's idea of judo from Coubertin's idea of Olympic sport.

The initial gap is all the greater because the obstacles to be overcome are multiple and distinct in nature. On the one hand, Western collective representations assimilate the Japanese art of combat to a system of self-defence and give it a marginal place in the world of sport. On the other hand, the historical and cultural background of Kano's method addresses the individual in the continuous interaction of body and mind and thus differs from the norms and quantitative measurement of physical performance that characterise English sports.

Reporting on the invention of Olympic judo involves exploring areas as varied as the role of states, institutions and individual initiatives. This also suggests a need to consider the differences in standards and uses of the body between the Western world and Japanese society. We will begin by examining the way in which judo is represented in the West and how it has evolved from an art of defence to a method of physical, intellectual and moral education, and then to a sporting activity. Secondly, we will study the origins of the constitution of national and international bodies, a *sine qua non* condition for Olympic recognition. We will consider the cultural and institutional obstacles that had to be overcome to allow judo to be included in the Olympic programme. In conclusion, we will discuss the impact of the 'Olympisation' of judo.

The Discovery of a New Japanese System of Physical Education

In January 1912, Pierre de Coubertin devoted an article in the *Revue Olympique* to judo. (Coubertin de, 1912). He reported on the book by Yokoyama and Oshima newly translated into French by Ensign Yves Le Prieur, one of the first Frenchmen to have studied at the Kodokan. Coubertin praised Kano and his method. The Stockholm Games were approaching. This text had a dual function. It welcomed Japan and its first representative to the IOC and highlighted the contribution of the Asian continent to the field of physical activity. At the same time, the renovator of the Games expressed discreet reservations when he carefully pointed out that judo did not include the "secret and deadly tricks of *jujutsu*," with which it should not be confused.

However, only a few insiders were aware of the specific nature of Kano's innovation. For the general public, the perception of the Japanese art as portrayed by the media refers to events that have changed the world. Numerous historical studies on the origins and development of judo

around the world have highlighted the crucial role played by the military successes of the Japanese armies during the Boxer Rebellion (1899-1901) and above all in the Russo-Japanese War (1904-1905) (Brousse, 2015). Observers commenting on the Japanese victories attributed this unexpected success to the soldiers' strong sense of patriotism and their training system. They identified a rigorous moral code, *bushido* and very special physical preparation: *jujutsu*. Russian doctors, back from the battlefields, underlined their amazement when they saw so many soldiers with unusual injuries like broken or disarticulated limbs.

In the early 1900s, a large number of military training centres and police academies in the United States and Europe welcomed Japanese instructors to develop training courses. Although reserved for the forces of law and order, the art of Japanese combat took root on a large scale in the West. This had two consequences. Firstly, a vast network of facilities was set up, soon to be joined by fitness centres offering an original form of practice, to a social elite attracted by the promise of invincibility and a taste for the exotic, reinforced by the attraction of the land of the Rising Sun. Jigoro Kano constantly relied on existing infrastructure to transform *jujutsu* into judo in the same way as he had done in Japan. The second impact was more limiting, as it imbued judo with an Oriental mystique and placed it in the marginal category of self-defence activities. For a long time, judo was to retain this philosophical imprint which was abused by those whose ideals or commercial interests diverted the activity from its original purpose. In their classes, public demonstrations and advertising posters, some teachers did not hesitate to emphasise the mysterious and sensational side of the Japanese method. They promoted the invincibility acquired through the science of judo and secret or resuscitation techniques known as *kuatsu*. Through its media impact, this approach, which can be found in several countries, gave judo a marginal place in the world of sport.

The first *judoka* did not consider themselves to be sportsmen. For them, judo was not a sport. At that time, the value of a *judoka* was measured mainly by his or her personal investment, by the path he or she travelled and not by the results he or she achieved. Brian and John Goodger have analysed this issue in the history of judo in Great Britain.

> *"Since the Second World War, judo has undergone a very rapid transformation from a small-scale, Japan-oriented, rather esoteric martial art; to a relatively large-scale, Westernised, modern, international sport. This transformation has involved changes in organisational scale, complexity and orientation, and in the nature of the legitimation of authority, that have profoundly affected the meaning that judo has for its participants. Further, the inherent potential of judo techniques for violence and the processes of social control that are manifest in judo contexts add a further significant dimension to the sociological study of judo."* (Goodger and Goodger, 1997, 6)

Kano and Judo Competition

The founder of judo developed team competitions very early in order "To encourage students to train more earnestly." In his memoirs he writes, "The rules for the Red and White competition and the monthly grading contests were officially drawn around 1885" (Watson, 2006, 41). It is widely known that Kano was adamantly opposed to fights between professionals. His opposition was legendary. He limited those encounters to the private sphere for a long period of time. But the evolution of society and the influence of the Olympic movement in which he was involving himself urged him to reconsider his stance. In 1914, which is the date of the first tournament of this type staged in Kyoto, a university judo or *Kosen judo* was organised; and the sports events that were put in place were rapidly successful. The rules were different. Groundwork was favoured when it did not prevail. This evolution spurred Kano to react in order to keep his objectives and his method. New rules were decreed in 1924, "In Kodokan judo matches, either *nage-waza* or *katame-waza* must be used to score a valid point… *tachi-waza* must take precedence in matches…" (Nakajima, 2014). Transformations were not limited to the technical field. Kano reaffirmed his point of view when he reluctantly distinguished between a "narrow sense" focusing on the utilitarian dimension, the result of the fight, and a "wide sense," the welfare of the individual and of humanity, whose form and finalities respected those of education (Murata, 2005, 94-102).

The founder saw judo competitions as a means, not an end. From the outset, Kano set up contests that valued team results and minimised individual achievement, unless victory was considered in relative terms. He was firmly opposed to inter-style matches between judoka, boxers and wrestlers, on pain of severe sanctions. Kano created *yudanshakai* (official association of dan-grade holders) which prefigured the future national bodies. In so doing, he established the cultural hegemony of the Kodokan. It was clear both in the teaching of the numerous emissaries sent around the world and in the various geographic zones, where the Japanese diaspora prevailed. As faithful transmitters of Kano's ideas, traditionalists who supported the Kodokan precepts considered that sport orientation was a Western constraint which took judo away from the philosophy extolled by Kano. An article by Koizumi was published in the Budokwai magazine in 1948 recalling a conversation with Kano in 1936.

> "I have been asked by people of various sections as to the wisdom and the possibility of judo being introduced with other games and sports at the Olympic Games. My view on the matter, at present, is rather passive. If it be the desire of other member countries, I have no objection but I do not feel inclined to take any initiative. For one thing, judo in reality is not a mere sport or game. I regard it as a principle of life, art and science. In fact, it is a means for personal, cultural attainment. Only one of the forms of judo training, so-called *randori* or free practice can be classed as a form of sport. Certainly, to some extent, the same may be said of boxing and fencing, but today they are practised and conducted as sports.

"Then the Olympic Games are so strongly flavoured with nationalism that it is possible to be influenced by it and to develop contest judo in a retrograde form as ju-jitsu was before the Kodokan was founded.

Judo should be as free as art and science from any external influences: political, national, racial, financial or any other organised interest. And all things connected with it should be directed to its ultimate objective, the 'benefit of humanity.' Human sacrifice is a matter of ancient history.

Another point is the meaning of professionalism. With judo, we have no professionals in the same sense as other sports. No-one is allowed to take part in public entertainment for personal gain. Teachers certainly receive remuneration for their services but that is in no way degrading. The professional is held in high regard like the officers of a religious organisation (sic) or professors in the educational world. Judo itself is held by us all in a position at the high altar. To reconcile this point of view with the Western idea is difficult. Success, or a satisfactory result of joining the Olympic Games, would much depend on the degree of understanding of judo by other participating nations." (Koizumi, 1947)

Although uncertain, Kano's point of view marks an evolution. Careful analysis reveals the complexity of the influences. Five years earlier, in 1930, the first All-Japan national judo championship was held. Sanzo Maruyama gives a precise account of Kano's speech on the occasion.

"I believe that the recent judo and kendo tournaments held by the Imperial Household Ministry were effective in promoting this spread. In the future, it may become necessary to hold a judo tournament around the world, but at this point in time, I don't think it's too early to hold an All-Japan judo tournament, even if it seems a little late. So, I made up my mind to draw up a plan and asked the National Dan-holders' Association for their opinions […] Such a plan has been on the table for a long time, but it is not an easy task and has not been carried out until now. However, now that judo is flourishing in many countries around the world and Japan is looked up to as the original home of judo, it would be a shame if something like this could not be done in Japan." (Maruyama, 1939, 595)

Kano justified his change of attitude and his choice of a national competition by his desire to develop judo. But was it only his choice? For one thing, the sporting movement was becoming increasingly popular at the time. The first medals won by Japanese athletes at the 1920 and 1928 Games made them real national heroes. The Japanese government also reinforced the practice of Budo. In 1931, the Ministry of Education made *Budo* a compulsory subject in all middle and normal schools. Shun Inoue gives a precise analysis of this development

"By promoting such doctrines as Nihon Taiiku do (the way of the Japanese physical culture) they attempted, in short, to replace the Western spirit of sport with the Japanese spirit of Budo. In this sense, what developed was an ultranationalistic version of the Wakon Yosai (Japanese spirit, Western technology) conception of Japanese modernisation. Budo, originally a modern hybrid typical of the late Meiji culture, was redefined as 'timeless' and utilised to infuse Western-type sports with pure Japanese spirit." (Inoue, 1998, 172)

The remarkable thing about the first All-Japan championships is that the fighters were divided into eight classes. The division was based on two criteria: level of specialisation and age. The amateurs who practised judo for pleasure and the professionals who taught it were separated. A distinction was also made between those who planned to devote themselves to professionalism, i.e. students at training centres such as *Budo Senmon Gakko* or *Busen*, and the rest. Physical ability and stamina should be neither an advantage nor a handicap. Thus, age categories were established. These two distribution criteria a kind of compromise reveal both the influence of the Anglo-Saxon conception of modern sport and a skilful way of not designating a single champion.

The involvement of a mass-circulation newspaper of the calibre of the Asahi Shimbun in the organisation of the first Japanese championship reflects the influence of the media and political context. It demonstrates the role of context in the evolution of Kano's thinking. "*Kodokan style*" judo was on the road to sport. Although limited to Japan, this development marks the first step towards Olympic status. The second crucial step was the establishment of national and international bodies, a prerequisite. Only a universally represented sport can hope for Olympic recognition.

A World Judo Federation

Andrew Moshanov recounts what appears to be the first international encounter. It took place on 4th July 1917 in Vladivostok between the club led by Vasily Oshchepkov and the Otaru Commercial College under the direction of Hidetoshi Tomabetsu (Moshanov, 2004, 10). However, the initiative for an international federation does not come from Japan or Russia. The idea came from Germany. Under the impetus of Erich Rahn, the Japanese art of combat developed significantly on the basis of *jujutsu*. Kano's short stay in Berlin in 1928 seems to have been decisive. Under the influence of Alfred Rhode, the Kodokan method replaced, not without reluctance, the more utilitarian techniques of German policemen and soldiers. Rhode contacted the Budokwai of London and in 1929 organised a first German-English team match in Frankfurt-am-Main.

An acceleration then occurred. In March 1931, a letter from the Deutscher Athletik Sport-Verband arrived at the Budokwai in London. It was signed by Kampmann, president of the DASV, Scotti, official of the same body and Werner

Glasenapp, head of the Ju-Jitsu section of the DASV. It contained proposals for forming a "*European Judo Union*". Rhode proposed organising an international summer camp in Frankfurt in 1932. He invited the Budokwai and several clubs from Central European countries. On 11th August, the *European Judo Union* was officially founded. The statutes were drawn up. The objectives were to successively maintain close links with the Kodokan in Tokyo, organise international competitions, lay down rules for refereeing, award dan grades and include judo in the Olympic Games.

This initiative needs to be seen in a wider context, as demonstrated by the article published shortly afterwards by Glasenapp.

> *"My leaders have given me the task of leading our German Jiu-Jitsu to unity and greatness. Our People's Chancellor Adolf Hitler has expressly recognised our sport as an important means of educating, training and making our people capable of defending themselves. In his spirit and for the good of our people, we want to bring our jiu-jitsu to national and international recognition."* (Schultze, 2024; see also Matsumae, 1982)

In 1934, the first European championship was held in Dresden. The old rules governing *jujutsu* had already been revised in 1929. New ones bear the hallmarks of the Kodokan. The fighters, however, were divided into five weight classes. Kano's wish to give judo a universal slant cannot be doubted but he meant Kodokan judo not sport judo managed by national and independent organisations. He tried to develop Kodokan *shibu* (Kodokan '*branches*') in Europe and more particularly in Great Britain. Richard Bowen gave an account of the conversations held in London during Kano's visit.

> *"On August 26, 1933, during a meeting of the Budokwai committee, Dr Kano announced that he wished to merge the Society with the Kodokan, creating a London branch of the Kodokan. A general meeting of the Society was called and it was agreed without dissent that the Budokwai should become a provisional branch of the Kodokan. The only point of disagreement was that while the members wished to retain the name Budokwai in some form, Kano was not keen on this; he wanted any new entity to be known as the Kodokan, London Branch."* (Bowen, 2011, 211)

Sanzo Maruyama writes

> *"Regarding the World Judo Federation, which was to be the great project of Master Kano's lifetime, let me present a statement made by Master Kano in London in 1933, "I have been planning the World Judo Federation for some time, and in Japan I have kept the plan secret only from a few close friends, but now that it has taken shape I am announcing it to you all for the first time. Initially, talk arose of forming a European Judo Federation between Germany and the UK, where judo is most popular. German judoka in particular were enthusiastic, but British judoka did not support Germany being the host, and so the talks did not progress. I have now travelled to Europe and am exploring the possibilities among the people. I mediated between them, and with our Kodokan as the highest headquarters, I became the president and explained the plan for the judo federation. Germany and England agreed and the plan suddenly took off. The spirit of judo matches best with the international spirit that idealises world peace, so if the World Judo Federation is established, an international federation will be established with Japan as its head. Countries such as England, America, France, India, Afghanistan, and Ethiopia will also join […] I think I will provide strong financial support. The World Judo Federation has not yet been concretely formed, but the All-Italian Judo Federation and the European Judo Federation have already been formed, so let's try to form a world federation"*. (Maruyama, 1939, 350)

The English were very concerned and reluctant. Bowen writes, "The proposal for a Kodokan branch to take over the Budokwai ultimately collapsed, almost certainly because of the worsening international situation." (Bowen, 2011, 211)

Actually, it wasn't long before the EJU's letter-writing form of greeting was replaced by the significant formula of '*Heil Hitler*.' In 1936, at the end of their international meeting against the English, the German judo fighters gathered in the corner of the ring to make the Nazi victory salute shouting "*Sieg Hei.l*" The Budokwai members, who did not appreciate the Nazi political regime's hold over German judo, opposed Kano's wish. The project failed.

The 1940 Tokyo Olympic Games and the Ideological Drift

The internationalisation of judo competitions got off to a modest start. Sabine Frühstück and Wolfram Manzenreiter report a friendly meeting between Austria and Hungary on 7th June 1937. (Frühstück & Manzenreiter, 2001, 76). A new opportunity arose with Tokyo's bid for the 1940 Olympic Games. Japan's performance at the 1932 Los Angeles Games (7 gold, 7 silver, 4 bronze) placed the country in 5th place for medals. Japan asserted herself as a sporting nation among the Western powers and asserted her national pride. Sandra Collins states, "Tokyo Mayor Nagata Hidejiro conceived the bid for the Tokyo Olympic Games to market the newly reconstructed Tokyo as an international tourist destination during the 2,600th national anniversary of the Japanese empire in 1940." (Collins, 2007, 23)

Kano played a pivotal role in the success of the bid, which he transformed into a national cause. Rome's timely withdrawal also reflected his diplomatic capabilities. The Games of the XIIth Olympiad were awarded to Tokyo at the meeting of 31st July 1936. During the IOC 34th session

in Warsaw on 11th June 1937, the committee adopted the programme for the XIIth Olympiad. The English version of the minutes states, “Judo was chosen for the demonstration of a national sport and baseball for the demonstration of a foreign sport.” It is interesting to note that the French version reads, “Comme démonstration d’un sport national, le *Budo* [As a demonstration of a national sport, Budo]” (Minutes of the IOC 34th session). The 1940 Tokyo Games did not take place. They were finally cancelled because of World War II. This first Asian Olympic meeting has long been overlooked, as has the first inclusion of judo in the Olympic programme.

The world conflict, which flared up on 1st September 1939, had final consequences on the sport orientation of international judo. Because of the growing importance of military organisations, the internal structures of Japanese judo were reshuffled. Sport historian Inoue Shun explains the evolution.

> *“As the war escalated from the Manchurian Incident of 1931 to full-scale war with China beginning in 1937 and even the Pacific War in 1941-1945, budo became even more closely associated with ultranationalism and emperor-centred thought. The martial arts were raised to the status of kokugi, national sport, and became part of the ideological apparatus of mobilization for total war.”* (Inoue, 1998, 171-172)

In March 1942, the *Dai Nippon Butokukai* was reorganised, “Their activities became more militaristic and fundamentalist. In order to respond to total war, the reorganised DBK provided five sections - kendo, judo, kyudo, bayonet, and shooting.” (Abe & all, 1992, 22) After Japan’s surrender on 2nd September 1945, General MacArthur who served as Supreme Commander of the Allied Powers began the demilitarisation of Japan, according to the terms of the Potsdam Agreement. On 22nd October 1945, following his orders, the Japanese Ministry of Education was ordered to forbid all types of military teaching. Martial arts were removed from the physical education curriculum in schools and universities. In order to prevent the dissemination of ultranationalistic ideals, directives were issued in 1946. The *Butokukai* ended its activity. Private institutions that kept away from drifting off into ultranationalism were allowed to stay open, such as the Kodokan.

A confidential report issued by the Ministry of Education on 20th February 1947 reads, “Since the termination of the war, lovers of judo, kendo and kyudo have voluntarily eliminated militaristic colours and built them up as new sports.” Japanese propositions envisioned the revision of the ceremonial, the separation of military and sporting activities, the compliance with a rule system under the principles of sport, and “weight and possibly height and age of students should be considered in determining classification in judo competition.” After a five-year ban, on 13th September 1950, the reinstatement of school judo was made effective (Brousse & Matsumoto, 2005). The reinstatement was subordinated to one condition: judo had to choose sport orientation and keep away from *bushido*. Sport orientation for judo was a forced choice, dictated by the complex post-war situation; the decision taken was politically induced. History deprived Japanese judo players of any other option. A new era began.

Sport Judo

On 2nd December 1947, a French delegation went to London for the first post-WWII international competition. This friendly exchange heralded the renewal of international relations. Discussions began early in 1948. John Barnes, president of the Budokwai, invited judo clubs to take part in a summer camp to convene and consider the reforming of the *European Judo Union*. Four countries were represented: Great Britain, Austria, Holland and Italy. This reunion took place on 26th July, three days before the XIVth Olympiad. The *European Judo Union* was reinstated. In October 1949, during the second meeting of the EJU, Aldo Torti from Italy was elected to the presidency. The fourth meeting of the *European Judo Union* took place in London on 12th July 1951. The delegates from eight countries (Italy, Great Britain, Belgium, France, Holland, Germany, Austria and Switzerland) met. The first motion discussed was the request of Argentina, together with that of other extra-European countries, to be included in a common international structure. The EJU was dissolved and immediately replaced by an International Judo Federation.

Japanese judo was reorganised in the immediate post-war period. After the dissolution of the Butokukai, the All Japan Judo Federation was formed on a democratic basis in 1949. Kano Risei acted as president. The first post-WWII European championships took place in Paris, in December 1951. Paul Bonét-Maury, the French president, took advantage of Kano Risei’s visit to offer him the presidency of the IJF, a unilateral decision. Even if Aldo Torti, the elected president, favoured Japanese participation, he resented the procedure, especially because Japan had not yet adhered to the IJF, nor promised to do so. The IJF president questioned the members, “Is judo a sport?” In his report, he formulated his request: “Jigoro Kano gave the world Judo, this lofty and matchless discipline as physical and mental training, his son Risei Kano may give the world, the ‘sport’ of Judo. He would then have deserved an everlasting fame.” (IJF, 1952)

It took Japan a year to adhere to the International Judo Federation. The European countries were waiting for Japan to join. This move legitimised their initiative and gave them a moral guarantee. However, the Japanese position had become more radical, betraying a cultural resistance to the evolution of world judo. They did not oppose changes but they adopted a conservative attitude, of patience and moderation in which educational values and an individual formation were favoured.

The first world championships were held in Tokyo on 3rd May 1956. Thirty-one contestants representing 21 countries were in confrontation. The Kokugikan Hall was full.

The teams marched past the 11,000 cheering spectators to the rhythm of traditional drums. The hall was absolutely silent during the first fight when the Argentinian Forti fought the German Metzler. Two Europeans, Anton Geesink and Henri Courtine, and two Japanese judoka, Yoshimatsu Yoshihiko and Natsui Shokichi, qualified for the semi-finals. During the final contest, Natsui got the upper hand of his compatriot by decision after a twenty-minute fight. Geesink beat Courtine for third place, which in those days was fought for. The world championships were presided over by Prince Takamatsu. 5th May was the day of the Goodwill Contest. This meet was meant to celebrate friendship between peoples. It was inaugurated by Prince Akihito. The presence of the Imperial family showed the importance these championships took on, in post-World War II Japan.

When he took stock of the event in his introductory speech, Risei Kano recalled how quickly Japan overcame the ravages of war, thanks to the friendly sympathy of many foreign countries. He underlined the importance of cultural relations in order to develop empathy and friendship between the different countries and he noticed the place occupied by judo in Japan within the context of cultural relations. The message was clear. Judo is universal. It is not just another form of wrestling. Judo is proper to Japanese culture. It is a symbol of peace and harmony between men. International sporting exchanges are proving to be the ideal vehicle for cultural exchanges. The process of the sportification of judo, i.e. the normalisation and westernisation of Japanese judo, was underway.

Inclusion in the Olympic Programme

On 29th August 1951, Aldo Torti and his secretary general, Alfonso Castelli, contacted the IOC. The response was swift and on 15th September Chancellor Otto Meyer replied. The IJF was recognised by the IOC. Other hurdles remained. Some people who were not in favour of the readmission of a Japanese sport in the Olympic movement denounced an activity that they considered to be a cult. Such letters were sent to the IOC by Captain Knud Janson of Denmark on 5th August 1955, “Judo for the Japanese and their followers is not alone a sport, but a ‘bodily way’ for working with Zen-Budhism (Budhism of Samurais etc.) and codex of *Bushido*.” This attack was combined with the demand for recognition of a self-proclaimed organisation based in South Africa, the International Judo World Federation. A denial was quickly issued as the question proved to be unfounded. A debate of a different nature began, notably in Japan, on the theme of professionalism and, in particular, on the case of Anton Geesink. The IOC considered that amateur status should be attributed by the committee from which the athlete originated and the incident was brought to a close quickly.

Two more significant obstacles remained. The first was internal, pitting the modernists in favour of weight categories against the conservatives in favour of a unique open class championship. After World War II, when the EJU was reconstituted, each country was free to enforce a weight class system for its national championships. Experiences carried out at the European level were called European Cups, the word championships being restricted to official contests (team, *dan* and open class). It was only after 1957 that weight categories were officially introduced by the EJU, although some countries held out against that move. The British refused to enter fighters in those divisions, in the same manner as they hindered the organisation of individual national championships with weight classes.

In the United States, the Technical Committee of Northern California enforced a weight class system in 1948. Despite a general reluctance, judo contests with weight divisions were not a new issue. The weight category system and the tournament rules were patterned from the Olympic wrestling tournament system.

> *“All this unfolded from an old copy of the first competitive judo rules and weight system developed by R. H. ‘Pop’ Moore Sr, at the request of Dr Jigoro Kano during the 10th Olympic Games in Los Angeles in 1932. ‘Pop’ was Japan’s first Olympic wrestling team coach. Dr Kano envisioned the need for a weight system that far back, being particularly impressed with the conduct of the Olympic wrestling competitions (scoring, rules and weight categories etc.).”* (Brousse & Matsumoto, 2005, 105)

The 1964 deadline changed the context, and the Olympic Games imposed its law. Three weight divisions were classified: -68 kilograms, -80 kilograms, +80 kilograms, plus the number one division, the open class. During the Japanese mandate of Risei Kano, the same recurring question resurfaced and dominated the IJF debates, “Is judo a sport?” This question defines the mentality of those who were at the origin of the rooting of judo outside Japan. In their book, Nicolas Soames and Roy Inman evoke the impact of Jigoro Kano's point of view as reported by Koizumi at the time of judo's inclusion in the Olympic programme. They recount the memories of future IJF president Charles Palmer

> *“Individual judo competitions had been part of the Japanese scene before the war and the All-Japan Championships were resumed as soon as the occupying American forces allowed. Yet Koizumi was fighting a rearguard action in Europe and especially in his own country, Britain. He felt it would be ego-deforming for a young man to be called a champion.”* (Soames & Inman, 1990, 9)

The reluctance of the Kodokan leaders and followers did not vanish. On 12th November 1963, an IJF reunion was held in Tokyo. Its objective was to review the IJF statutes. They were still at deadlock about article one even after five days of hard work. Charles Palmer was unable to attend and therefore André Ertel, EJU president, chaired the reunion. “What should be the purpose of the association? The development of Kano’s judo or sport judo?” He diplomatically managed to convince those in favour of a conservative choice that a negotiated solution was better than a

vote, that was bound to be unfavourable. A compromise was found for the text. The complete statutes were drafted during the sixth and last day. This new text was the end of the last institutional step marking the evolution of sport judo. It was a milestone even if it was less flamboyant than Geesink's victory the following year at the Budokan in Tokyo. Judo had become an international sport.

The inclusion of judo in the Olympic programme was also a long battle within the institution of the Olympic movement. Recurrently, the minutes of the meetings mentioned both the reduction of the programme and the requests to include more and more sports. The proposal to have judo on the list of optional sports was repealed for the first time in Athens in 1954. Renewed the next year, the proposal was rejected a second time. Finally, the 58th IOC session, in Rome, accepted judo directly onto the official programme by 39 votes to 2 (not against judo, but against increasing the programme).

At its 61st session in Baden Baden in 1963, the IOC decided to reduce the number of sports to 18. Four sports were excluded after the vote: handball, volleyball, archery and judo. At the next session, in Madrid in 1965, several members of the Committee asked for judo to be reinstated in Mexico's programme. President Brundage was in favour. However, it was a question of principle because the rule was to limit the event to 18 sports. A vote was set up. Twenty-three were in favour of changing the rule, 25 against. Many abstained from voting. Thus, the change did not take place. The programme for the Munich Games was the focus of the next debate. After a secret ballot, the number of sports was increased to 21. Judo was one of them. Since the 1972 Munich Games, competitions have been held without interruption. The question of women's participation in the Olympic Games was raised at the IOC Session held in Athens in May 1978. "The judo and cycling federations both wanted to introduce women's events and would therefore probably have to delete men's events." The number of events (203) once again raised questions. The decision, postponed several times, was taken in Berlin in June 1985, "A demonstration of women's judo to be organised at the Games of the XXIVth Olympiad in 1988 […] Women's judo to be included provided that all pending matters concerning the programme, events and number of competitors were settled with the International Judo Federation." (Minutes of IOC sessions Athens, 1978; Sarajevo, 1984; Berlin 1985)

Conclusion

The road towards recognition was long and difficult, often hazardous. Europe was the true dynamo of the evolution of international judo. André Ertel and Paul Bonét-Maury, French judo president and IJF general secretary, were the architects of the inclusion of judo in the Olympic programme. Yoshihiko Uchida and Avery Brundage, who knew how to rally the votes of some countries hostile to the proposal, assisted them.

The admission of judo to the 1964 Tokyo Olympic programme was a landmark in the history of world judo. The transformation of the Kano method into a modern sport was the result of a long journey. The account given of the process reveals the many and varied areas in which obstacles have arisen. The acceptance of Western norms, operating methods and practices of modern sport was not achieved without resistance, opposition or conflict. The solutions, sometimes accepted and sometimes forced, involved institutions, political regime and individual contributions. Many observers put the stress on internal reasons, on the intrinsic merits of the Kano method. However, even if these were important, they should not be overvalued. The intrinsic educational qualities of Kano's method should not be denied. However, the socio-political context played a determining role because, from World War II onwards, it redefined the general evolution of sport and of the Olympic movement in the modern world.

The 1964 Tokyo Games were a transition. They marked the entrance of judo into the era of modernity. At the root of the successful globalisation of judo, its 'Olympisation' acted as an accelerator of the migratory, economic and financial scapes that characterise the process of global cultural transfer and change. The example of judo illustrates, in the field of physical exercise, the Westernisation of Japanese culture. At the same time, it demonstrates the interest that all Western countries continue to show in lifestyles, mores and customs of Japan. History shows that judo is not simply a method of physical education or even a sport. It is, perhaps above all, the expression of a culture and a nation.

By becoming an Olympic sport, Kano's judo achieved the status of a modern sport in its own right. The political context, in the broadest sense, plays a decisive role in answering the essential question of the definition and identity of practice. The resulting changes, as strong, decisive and contested as they may have been, acted in diametrically opposed directions, provoking reactions that strengthened the identity of Japanese judo each time.

If modern sport presents a real risk of standardising judo and losing its original values by imposing the norms of show sport and competition, the result of globalisation is not just the spread of judo as a sport. In the general public, the image of judo champions is associated with that of a meaningful discipline. The excesses of professional sport are counterbalanced by the strengthening of humanist and educational values, the 'leitmotif' of a Japanese culture with deep and often respected roots.

Recent changes have been amplified by the acceleration of processes. The controlled development of international judo depends on the ability of its leaders to manage individual, economic and political issues that are more present and more diverse than ever before. In a world of constant change and competition, the future of Kano's method lies in maintaining the balance between local and global, between tradition and modernity.

References

Abe, I., Kiyohara, Y., & Nakajima, K. (1992). Fascism, sport and society in Japan. The International Journal of the History of Sport, 9(1).

Bowen, R. (2011). 100 Years of Judo in Great Britain: Reclaiming of Its True Spirit, Brighton, IndePenPress Publishing Limited.

Brousse, M. (2015). Judo for the World, Paris, Éditions de La Martinière.

Brousse, M. & Matsumoto, D. (2005). Judo in the US: A Century of Dedication, Berkeley, California, North Atlantic Books.

Coubertin de, P. (1912). Le Judo in La Revue olympique, sports, éducation physique, hygiène, January, February.

Coubertin de, P. (1922). Pédagogie Sportive, Lausanne, Bureau International de Pédagogie Sportive.

Goodger, B. C., & Goodger, J. M. (1977). Judo in the Light of Theory and Sociological Research. International Review of Sport Sociology, 12(2).

Goodger, B. C. (1981). The development of judo in Britain: a sociological study (Doctoral dissertation, Institute of Education, University of London).

IOC archives. Minutes of IOC sessions.

Inoue, S. (1998). The Invention of the martial Arts: Kano Jigoro and Kodokan Judo, in Stephen Vlastos, (Ed.), Mirrors of Modernity, Invented Traditions of Modern Japan, Berkeley, University of California Press.

Kano, J. (1937). Judo (*Jujutsu*), Board of Tourist Industry, Japanese Government Railways.

Koizumi, G. (1947). Judo Quaterly Bulletin, The Budokwai.

Maruyama, S. (1939). Dai Nihon Judo Shi, Tokyo Kodokan.

Matsumae, S. (1982). My Turbulent Life in a Turbulent Century, Tokyo, Tokai University Press.

Moshanov, A. (2004). Judo from a Russian perspective, Stuggart, Ipa-Verlag.

Murata, N. compiled by. (2005). Mind over Muscle, Writings from the Founder of Judo, Jigoro Kano, Tokyo, Kodansha International.

Nakajima, T. (2014). Emergence of the discourse about sportification of judo during the process leading to establishment of the Four Imperial Universities competition and its historic significance, focusing on the relationship between student judo and Kodokan judo from 1918 to 1928, Japan Journal of Physical Education, Health, Sport Sciences, 59, December.

Schultze, Y. (2024). Die Akte W. Glasenapp, Die Entwicklung des Kodokan Judo‘s in Deutschland.

Soames, N & Inman, R. (1990). Olympic Judo, History and Techniques, Swindon, Ippon/Crowood.

Torti A., Relation du Président de la Fédération Internationale Judo, sd [août 1952]. Private archive.

Watson, B. (2008). Judo Memoirs of Jigoro Kano, Bloomington, Indiana, USA, Trafford Publishing.

Article history
Received : 9 September, 2024
Accepted : 7 November, 2024

The Meaning of the Judo Rules

By Michel Brousse

Abstract: *An examination of the development of judo regulations reveals three distinct periods. The first period runs from the founding of the Kodokan in 1882 to the 1964 Olympic Games. It corresponds to the model of Japanese culture hegemony and the authority of the Kodokan. The second period runs from the 1960's to the early 2000's. It offers a different orientation, that of Western rationalisation. The third began with the creation of the IJF World Tour in 2009. This was the era of media professionalism and the alignment of judo with a model of the major professional sports.*

Judo rules are an ongoing collective construction that establishes a dialectical relationship with the evolution of sport. It bears witness to the dynamic inventiveness of human beings, including managers, referees, athletes, coaches and spectators. Four main themes have been identified. The safety of combatants appears to be the primary concern. The second issue relates to equal opportunities for access to and participation in competition. In a globalised world, the third point concerns the technical and cultural identity of judo. The final point is the promotion of the discipline to the general public.

Keywords*: judo rules, security, equality of chances, identity, mediatisation, globalisation*

Judo is not a martial art. The distant similarity with the warrior techniques of the Samurai cannot hide the change in finality. Judo was born in the city. It was in the city that it blossomed and developed. Kano's method is the pure product of a society born of industrialisation and the Meiji Restoration, which ushered in a new era for the Japanese nation. By its very nature and because of its origins, judo has a civic dimension that uses individual confrontation to teach rules of behaviour to young people from the very beginnings of the Kodokan.

Judo has rules. They appeared with the origins of the Kano method. They were part of the definition of its identity. If the oath signed in blood by the first Kodokan followers was insufficient proof, it would suffice to point out that the first Kodokan competition rules were drawn up and put in place as early as 1885. However, Syd Hoare (2009) claims that they were written later. He quotes Kano, "The regulation of combat was not originally decided by fixed rules. It was decided by the circumstances of the time and the abilities of combatants."

In other words, as soon as the number of practitioners increased, it became necessary to formalise the behaviour of practitioners and the type of encounters, in particular to delimit the range of techniques that were or were not permitted. This is why Kano chose to limit the practice of *randori* and *shiai* to *nage-waza* and *katame-waza* from the outset, definitively excluding *ate-waza*, i.e. the kicking and punching techniques that provide the basis for the dominant representations of the discipline in the general public.

It was a very different version of the rules that circulated in the West. *The complete Kano Jiu-Jitsu (Jiudo)* was published in 1905. This book was signed by Irving Hancock and Katsukuma Higashi. The Japanese co-author promotes the system initiated by Kano. He states, "Jiu-jitsu or jiudo in Japan is the art of the gentleman." The reference to Kano's method appears to be a usurpation dictated by commercial motives. When, in Berlin in 1928, Kano received a copy of the German edition and learned that the Germans had been using it for two decades to teach judo, he expressed his disapproval firmly, "I should say, this book teaches nothing of my judo." But the facts were there and the text was to have considerable importance in the West, especially in Germany.

The first few pages give details of the rules governing *jiu jitsu* contests in Japan.

> *"A contestant shall be deemed to have been defeated when his two shoulders and hips shall have touched the floor, provided that said contestant shall have reached this position on the floor through having been thrown down.*
>
> *A contestant shall be deemed to have been defeated when in such position on the floor, if said combatant cannot free himself from his opponent's arms within two seconds' time.*
>
> *A contestant shall be deemed to have been defeated when from any cause or causes he may become unconscious. But it is not permitted to use serious tricks when the wrestling bout is between friends. Such tricks as kicking and the breaking of arms, legs, or neck are barred.*
>
> *When a defeated combatant finds himself obliged to acknowledge his submission, he must pat, or hit the*

floor or his antagonist's body, or somewhere, with his hand or foot. This patting with foot or hand is to be regarded as a token of surrender.

When a defeated combatant pats or hits the floor, or anywhere, in token of submission, the victor must at once let go his hold." (Hancock & Higashi, 1905)

In their work, Klaus-Dieter Matschke and Herbert Velte report on the organisation of the first Prussian police championships, held in Berlin on 19th March 1925. The authors note that on 4th February, the Reichsverband für Jiu-Jitsu had negotiated an insurance policy for its members, for a premium of 20 Reichspfennigs, ranging from 1,000 to 5,000 Reichsmarks in the event of death or disability (Matschke & Velte, 2005, 47).

A comparison of the regulations implemented in Japan and Germany speaks for itself. It highlights several essential elements. Rules are inherent in any form of organisation, in this case a physical system of education and self-defence activity. So, it is not so much the appearance of rules that matters as the content and functions assigned to them. In Japan, and also in Germany, the safety of the combatants appears to be a primary concern.

The differences are apparent in the final goals pursued by Kano, which put individual exploit at a distance. The founder of judo favoured team victories, *kachinuki shiai*, or the online confrontation modes used for grading promotions, *tsukinami shiai*, which consider relative performance according to each individual's initial level. While Westerners were quick to introduce weight categories similar to those used in wrestling and boxing, Kano preferred age categories, on the pretext of bringing together individuals with comparable physical qualities. The divergence of approaches reveals not only the difference in conception, but also the cultural gap between Western and Japanese visions of body usage.

The Functions of the Rules

Ritualised man-to-man combat exists in all cultures. Their function may be symbolic, initiatory or religious. It is sometimes used to designate a tribal chief or as a rite of passage but it can also be associated with entertainment and all forms of commerce. In the field of sport, the German sociologist's investigation of fighting styles from antiquity to the present day shows that the evolution of rules reflects changes in customs and lifestyles. He placed the development of sport within the vast process of the civilisation of morals, showing how sport and its rules play a role in the social control of physical violence. Kano's innovation was to bring the bodies closer together and impose *kumi-kata*, "*engagement positioning*" (Nakamura & Daigo, 2000). By doing this, the founder of judo reduced the distance of the confrontation and, in effect, lowered the level of violence. His approach complements Norbert Elias' demonstration.

A second line of analysis is provided by the relationship between sport and the media. From the mid-19th century onwards, the sports press began to cover and even organise sporting events in order to attract a wider readership. In France, for example, the Tour de France cycle race was launched in 1903 on the initiative of the newspaper L'Auto (now L'Équipe). Journalists, always on the lookout for exploits, carefully noted "the best time recorded," giving new meaning to the word 'record.' A characteristic of modern sport, the '*record'* in sport and the statistics that go with it are directly linked to the rules that govern it and to the media world that emphasises its exceptional nature and gives it great publicity. The involvement of the *Asahi Shinbum* in the organisation of the first All-Japan championships in 1930 testifies to the early influence of the media on judo. Likewise, Anton Geesink's victory at the 1964 Olympic Games would not have marked the beginning of such a rapid internationalisation of judo had the Tokyo Games not been broadcast internationally for the first time (Mondiovision).

In judo, the development of sporting rules lies at the intersection of multiple types of issues. With regard to changes in the rules, the key issue is maintaining the identity of the discipline. The views of the Kodokan experts, rooted in the history and culture of Japan, have had to contend with the increasing internationalisation of judo and the effects of globalisation. The integration of Western rules and the standards of modern professional sport has taken place in stages.

An examination of the development of the regulations reveals three distinct periods. Although there have been significant changes in each of them, they are distinguished by significant turning points. The first period ran from the founding of the Kodokan in 1882 to the 1964 Olympic Games. It was founded on a common culture shared by the majority of practitioners and leaders. It resulted in hegemony and even excessive dependence on the model of Japanese culture represented by the authority of the Kodokan. The second period ran from the 1960's to the early 2000's. It offered a different orientation, that of Western rationalisation. It is characterised by a questioning of the Japanese model and a desire for independence, particularly under the impetus of European countries. The West had set itself up as a counter-model, emphasising rationality and transparency in decision-making. It was a period of adaptation, hesitation and conflict. The third began with the creation of the IJF World Tour in 2009 This was the era of media professionalism and the alignment of judo with the model of major professional sports. New problems arose. They required a new cultural revolution. The functions assigned to the sporting and refereeing regulations reflected successive evolutions. They provided a better understanding of the reasons that led to the changes observed.

Bureaucratisation and rationalisation are essential features of modern sport. (Guttmann, 2008; see also. Adelman, 1986). The intention is not to draw up a catalogue of

the changes that have taken place. The following study offers a general overview that is not intended to be exhaustive. The aim is to detect the trends that are at the root of these developments and to reveal the driving forces that can explain successive transformations.

Four main themes have been identified. The safety of combatants appears to be the primary concern. The examples cited in the introduction demonstrate this. Fairness is the second key priority. Everyone must compete on an equal footing, with equal opportunities for access and participation. The third point concerns judo's technical and cultural identity. The Kano method is deeply rooted in Japanese culture. Its specific technical features and the behaviour of its fighters are the focus of close attention, which is reflected in the regulatory rulings. Special attention will be paid to preserving the technical identity of judo in relation to other styles of wrestling, a particularly important issue in the context of globalisation.

The final point is the promotion of the discipline to the general public. In the past, judo was promoted through the written press. Today, the main channel is audio-visual media. The aim is to arouse the interest of the general public, to make judo intelligible and exciting for neophyte spectators attracted by the spectacle of sport on television. It is also a question of facing up to the ever-increasing challenge of competition from other sporting disciplines. We'll see just how intrinsically difficult this project is. All of the decisions taken are part of the wider context of the growth of structures and events that punctuate the sporting year. Throughout history, new issues have arisen regularly. Media representation, political considerations and financial efficiency, etc., all exert indirect pressures that are difficult to assess but which are not without consequence in terms of the judo rules. Finally, the discussion will consider the impact of professional judo on the day-to-day running of judo in clubs.

The definition of rules sometimes clashes with their application. The following analysis is not a judgement against faulty implementations. Control procedures have existed since the creation of international bodies. Their strict use and reinforcement can only be beneficial to the cause of judo. Some examples will be cited. Their sole purpose is to demonstrate their impact on the evolution of regulations. The following presentation highlights the four areas identified. However, it would be wrong to think that a system of strict limitations explains the different institutional choices. It is not uncommon for one or more secondary reasons to be associated with the main reason of the change.

Safety of Contestants

The first source of concern is limiting the risk of accidents and began with the banning of dangerous techniques from *jujutsu* forms. In the immediate aftermath of the Second World War, some of these techniques were retained, notably in the Mikinosuke Kawaishi system. The Japanese expert based in France was very keen to teach self-defence. He made no secret of his opposition to the Kodokan. The first championships organised in France did not exclude certain submission techniques, such as leg locks. However, the Kodokan rules soon became the norm. In December 1951, at the first post-war European championships, the visit to Paris of Risei Kano and other Japanese experts was decisive. The creation of the International Judo Federation quickly standardised the contest rules of the Kodokan.

As the history of competition shows, the rules have very often been adapted to situations that endangered the physical integrity of the combatants. The list of prohibited movements is long. Most of them have been deleted *a priori*. It includes dangerous moves such as *kawazu-gake, do-jime,* etc. Others have been removed depending on the circumstances. Techniques that led to serious accidents or were incompatible with the spirit of judo were removed like *kani-basami* or *waki-gatame*. i.e. the injuries sustained by Yasuhiro Yamashita in 1980 or Hitoshi Saito in 1985. Certainly, linked to the broadcasting of images and the threshold of collective sensitivity described by Norbert Elias, but also to the growing consideration of the medical point of view in the evolution of decisions, a greater mastery of control was demanded in throws as well as in arm locks. The same is true for actions that threaten the attacker's integrity like head diving, actions which are now under close scrutiny. The concern to protect the physical integrity of practitioners is reflected in the willingness of national federations to take special measures to protect young competitors, for example by banning *kubi-nage* or *suwari-seoi-nage*.

Other decisions refer to multiple influences. The ban on standing arm locks (*ude-gatame*) is certainly designed to protect the fighter who is subjected to the lock. At the same time, this decision has immediate consequences on the mode of confrontation because it allows deep grips which from then on have no specific counter-technique. Such a choice favours a more open, more spectacular way of fighting, but also one that is closer to fighters for whom judo is not their initial speciality. Judo mats, too, are regulated. As symbolic as the *tatami* on slightly raised platforms were, particularly at the Tokyo Games, this type of layout posed serious safety risks. The 1955 contest rules of Kodokan judo 1955, read,

> *"If an "osaekomi" (holding) is officially announced and the contestants are judged as getting outside of the contest area, the referee shall announce "sono-mama" (do not move or no movement) to the contestants, order them to remain motionless, pull them well within the perimeter of the contest area with their relative positions unaltered, and make them continue the contest by announcing "yoshi" (go or all right). In this case, the time between the announcements of "sono-mama" and "yoshi" shall be taken out from the time required for completing the osaekomi" (holding).* (Kodokan, 1955, 6).

The practice of pulling the contestants back into the contest area during *ne-waza* has been done away with (the term "*jogai*," which warns against getting too close to the edge of the mat, is still used in competitions between visually

impaired athletes). This rule was originally invented because there was a three foot or more drop at the edge of the mat. It was written to safeguard the contestants. Precise standards now exist to make combat surfaces safe and to allow dynamic judo, thanks to a firm floor.

One final example is worth mentioning. It considers the requirements of athletes who are put under much greater pressure by the succession of international competitions, so that they can express their full potential while respecting the weight classes. As done for boxing, the weigh-in is now organised the day before the championships. An additional random weigh-in ensuring that the 5% tolerance is not exceeded is held on the morning of the competition. Health protection is managed both in an ethical and aesthetic way. Today, nothing may be worn over the judogi. Any form of personal protection must be made of soft material, excluding any metal frame. Ironically, Richard Bowen refers to the remarks in the German rules transmitted to the Budokwai in the 1930's indicating that a 'suspensorium' (jockstrap) could be worn on the outside if it was of a white colour similar to that of the trousers. If it was any other colour, it had to be worn underneath (Bowen, 2011, 221).

Equality Between Contestants

Equal opportunities makes a distinction between equal access and equal participation. Access was not possible for everyone. The opposition between amateurs and professionals animated the world of judo in its early days. Later, the debate turned to the participation of women. At the beginning of the XXth century, the practice of physical activities by women was defined by very strict social and moral rules. Although Kano's initiative was original, it was nevertheless part of a context of gender inequality characteristic of the time. The words of the Kano Sensei biographic editorial committee are clear

> *"Taking into consideration female psychological and physiological characteristics, and the fact that they would possibly give birth in the future, he [Kano] asked the Judo Medical Research Group (Judo Iji Kenkyukai) and other specialists for their opinion and devised specific methods of randori and kata (Kodokan, 2009, 134)."*

Rusty Kanokogi was born in Brooklyn, New York. Unhesitatingly, she opted for equal access to competition. "I was considered an exceptional woman, a woman who played judo like a man." Energised by her experiences on the mat, she approached the 1959 New York State YMCA championships with a sense of entitlement. Pushing back her short hair, taping her breasts, she used her muscular physique to invade a traditionally male arena. The medal she won was taken away from her. Rusty chose not to fight this decision because she understood the complexity of the judo world (Brousse & Matsumoto, 2005, 155-157). Fifty years later, Eileen O'Connor, head of the Brooklyn YMCA, presented Kanokogi a medal in recognition of a lifetime of inspirational leadership and commitment to equality for women in sport. The first Women's World Judo Championships were held in New York in 1980. Women's judo was included as an optional sport at the 1988 Olympics in Seoul. Since then, men and women have been treated more equally.

Today, weight classes are a matter of course for all judoka. However, their appearance caused a real schism in the world of judo in the 1950's. Japanese logic is based on the founder's philosophy and his definition of judo, giving way. In numerous conferences, Kano tried to demonstrate the value of his method by explaining the optimal use of energy.

> *"What does this 'gentleness' or 'giving way' really mean? To answer this question, let us suppose that we estimate the strength of a man in units of one. Let us say that the strength of a man standing in front of me is represented by ten units, whereas my strength, less than his, is represented by seven units; now, if he pushes me with all his force I shall certainly be pushed back or thrown down, even if I use all my strength against his. This would happen because I used all my strength against him, opposing strength with strength. But if instead of opposing him I were to give way to his strength by withdrawing my body just as much as he had pushed, taking care at the same time to keep my balance, then he would naturally lean forward and thus lose his balance. In this position, he may have become so weak (not in actual physical strength but because of his awkward position) as to have his strength represented for the moment by only three units, instead of his normal ten units. Meanwhile, by keeping my balance, I retain my full strength, as originally represented by seven units. Here then, I am momentarily in a superior position, and can defeat my opponent by using only half of my strength."* (Kano, 1937, 14-15).

Jigoro Kano's demonstration is fascinating and full of promise for those who lack physical strength. It asserts the superiority of intelligent moves. In this logic, the opponent's weight and power can only be deflected through thinking and hard work. Judo built its image on this concept until the 1960's. For a long time, competing in weight categories was considered heresy by many. Following the introduction of judo into the Olympic programme, the number of weight categories was increased to five and then seven.

The definition of scores has always been a delicate issue. Syd Hoare mentions a set of rules dating from the period 1887-1897,

> *"The first to get 15 points was the winner. Ten points were awarded for a good sacrifice (sutemi) throw and nine points for an incomplete one. Eight points were awarded for a good body throw such as o-goshi, seoi, uchi-mata etc. and seven points for an incomplete one. Six points were awarded for a leg technique and five points for an incomplete one. Four points were awarded for a good technique outside the above categories and two points for an incomplete one. Finally, two points were given for kumi-uchi techniques (such as kesagata, bozu, kannuki) strangles or for restraints (hold-*

downs) of over one minute, and one point was given for repeats." (Hoare, 2009, 102).

The British 1964 Olympian continues, "The Butokukai jujitsu rules, which the committee quickly prepared under Kano's chairmanship, consisted of 13 articles." Article 6 reads,

"When it is difficult to evaluate a throw as a full ippon, but when it has considerable value, or in groundwork when it is almost an ippon but the opponent just manages to escape, the judge can call waza-ari for the attacking party. If after that there are one or more similar instances, the judge can call at his discretion 'awashite ippon' (two or more waza-ari combine to make an ippon) and award the score to the person concerned. When there are a number of misses (semi-scoring moves) by both contestants, the judge can add them up and award a victory based on superiority." (Hoare, S., 2010, 102).

In Lausanne in 1973, scores lower than waza-ari, *yuko* and *koka*, as well as penalties of identical level, *keikoku, chui, shido* were defined. From this time, the role of the judges became more significant. They were allowed to interfere with the referee's decision if they both were of the same opinion. A scoreboard was designed to make the process of the fight easier to follow for contestants, referees and spectators. Prior to this initiative, the referee and judges had to remember every single action over the entire duration of the contest. Today's electronic scoreboards have been improved to increase their readability.

Nowadays, before stepping on the mat, the size and width of the judo uniforms are strictly observed by referees to allow each contestant equal possibilities of grappling. This rigour compensated for the weakness of the regulations in this field. In the absence of a precise definition, some manufacturers introduced *judogi* jackets with lapels so thick that they made gripping extremely difficult. Some fighters had the sleeves of their jackets reshaped to make them as narrow as possible. As the *judogi* were only checked on the morning of the weigh-in, some did not hesitate to recut them before being called up to fight! The lack of systematic checking even allowed one competitor to fight with a *judogi* coated with a softening product and not rinsed, so slippery that it became ungraspable (Osaka 2005). Another example of a transgression, not of the rules but of the spirit of judo, is the tactical use made of the 'medical time.' Some athletes are well known for having used this loophole in the refereeing rules.

The rules apply uniformly to everyone. They have a universal character that transcends styles and individuals. What varies, however, is the relationship of individuals to the rules; two distinct attitudes emerge. For some, respect for the rules results from their very existence. The rules are operative in themselves and define the contours of athlete behaviour. In a subjective and interpretative approach, the individual reconstructs their own rule. Everything that is not forbidden is made possible. This debate is at the heart of the equality of opportunity that should govern all sporting competition. It is often at the origin of the dialogue between coach and athlete and can lead to original choices and personal innovations that leave their author's name in the history of world judo. They make fights more attractive and exciting for spectators and specialists alike. Sometimes, adaptations to the rules are merely deviations with no positive extension. They require a fast response from institutions.

The Identity of Judo

Judo's identity refers to its culture of origin, to the inalterable link that this discipline maintains with Japan in the public mind, and to the values of self-control and technical mastery. It is also the quality of technical knowledge that makes or sometimes breaks the image of the discipline. In this way, the rules dictate the meaning given to the style of practice. The opposition between Jigoro Kano and Tsunetane Oda's fostering of *ne-waza* in the 1920's provides the first example of this question. On the one hand, Kano favoured *nage-waza*, which he saw as a class habitus and which reflected his vision of man and society. On the other, Oda saw confrontation as an objective to be achieved, in which technical utilitarianism should take precedence. History has tipped the balance in favour of the Kodokan. However, for reasons of sporting efficiency, the excellence of the knowledge lost in *ne-waza* has led to a renewed interest in the value of kosen judo techniques.

The inclusion of judo on the Olympic programme and the representational role given to sport by certain political regimes raised new issues for judo. The IOC's decision in 1960 explains the sudden entry of Soviet *judoka* into the international scene. In April 1962, the French team, which had been collecting European titles since 1951, travelled to the USSR. The results of the French, which had suffered a string of defeats, plunged its leaders into great perplexity (Moscow, France 2- USSR 6; Kiev, 2-6; Tbilisi, 3-5). The first tour of Soviet competitors to Japan the following year ended in a very difficult victory for the Japanese *judoka* (Maebashi, Japan 3-USSR 2; Kobe, 2-2; Yokoyama, 1-3; Tokyo, 2-1). At the Tokyo Games, each of the four Soviet Union competitors won a bronze medal. The world hierarchy was turned upside down. The profile of the Soviet champions was revealing, as their results in sambo competitions spoke for themselves.

Geesink beat the Japanese in Japanese style. The Russians beat them in Russian style.

"Decades of contest-orientated adaptation made most Russian judo techniques look radically new. However, every Russian technique can be structured and classified like every original Kodokan technique, as it has a similar biomechanical pattern in common. Due to the peculiarities of Russian national wrestling styles (uniform, soft mats, rules, starting positions, etc.) some phases and powerful and explosive throws may appear and hence, may seem as missing. In fact, unorthodox details of every technique often disguise, but not eliminate, any of the main phases of a throw […] However, at the very beginning of performance judo, the entirety

of some newish techniques was often questioned and regularly misinterpreted by experienced judo players, as well as the expert coaches and referees." (Moshanov, 2004, 17).

Soviet Union champions weren't the first to demonstrate that their excellence was linked to their experience in folk wrestling. The Frenchman Jacques Le Berre was a Breton Gouren champion, and Santiago Ojeda excelled in Lucha Canaria, etc. Many styles of folk wrestling use the principle of giving way by using the opponent's strength. The growing popularity of judo and the opportunities for social advancement it offered stimulated the interest of champions of these popular forms of wrestling. The Japanese style resisted but found itself pitted against styles directly inspired by other fighting cultures. Purists denounced what they saw as a perversion. They feared that judo technique was becoming what sociologists once defined as a 'melting pot' or 'tossed salad,' a unique whole in which everything is mixed together. However, the metaphor of the salad bowl or mosaic, in which each ingredient retains its specificity, has come to the fore. Each judo style has brought new ways of fighting which, in turn, have stimulated the innovations of each school. Japanese judo has not been perverted. Both the Georgian and Mongolian elite players persevered and made their judo style more effective.

The fall of the Iron Curtain changed the face of world judo. In a very short space of time, the arrival of competitors trained in other styles of wrestling produced a greater culture clash than that caused by Soviet athletes in the mid-1960's.

"International judo has successfully coped with a first wave of the Russian technical invasion of the 1960's-1980's by absorbing some of their irrepressible techniques and rejecting the dubious ones. […] However, after the 1991 European Championships (Prague) where the URSS appeared for the last time as one team, a second wave of unorthodox judo was unleashed onto the international scene. Since the 1993 European Championships (Athens) and the 1993 World Championships (Hamilton), the names of 15 previously unknown states appeared on the medal table: Russia, Georgia, Ukraine, Belorussia, Moldova, Latvia, Lithuania, Estonia, Kazakhstan, Uzbekistan, Azerbaijan, Tadzhikistan, Turkmenistan, Kirghizstan. As 30 years before, they brought about a range of techniques which was even more untypical than those already accepted as a new classic. European and international judo was, once again, split into two camps: post-modernists and post-traditionalists." (Moshanov, 2004, 103).

The feared hybridisation did not take place because vigilance was the order of the day. The wrestlers' handshake in continuation of the judo salute was quickly suppressed. On the other hand, leg grabbing remained a problem that was difficult to solve. None of the attempts made were entirely satisfactory. Widely used in traditional forms of wrestling, leg picks, when tolerated, reduced risk-taking and became a priority mode of attack for many competitors. As a result, judo fights were completely denatured and lost all interest for spectators and specialists alike. Banning them was to deprive judo of techniques which, by their very nature, are complementary and have an essential tactical function. The world of elite judo is evolving rapidly. The right decisions are sometimes difficult to make, because they involve contradictory choices.

Judo's identity depends on the judoka's behaviour and respect for judo etiquette. When an incident occurs before an international championship and leads to a refusal to enter for political reasons, the subject is complex (Athens 2004) (Brousse, 2011). When misconduct takes the form of violent or inappropriate behaviour in public, as evidenced by images or testimonials relayed by the media, sanctions are imposed on coaches (Athens 2004) or athletes, in cases of flagrant and indisputable violation of ethical rules. (Rio de Janeiro, 2016). Aggressive attitudes towards the referee or an opponent (Paris 2024) are also carefully scrutinised and punished as exuberant behaviour.

Promotion of Judo

In Mythologies, the French philosopher Roland Barthes drew a distinction between the spectacle of catch-as-catch-can and judo. He wrote,

"Thus, the function of the wrestler is not to win; it is to go exactly through the motions which are expected of him. It is said that judo contains a hidden symbolic aspect; even in the midst of efficiency, its gestures are measured, precise but restricted, drawn accurately but by a stroke without volume. Wrestling on the contrary, offers excessive gestures, exploited to the limit of their meaning. In judo, a man who is down is hardly down at all, he rolls over, he draws back, he eludes defeat, or, if the latter is obvious, he immediately disappears; in wrestling, a man who is down is exaggeratedly so, and completely fills the eyes of the spectators with the intolerable spectacle of his powerlessness." (Barthes, 1972, 14).

The promotion of judo is an important goal for any national or international federation. The common policy is to make judo as attractive as possible to the general public. The final match of the 1956 World Championships lasted 20 minutes. Successive decisions have been designed to reduce the duration of bouts, develop offensive judo and make the actions and rules of judo as easy to understand as possible for neophytes. Today, the men and women compete for 4 minutes, making the performance shorter and more attractive. Briefer matches are associated with a demand for a higher level of activity. Judo is not the only discipline to seek to make competitions more attractive. In rugby, try bonus points and losing bonus points reward the most offensive teams, even if they lose. What is more, passivity during combat is contrary to the ethics of judo. The anecdote is well known. Charles Palmer who was the umpire of the 1964 Tokyo Olympic final between Inokuma from Japan and Rodgers from Canada recounted it with ease. Nicholas Soames and Roy Inman immortalised it in their book.

"The final ten minutes of the fifteen-minute final were almost completely eventless. The referee, Charles Palmer, gave a very public warning to both for being passive (This was one of the deciding factors in the introduction, in later years, of the passivity rules). Palmer later recalled: 'I gave them both a warning that unless they started doing judo I would disqualify them both and neither would get a medal. I spoke in Japanese because I knew Rogers spoke the language. They upped the pace a little." (Soames & Inman, 1990, 9).

Encouraged by his friend André Ertel, Charles Palmer was elected president of the IJF at the 1965 congress in Salt Lake City. It came as a great surprise, as Risei Kano was defeated but the founder's son had not made the trip to Brazil and the winds of modernity were blowing. The late 1960's and early 1970's saw a proliferation of international competitions for all age categories (Paris Tournament, 1971, World Junior Championships 1974, etc.). The media's interest in judo increased. The rules changed, evolving towards greater rationality, transparency and understandability. Palmer declared,

"In a continuing endeavour to make judo contests more closely related to the judo training and practice one sees every evening in a judo club and at the same time make the contests more interesting for spectators and players alike, the International Judo Federation Rules were recently modified." (Palmer, 1975).

Palmer's attitude in favour of the International Judo Federation distancing itself from the conservative Japanese management model is reflected in another anecdote that also took place during the 1964 Tokyo Games. On that occasion, an elite jury was set up by the Japanese organisation to monitor the quality of calls, particularly those made by foreign referees.

"Charles Palmer was the subject of attention from the jury while he was refereeing on the mat. He recalls he had just awarded a waza-ari to a competitor and the fight was continuing when the red light shone. He stopped the fight as required. But as the jury worked his way down to the mat, he stepped over to one corner judge and asked him if he agreed with the waza-ari. The judge assented. Palmer walked over to the other corner judge and asked the same question with the same response. As soon as the jury reached the mat, Palmer said, in firm terms, we're all agreed that the waza-ari was correct. The jury scarcely said a word but turned tail, went back to the position and did not interfere again." (Soames & Inman, 1990, 32).

Initially, in a number of countries such as France, two *ippon* were required to designate a winner. The change in the scale of advantages and the parallel introduction of equivalent penalties had a direct influence on tactical choices that radically changed competitors' attitudes. When a *koka* advantage was enough to win the fight, the finality of victory minimised any risk-taking and consequently reduced the spectacular side of judo. As a result, the world's judo leaders found themselves faced with problems that were constantly renewed by the inventiveness of the athletes and their coaches. Many changes have been made to make judo more offensive by allowing athletes to step off the mat voluntarily. The current position to allow action begun inside the contest area to continue gives good results, but it does not hide the subjectivity of the assessment determining whether the exit from the mat is voluntary or forced by the opponent.

The format in which the competitions were broadcast on television also had an impact on the length of the fights and the repechage system. Initially non-existent, the latter went through several versions' notably the *European repechage* which, for a few years, allowed a competitor defeated during the elimination rounds to reach the semi-finals and possibly win the title. In the interests of a level playing field and greater public interest, the current seeding system, associated with the quarter-final repechage, ensures that potential medal winners do not meet in the first round, as was the case in the past (Montreal 1976). Promoting the broadcasting of competitions on television while preserving the image of the discipline is a difficult task.

"In modern-day judo the 'internal injuring' of performers, so feared by Kano, has become an accepted consequence for a judoka in his misplaced over-emphasised desire to increase his medal tally. Performance judo has downgraded this particular aspect and created a quest for the achievement of athletic objectives. Immediately a Pandora's box with ideas alien to 'true and high' judo was open. It gave way to a wide range of tricky techniques and even accommodated inappropriate and undesirable tactics – manipulation of the rules, misleading a referee, false or pretended attacks, tempo domination vs technical mastery, fencing with grips, etc.;many of which became popular tools for all judo performers." (Moshanov, 2004, 21-22).

In the particular case of judo, the issue of the rules and their development is permeated by the opposition between Japanese and Western cultures. Often, the changes made in the name of modernisation have come up against the desire to preserve the original heritage. The adoption of coloured *judogi* is a typical example of this cultural conflict. Initiated by France, then taken up by the European Judo Union, the proposal was fought for more than 20 years before finally being adopted at the 2000 Sydney Games.

Conclusion

The rules are universal. Conceived to organise the practice of elite judo, they have a wider importance that directly impacts the daily life of the dojo. There is a close ternary relationship between the elements that dictate the evolution of the rules, those who undergo or adapt them and those who take the resulting judo practice as their model.

Scientific studies have shown that competitive judo as such is not accident-prone. Refereeing decisions are sometimes called into question. The major difference with previous decades is that in the event of a manifest error (Paris 1997), a contrary decision can be taken to re-es-

tablish the facts (Doha 2013). Equal opportunities have been a reality for a long time. It is an integral part of judo. Its application, however, requires vigilance to ensure that political or religious considerations do not interfere.

The media coverage of judo has led to a worldwide spread of judo, which is now practised in 203 countries and territories. It has done so by associating sporting exploits with the humanist and educational values dear to its founder. The positive aspects of this boom should not, however, overshadow the dangers that the elite judo system poses to club practitioners. Not all rules have the same influence on practice. However, some have a strong normalising effect on the behaviour of young fighters in the lower age categories. The consequences of this effect can lead to debatable political choices. The introduction of a seeded system for IJF World Tour competitions is a step forward that is appreciated by all, as is the awarding of bonuses to podium winners. What can be said, however, of the application, as in France, of a ranking list for the minimes (12-13 years) and benjamins (10-11 years) categories, or of the awarding of prizes for the same regional benjamins competitions? Japan's decision to ban all national competitions for this age group is a diametrically opposed position. In the cadet category, submission techniques (chokes and arm locks) are authorised. Given that these techniques are taught much earlier at an age when it is medically inadvisable to use them for obvious reasons of physical and psychological danger, it is surprising that they are maintained when leg-grabbing techniques are banned. The analysis presented here highlights the generally consecutive nature of the changes made. In almost all cases, the rules are amended in response to developments that are deemed inappropriate or contrary. Rarely are the rules anticipatory in nature. Sporting rules are an ongoing collective construction that establishes a dialectical relationship with the evolution of sport. The evolution of judo rules bears witness to the dynamic inventiveness of human beings, including managers, referees, athletes, coaches and spectators.

References

Adelman, M. L. (1986). New York City and the Rise of Modern Athletics, 1820-70, Urbana and Chicago, University of Illinois Press.

Barthes, R. (1972). “The World of Wrestling”, Mythologies, New York, The Noonday Press.

Bowen, R. (2011). 100 Years of Judo in Great Britain: Reclaiming of Its True Spirit, Brighton, IndePenPress Publishing Limited.

Brousse, M. Matsumoto, D. (2005). Judo in the US: A Century of Dedication, Berkeley, California, North Atlantic Books.

Brousse, M. (2011). “Ondes de choc; conflits politico-culturels et évolution du judo mondial”, Histoire du Sport et Géopolitique, L’Harmattan, 55-75.

Guttmann, A. (2008). From ritual to record, The Nature of Modern Sports, New York, Columbia University Press.

Hancock, H. & Higashi, K. (1905). The Complete Kano Jiu-Jitsu (Jiudo), the official Jiu-Jitsu of the Japanese Government, with the additions by Hoshino and Tsutsumi, and chapters on the serious and fatal blows and on Kuatsu, the Japanese science of the restoration of life, New York; London: G. P. Putnam's Sons.

Hoare, S. (2009). A History of Judo, London, Yamagi Books.

Kano, J. (1937). Judo (Jujutsu), Board of Tourist Industry, Japanese Government Railways.

Kodokan, (1955), Contest rules of Kodokan judo (Recognized officially by the All-Japan Judo Federation), revised March 1951, revised May 6, 1955.

Kodokan, Bennett, A. (ed. and trans.). (2009). Jigoro Kano and the Kodokan: An Innovative Response to Modernisation. Tokyo: Kodokan Judo Institute.

Matschke, K-D., Velte, H. (2005). 110 Jahre Jiu-Jitsu, Ju-Jutsu und Judo in Deutschland (Eine Chronik von 1905 bis 2005), Vierkirchen, Kwon.

Moschanov, A. (2004). Judo from a Russian perspective, Ipa-Verlag, Stuggart.

Nakamura, T., Daigo, T., Kodokan (2000). New Japanese-English dictionary of judo, Tokyo, The Foundation of Kodokan Judo Institute.

Palmer, C. [1975], “Changes to the contest rules”, Charles Palmer, Judo, Official review of the International JUDO Federation, 7.

Soames, N., Inman, R. (1990). Olympic Judo, History and Techniques, Swindon, *Ippon*/Crowood.

Watson, B. (2008). Judo Memoirs of Jigoro Kano, Early History of Judo, Victoria BC, Trafford Publishing.

Article history
Received : 9 September, 2024
Accepted : 25 November, 2024

Contributions of Science to Competitive Judo

By Luis Fernandes Monteiro[1] and José Manuel García García[2]

Abstract: *This study examines the contributions of science to competitive judo, focusing on the evolution of training methods and the role of technology in enhancing performance. The integration of scientific principles has revolutionised traditional training practices, with advancements in biomechanics, physiology and data analytics enabling a more precise understanding of athlete preparation and performance. Ergogenic aids, including nutritional interventions, recovery techniques and wearable technologies, are explored as key innovations that have reshaped the way judoka train and compete. By bridging the gap between traditional judo practices and modern scientific approaches, this research highlights the transformative impact of science and technology on competitive judo.*

Keywords: *science, technology, the evolution of training methods, ergogenic judo aids*

Judo, one of the most universal Olympic sports, is now practised in nearly every country worldwide. Since its debut in the Olympic Games in Tokyo in 1964, judo training has undergone a remarkable transformation, shifting from traditional, empirical methods to rigorously structured, scientific methods. This evolution has not only enhanced athlete preparation but has also contributed to judo's emergence as a more dynamic, media-friendly and spectator-engaging sport. The modernisation of judo has also amplified its educational and ethical impact, promoting values such as fair play and sportsmanship, while continuing to deliver significant health and wellbeing benefits to its practitioners (Monteiro & Chambel, 2003; Garbeloto et al., 2023).

The modern Olympic Games, inaugurated in Athens in 1896, began as an arena for amateur athletes. However, over the years, the Olympics have become a stage for highly trained professionals, many of whom dedicate decades to preparation. In this context, science has revolutionised competitive judo by providing tools and methodologies that optimise training, enhance performance and minimise injuries. This scientific integration has been gradual and continuous, profoundly shaping the sport without a singular starting point.

Key to this transformation has been the increasing support from governments, national federations and Olympic committees, especially since the 1990's. This support has allowed *judoka* to transition into full-time, professional athletes, achieving levels of preparation previously unattainable. The shift to multidisciplinary training teams, comprising coaches, therapists, physical trainers, medical professionals, and other specialists, has further refined athlete preparation and career management.

Moreover, recent years have witnessed significant improvements in the organisational and competitive structure of judo. The introduction of financial incentives, such as cash prizes for world-ranking tournaments since 2009 and national programmes providing financial support, have offered greater career stability for judoka. Changes in refereeing rules and competition dynamics, driven by the international federation, have also elevated the quality and appeal of judo on the global stage.

These advancements underscore the essential role of science, technology and institutional support in shaping modern competitive judo. By enabling athletes to dedicate themselves fully to their training and fostering continual improvement, these developments have driven the sport to new heights, delivering both exceptional results for athletes and broader recognition for judo as an Olympic discipline.

The Rise of Science in Judo Training

In the early days of competitive judo, training was based primarily on repetition and empirical methods, less specific, more general in scope and rudimentary. For instance, in the 1960's, legendary *judoka* Anton Geesink described training that involved lifting logs or rudimentary strength exercises, often outdoors, to build the physical attributes necessary for judo (Geesink, 1986). This approach, while effective in building brute force, lacked specificity in addressing the technical and physiological demands of judo.

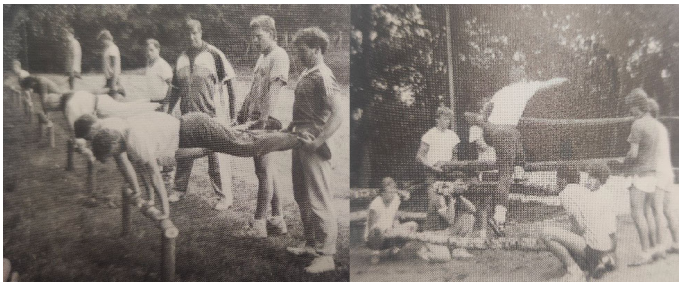

Figure 1. Strength and conditioning for judo in the 1960's and early 1970's (Geesink, 1986).

Authors' affiliations :
1 - Faculty of Physical Education and Sport, Lusófona University, Lisbon, Portugal
2 - Faculty of Sports Science, Castilla-La-Mancha University, Toledo, Spain

By the late 1970's and early 1980's, exercise science began influencing judo, driven by advancements in physiology, spearheaded by researchers like Per-Olof Åstrand. These developments laid the groundwork for bridging the gap in performance between Japanese judoka, renowned for their superior technique, and *judoka* from other nations. During this period, one key realisation was tailoring physical preparation to individual athletes based on weight class, gender and anthropometric profiles (Ren et al., 2022; Monteiro et al., 2024). For instance, while strength was critical, converting it into technical efficiency required more nuanced training protocols.

This era saw increased attention to performance variables like explosive force, speed and power. Training programmes began to differentiate based on individual needs, such as the weight category of athletes, recognising that a 48 kg female *judoka* requires a distinctly different approach when compared to a +100 kg male competitor. The study and application of power-velocity curves enabled coaches to optimise training strategies.

Considering that muscular strength capacity is more important than maximum strength for the effective execution of judo techniques (Loturco et al., 2017), as opposed to the idea of maximal strength, which can be developed through traditional strength training; "maximum muscular strength development" appears to depend on a full integration of physical (i.e., neuromuscular) and technical training strategies. It is important to highlight the athlete's need to develop speed since the time to generate high levels of strength force in attacking and counter-attacking judo techniques is short (Monteiro, 2022). The development of muscle power in athletes should be prioritised in strength training as a way to improve performance in the number and efficiency of specific judo techniques performed at high speed. In addition to the effectiveness in executing the techniques, the most powerful athletes are equally capable of performing a greater number of throws during a specific judo test. Although confirming the importance of muscle strength in judo performance, the results also demonstrate the need to invest more in the development of this neuromuscular capacity in blind athletes. The higher power observed in judo athletes in most of the tests carried out, evidenced their ability to apply higher values of force at higher speeds, which possibly indicates their higher level of competitiveness. During the execution of throwing techniques, judo athletes need to generate high levels of power to move the opponent's body mass and surpass his/her opposing forces (Franchini et al., 2011; Monteiro, 2022; Loturco et al., 2017).

Coaches began using tools like force-velocity curves to optimise the balance between strength, speed and power, essential for *judoka* competing at the highest levels. These assessments allowed individualised training strategies considering an athlete's competitive schedule and seasonal demands. Figures 2A and 2B illustrate the evolution of strength, power and speed of a 73kg athlete, in bench-press, from a 1st moment to a 2nd moment during the season (Figure 2).

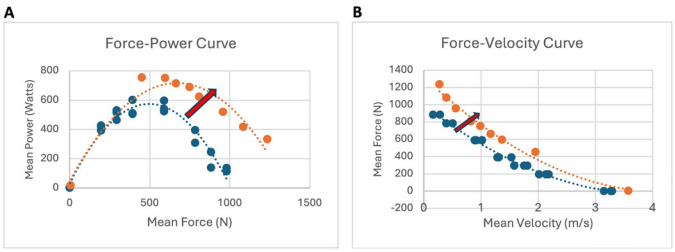

Figure 2. Averaged power-force (A) and velocity-force (B) curves across two moments of the same judo athlete in a season (73kg).

Advances in Monitoring and Load Management

Judo's high-intensity, intermittent nature necessitated tests like COPTEST, an intermittent judo test. The COPTEST (García-García et al., 2007) was adapted for 4-minute duration tests, with 9 *nage-komi*, 9 *uchi-komi*, 9 *juji-gatame* and 4 repetitions of bench-row (BR) with the power-load (~50%1RM) in each minute (T1 to T4). BP load was the previously calculated power-loading of the arm flexor muscles and 4 measures were collected: force, power, velocity, and RFD. Power-load was tested on a free-weight BR exercise (Monteiro & García, et al., 2024), which assesses muscular action and fatigue effects, such as a decrease in strength, power, speed and maximum explosive force, generally achieved with the power load. In addition to these mechanical outputs and access to minute-by-minute timing (external load), Parameters of heart rate, lactatemia, and rate of perceived exertion (RPE) (internal load) can be accessed. Such tests highlighted neuromuscular adaptations and fatigue patterns in combat scenarios, helping refine training prescriptions. Due to the characteristics of intermittent high-intensity effort and open dexterity, specific terrain tests (COPTEST) with elite judo athletes, in addition to the results of further investigations, are aspects that reinforce the need to consider muscular actions and physiological aspects in the prescription of training with loads and the effect of fatigue in this combat sport. An even greater challenge is understanding the physiological and neuromuscular adjustments that limit speed and power in judo and that induce a certain amount of fatigue for a specific task or load. This test was carried out with a 73 kg athlete, using the power load and where the maximum explosive force was also demonstrated.

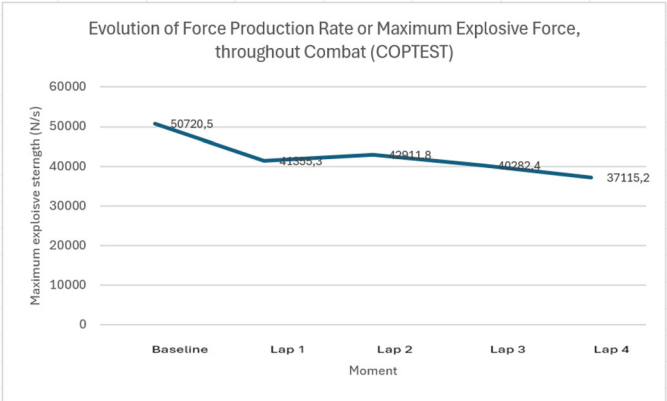

Figure 3. Decrease in simulated intra-combat explosive force: from baseline to the end of the 1st minute (17%) and until the end of the 4th minute (36%).

Evolution of Training and Monitoring

As judo transitioned into the late 1980's and early 1990's, scientific research expanded further into areas like biomechanics and neuromuscular performance. Biomechanical studies allowed *judoka* to refine techniques based on their individual physical characteristics, such as adapting grips and throws to maximise efficiency and reduce injury risks (García et al., 2007). The introduction of video analysis transformed tactical preparation, enabling *judoka* to study opponents' movements and devise counter-strategies. This technological leap enhanced the integration of technique, physical conditioning and tactical training into a comprehensive preparation framework.

The development of monitoring tools, such as heart rate variability and lactate threshold tests, provided insights into internal training loads and recovery states (Branco et al., 2013). These tools helped coaches manage the physical and psychological readiness of judoka, minimising overtraining and optimising performance during critical competitions.

Video analysis emerged in the 1980's, enhancing tactical training and allowing athletes to study opponents in greater detail. By the late 1980's, training evolved into a comprehensive technique-physical preparation-tactical approach, broadening the scope of performance enhancement (García et al., 2007).

Integration of Biomechanics and Technology

Judo, despite being a highly complex sport and not having an exact measurement, time or distance, such as a 100m speed test, and time is relative, what counts is effectiveness in studying various aspects, including the contribution of biomechanics in competitive judo.

In 1958, in their Bulletin of the Association for the Scientific Studies on Judo, Kodokan, Report I, Ikai and Matumoto presented an interesting study on 'The Kinetics of Judo' where they presented a biomechanical analysis of several *nage-waza* (throwing techniques). In subsequent editions, several studies were published but with limitations to the technology existing at the time. In the 1980's, Attilio Sacripanti published a book 'Biomeccanica del Judo,' which addresses a new biomechanical classification of judo techniques, facilitating their understanding.

The 1990's saw advances in biomechanics dealing with individual athletes, adjusting techniques to their anthropometric and conditioning profiles. This personalisation enhanced performance and introduced innovative training tools, such as force sensors and advanced motion analysis systems. Changes like the adoption of coloured *judogi* also improved the spectator experience and differentiation of athletes during matches. Recently, in addition to several authors and classifications, Attilio Sacripanti (2021) published a book on 'JUDO - Biomechanical Science at the IJF Academy' (special edition).

Concerning biomechanical assessment in combat sports (i.e., reaction time, velocity and force), the literature is scarce regarding studies that carried out surveys of new assessments and monitoring technologies with solutions for coaches and athletes (Sant´Ana et al., 2023). In addition to many instruments, recently, there are mobile technologies available for biomechanical analyses in combat sport modalities. Significant growth was observed in the number of studies involving mobile technologies with practical tools for biomechanical assessment in combat sport athletes.

Advances in Periodisation and Recovery

The intense competitiveness inherent in certain sports often leads to the development of training overload, which, if not carefully managed, can escalate swiftly into excessive strain, ultimately resulting in overtraining. This phenomenon is especially prevalent among professional athletes or those competing at the international level. In combat sports like judo, the continuous physical contact between opponents heightens the risk of injury significantly. Additionally, judo possesses distinct characteristics that can deplete an athlete's energy reserves rapidly, exacerbating fatigue and accelerating physical deterioration. As Franchini (2001) highlighted, these factors make *judoka* particularly vulnerable to the negative consequences of overtraining and injury.

Given this reality, the introduction of strategies to reduce the training load gradually was another milestone. Research by Mujika and Padilla (2003) and Bosquet et al. (2007) demonstrated that reducing training volume by 40–60%, while maintaining intensity, led to performance improvements. These findings have been instrumental in the preparation of *judoka* for multi-peak seasons, such as those encountered during Olympic qualification (Issurin, 2010). Moreover, advances in recovery science, including the monitoring of biomarkers like cortisol and inflammatory markers, have provided crucial data for managing athlete health and readiness (Papacosta & Nassis, 2011).

This meant greater investigation into the control of loads that were not taken into account previously and it was possible to ensure that adjustments, both in volume and intensity of loads, were administered in an individual and logical way. Science began to help in optimising training and avoiding injuries resulting from excessive work sessions.

Holistic Athlete Monitoring and Readiness

A growing emphasis on readiness — a balance of physical, technical, tactical and psychological preparedness — has reshaped judo training. Tools for assessing workload, heart rate variability, lactate levels, perceived effort and wellbeing are now standard. Biochemical markers in blood and saliva provide insights into recovery needs and overtraining risks.

Studies such as Ji et al. (2024) and Ataeinosrat et al. (2022) have revealed the molecular changes induced by exercise, such as increases in exerkines like FGF-21 and brain-derived neurotrophic factors, which offer opportunities for tailoring training further. Cognitive training and stress management programmes are also becoming integral to enhancing athletes' decision-making abilities in high-stress scenarios.

Cognitive and Emotional Preparedness

Modern judo also acknowledges the significance of cognitive and emotional factors. Decision-making under pressure, rapid reaction to opponents' moves, and mental resilience are critical for success in high-stress environments (Ducrocq et al., 2016). Cognitive training programmes that incorporate physical drills, memory tasks and stress management techniques are now integral to judo preparation. These methods have proven effective in maintaining focus and improving reaction times during competitions (Kegelaers et al., 2024).

In the management of the emotional sphere, science also gave the judo community new tools and a lot of useful things. Control of emotional balance through an allostasis allows us to express our entire competitive arsenal adequately during competition. Allostatic loads are well managed, allowing *judoka* not to enter the feared allostatic state before competitive participation. This allostatic state was more easily appreciated in other times, however, nowadays, coaches know which standards are individual to each *judoka* and their pre-competitive preparation is very precise. The control of uncertainty or 'stage fright' was reduced drastically. The science of emotional management has helped both coaches and athletes become better in their roles.

Accordingly, sport scientists working with judo Olympic teams are advised to adopt a more holistic approach and evaluate physical performance considering technical and tactical demands. Regarding the physical and mental readiness of each player, coaches should adopt regular monitoring of the external and internal workload in combination with measures of wellness (Gabbett et al., 2017).

Nutritional Science and Body Composition

Scientific advances in nutrition have revolutionised weight control and energy optimisation for judoka. Techniques such as Dual Energy X-ray Absorptiometry (DEXA) allow for accurate measurement of body composition, assisting in the development of individualised diet and supplementation plans (Figure 4). This approach minimises the health risks associated with rapid weight loss, a common practice in judo, and maximises energy availability during competition.

On the other hand, science has contributed to judo with an improved understanding of competitive weight control, hydration and body composition. A study by Silva et al. (2010), with the Portuguese judo team, of body composition and power changes in elite judo athletes, estimated the total body and extracellular water by dilution techniques (deuterium and bromide,) and intracellular water was calculated as the difference. The body composition was assessed by DEXA. A power-load spectrum was used to assess upper-body power output in a bench-press position. These findings highlight the need for tracking total-body water, specifically the intracellular compartment in elite judo athletes to avoid reductions in upper-body power when a target body weight is desired before competition. In another study (Silva et al., 2011) aimed at evaluating changes in total body water (TBW) and its compartments (extracellular water [ECW] and intracellular water [ICW] and their relationship with loss of handgrip strength (HGS) in Portuguese elite judo athletes, it was found that from baseline to before competition testing indicated that those who lost ≥2% of HGS significantly decreased TBW and ICW. These findings indicated that reductions in ICW increased the risk of losing grip strength in elite judo athletes. Many coaches evaluate judo teams with DEXA currently and can control weight and body composition (Figure 4).

DXA Results Summary:

Region	Fat Mass (g)	Lean+ BMC (g)	% Fat
L Arm	300.7	3669.5	7.6
R Arm	461.7	3786.5	10.9
Trunk	2744.3	27734.2	9.0
L Leg	688.6	9013.8	7.1
R Leg	817.1	9365.8	8.0
Subtotal	5012.4	53569.8	8.6
Head	895.4	3738.2	19.3
Total	**5907.8**	**57308.0**	**9.3**

TBAR3324

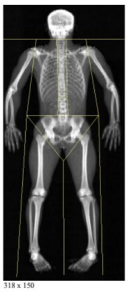

Figure 4. Dual-Energy X-ray Absorptiometry measurement and report of a judo elite athlete.

Although excessive weight loss is still observed in *judoka* during competitions, nowadays most athletes with technological support know how to control their diet and use ergogenic resources, as well as good hydration to promote their performance. Sports supplementation has also made significant advances, with products and laboratories marketing supplements more effectively and safely. This ensures proper energy balance and supports optimal performance.

Historical Evolution of the Use of Ergogenic Aids to Improve Competitive Performance in High-Performance *Judoka*

Using ancestral substances and potions to gain competitive advantages is as old as the sport. While ergogenic aids are relatively recent, it is the same concept. Ancient Greeks and Romans utilised medicinal herbs with stimulant properties to enhance strength and endurance and they consumed alcohol to dull pain, particularly wrestlers and gladiators (Thomas, 1988).

Throughout the Middle Ages and modern periods, alchemists and physicians crafted elixirs and potions promising to enhance physical performance. This trend became more widespread in the late 19th century, with substances like cocaine and strychnine being available as stimulants in pharmacies.

Only after the advancement of science eclipsed athletic empiricism did such opportunistic practices gain traction. The emerging training methodologies of the 1950's, coupled with political rivalries, led to a relentless pursuit of winning strategies reminiscent of the space race of that era.

The 1970's and 1980's marked a turning point where this competition intensified, especially with the expanding use of anabolic steroids for muscle mass and strength enhancement. However, there needs to be more evidence of *judoka* utilising these compounds to reach Olympic or world podia during this period; their application was more prevalent in weightlifting and throwing events.

The 1980 Moscow Olympic Games are recognised as pivotal in examining and applying doping substances that could enhance athletic performance drastically. This era saw experimentation with growth hormones and erythropoietin, particularly among endurance athletes. These substances helped athletes cope with escalating training demands, proliferated mainly by Eastern European nations and American coaches, particularly in cyclic sports. Concurrently, stimulants like amphetamines were introduced to combat fatigue (Rosenke, 2020).

The situation was exacerbated by state control over elite athletes, often viewed as national propaganda instruments. In this context, athletes were subjected to unethical practices, leaving a significant mark on the sport and the individuals involved.

Was judo isolated from this controversial landscape? While definitive conclusions are elusive, the comparatively limited popularity of judo in the Olympic framework at that time and currently, as an athlete could win only one medal in this event, might suggest a lesser prevalence of such practices.

Testosterone, the quintessential male hormone, was notably administered via injections and patches, showcasing considerable effectiveness in boosting muscle growth and strength. However, access was limited, being primarily available through select laboratories and specific political regimes. During the mid-80's, despite the lag in detection methods for doping, labs began producing more sophisticated anabolic substances that were not only easier to acquire but also harder to trace (Rosenke, 2020).

Evidence of steroid use began to surface with items like Dianabol (methandrostenolone) and Nandrolone appearing in locker rooms. Winstrol, renowned for its versatility, was also widely abused, remaining unregulated for years.

A significant shift occurred after the 1988 Seoul Olympic Games, where detection methods for doping substances underwent considerable enhancement. The exposure of Canadian athlete Ben Johnson catalysed a sense of urgency within the doping industry, prompting searches for new, undetectable substances (Baron et al., 2007).

The 1990's ushered in a new era marked by biotechnological advancements, giving rise to more refined substances. *Judoka* commonly used beta-blockers to lower heart rates and diuretics before weigh-ins. However, the latter were banned as they effectively masked other prohibited substances by expelling them through urine (Baker et al., 2011).

During this time, practices such as autologous blood transfusions, documented since the late 1970's in endurance sports, gained prominence. This technique, however, has since become detectable and can result in athlete sanctions.

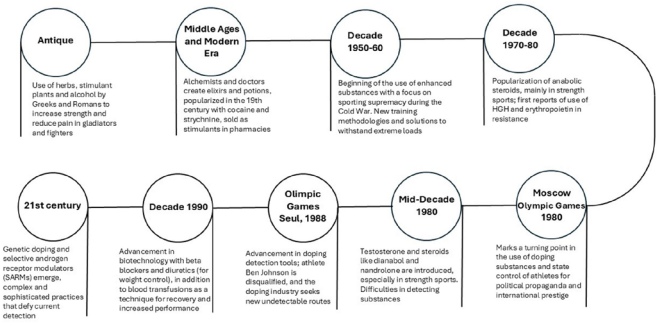

Figure 5. Timeline of the use of ergogenic aids in improving competitive performance.

As we enter the 21st century, can it be asserted that doping has vanished? Not at all. Scientific advancements continue to evolve rapidly, leading to even more intricate and sophisticated doping methods, including genetic manipulation. Selective androgen receptor modulators (SARMs) have gained popularity, offering fewer side effects and presenting detection challenges. Thus, the future of sport remains precarious (Lu et al., 2023).

Will judo also fall prey to these issues? While our sport is not immune, coaches today possess a more comprehensive array of tools to assist their athletes in striving for excellence. Cyclic sports, where technique is secondary to physical attributes, may be more susceptible than acyclic sports, where success hinges on multiple variables.

In judo, an athlete's success relies on strength and endurance, technique, strategy and mental resilience, all complemented by physical conditioning. Currently, no substance exists that can simultaneously enhance all these facets. This gives us an advantage.

The antidote to doping in judo is vital sport education facilitated by knowledgeable instructors who embrace scientific progress, ensuring athlete wellbeing during and after

competition. Our athletes must understand that doping is a deceptive trap, ultimately harmful to themselves and their community, comprising family, teammates and their nation.

Integration of Multi-Disciplinary Support

Today, judo preparation is a multi-disciplinary endeavor. Support teams often include sport scientists, psychologists, biomechanists, nutritionists, and strength and conditioning coaches, all working in unison to optimise athlete performance (Wylleman, 2024). This integrated approach allows for real-time adjustments in training plans based on physiological and psychological data, ensuring a holistic preparation process.

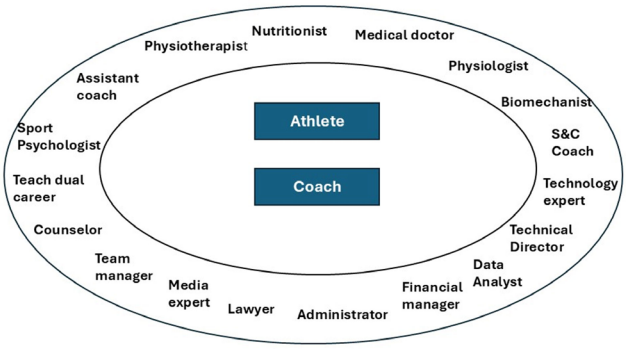

Figure 6. Experts in support provision (Wylleman, 2024)

Conclusion

Science has profoundly transformed competitive judo, enabling athletes to reach unprecedented levels of performance. Advances in exercise physiology, biomechanics, psychology, injury prevention and sports medicine have revolutionised training methodologies, allowing for a more holistic approach that integrates physical, technical, tactical and psychological elements. These developments have not only enhanced the efficiency and safety of training but also elevated the sport's dynamism and spectacle, making it more engaging for athletes and spectators alike.

Modern judo training now incorporates precise load management, individualised conditioning and advanced monitoring techniques to optimise performance while mitigating risks of injury and overtraining. Ergogenic aids, nutritional strategies and innovations in recovery science have further bolstered athletes' ability to perform at their peak across multiple competitive cycles. Meanwhile, tools like biomechanical analysis and cognitive training have refined technical execution and decision-making under pressure, crucial elements for success in a high-demand combat sport.

The integration of scientific research into judo has elevated the preparation and monitoring of elite athletes, enabling them to excel in demanding world-level and Olympic sport. As sport science continues to evolve, judo stands as a testament to the potential of evidence-based practices to redefine excellence, offering a blueprint for the advancement of other sports. In this era of innovation, science has not merely enhanced judo, it has reshaped its identity, making it safer, more intelligent and more spectacular than ever before.

References

Moschanov, A. (2004). Judo from a Russian perspective, Ataeinosrat, A., Saeidi, A., Abednatanzi , H., et al. (2022). Intensity dependent effects of interval resistance training on myokines and cardiovascular risk facts in illnesses with obesity. *Front Endocrinol* (Lausanne), 13, 895512. doi:10.3389/fendo.2022.895512.

Baker, JG., Hill, SJ., & Summers, RJ. (2011). Evolution of β-blockers: from anti-anginal drugs to ligand-directed signalling. *Trends Pharmacol Sci*,32(4-2), 227–234. doi: 10.1016/j.tips.2011.02.010

Baron, DA., Martin, DM., & Magd, SA. (2007). Doping in sports and its spread to at-risk populations: an international review. *World Psychiatry*, 6(2), 118–123.

Bosquet, L., Montpetit, J., Arvisais, D., & Mujika, I. (2007). Effects of tapering on performance: A meta-analysis. *Med Sci Sports Exerc* 39, 1358–1365.

Branco, B., Massuça LM., Andreato , Marinho , B., Miarka , B., Monteiro, L., & Franchini, E. (2013). Association between the Rating Perceived Exercise, Heart Rate, and Blood Lactate in Successive Judo Fights (Randori). *Asian Journal of Sports Medicine*, 4(2), 125-130.

Franchini, E. (2001). *Judô - desempenho competitivo*. São Paulo. Manole, 2001.

Franchini, E., Del Vecchio, F., Matsushige, K., & Artioli, G. (2011). Physiological profiles of elite judo athletes. *Sports Medicine*, 41,147-166.

Monteiro; L., Machado, J., Lanham, S. N., Langford, E.L., & Abel, M.G. (2022). Comparison of Key Performance Indicators Between Portuguese Olympic and Paralympic Judo Athletes. *The Arts and Science of Judo*, 2(2), 22-30.

Sacripanti, A. (2021). JUDO - Biomechanical Science. IJF Academy. Edition 2021 ISBN: 978-99957-1-518-2.

Garbeloto, F., Miarka, B., Guimarães, E., Gomes, F. R. F., Tagusari, F. I., & Tani, G. (2023). A New Developmental Approach for Judo Focusing on Health, Physical, Motor, and Educational Attributes. *International Journal of Environmental Research and Public Health, 20*(3), 2260. https://doi.org/10.3390/ijerph20032260

Gabbett, TJ., Nassis, GP., Oetter, E., et al. (2017). The athlete monitoring cycle: A practical guide to interpreting and applying training monitoring data. *Br J Sports Med*, 51, 1451-2.

García, JM., Navarro, F., González, JM., Calvo, B. (2007). Expert-novice paradigm: Differential analysis of Tokui 's consistency loss Waza in Judo under specific fatigue situations. *Revista Internacional de Ciencias del Sport*, 9(3), 12-29 http://www.cafyd.com/REVISTA/00902.pdf

Geesink, A. (1986). Judo: De nieuve bsasisleermethode. Elsevier Sport. Amsterdam/Brussel.

Issurin, Vladimir B. (2008). Block periodization vs traditional training theory: a review. J. *Sports Med and Phys Fitness*, 48(1), 189-206.

Issurin, Vladimir B. (2010). New Horizons for the Methodology and Physiology as Training Periodization. *Sports Medicine*, 40(3), 65-75.

Ji, M., Cho, C., & Lee, S. (2024). Acute effect of exercise intensity on circulating FGF-21, FSTL-1, cathepsin B, and BDNF in young people men. *J Exerc Sci Fit* ,22, 51–8.

Kegelaers, J., Trotter , M. G., Watson. M., Pedraza -Ramirez, I., Bonilla, I., Wylleman , P., Mairesse, O. & Van Heel , M. (2024). Promoting mental health in esports. *Front Psychol*, 15.1342220. doi: 10.3389/fpsyg.2024.1342220

Lu, Y., Yan, J., & Ou, G. (2023). A Review of Recent Progress in Drug Doping and Gene Doping Control Analysis. *Molecules*, 28(14), 5483. doi: 10.3390/molecules28145483

Monteiro, L., & Chambel, L. (2003). Dinâmica do Combate de Judo. Características Masculinos e Femininos. III IJF World Judo Conference, Osaka, Japan.

Monteiro; L., Machado, J., Lanham, S. N., Langford, E.L., & Abel, M.G. (2022). Comparison of Key Performance Indicators Between Portuguese Olympic and Paralympic Judo Athletes. *The Arts and Science of Judo*, 2(2), 22-30.

Monteiro, L., Massuca, L.M., Ramos, S., Garcia-Garcia, J. (2024). Neuromuscular Performance of World-Class Judo Athletes on Bench Press, Prone Row, and Repeated Jump Tests. *Applied Science*, 14, 2904. https://doi.org/10.3390/app14072904

Mujika, I., & Padilla, S. (2003). Scientific bases for precompetition tapering strategies. *Med Sci Sports Exerc*, 35, 1182–1187.

Papacosta, E., & Nassis, GP. (2011). Saliva as a tool for monitoring steroids, peptides, and immune markers in sports and exercise science. *J Sci Med Sport*, 14, 424–34.

Rosenke, DL. (2020). Supply and Enhance: Tracing the Doping Supply Chain in the 1980s. PhD Thesis, Physical Culture and Sport Studies. Texas University, USA.

Sacripanti, A. (2021). JUDO - *Biomechanical Science*. IJF Academy. Edition 2021 ISBN: 978-99957-1-518-2.

Sant´Ana, J., Kons, R.L., (2023). The use of mobile solutions for biomechanical assessment in combat sports: A narrative review. *The Journal of Sports Engineering and Technology*, https://doi.org/10.1177/17543371231199810

Silva, AM., Fields DA., Heymsfield, SB., & Sardinha LB. (2010). Body composition and power changes in elite judo athletes. *Int J Sports Med*, 2010, 31, 737 – 741.

Silva, AM., Fields DA., Heymsfield, SB., & Sardinha LB. (2011). Relationship between changes in total-body water and fluid distribution with maximal forearm strength in elite judo athletes. *J Strength Cond Res*, 25, 2488 – 2495.

Thomas, JA. (1988). Drugs, Athletes, and Physical PerformanceSpringer New York, NY.

Article history
Received : 16 October, 2024
Accepted : 19 December, 2024

Training Judo Athletes for the Olympic Games a Sport Science Approach Focusing on the Physical Dimension

By Emerson Franchini

Abstract: *This article presents a comprehensive analysis of training methodologies for Olympic-level judo athletes through the perspective of sport science, focusing on the physical aspects essential for performance. Since judo's inclusion in the Olympic Games, there has been increasing scientific interest in optimising athletes' training. Key areas addressed in this review include the importance of individualising training based on athlete-specific factors such as genetic predispositions, anthropometric characteristics and physiological capacities. The training framework is examined, covering aspects such as competition demands, environmental conditions and the athlete's physical fitness. The article also considers factors like the relative age effect and its impact on judo athlete development and competitive outcomes. Additionally, genetic markers related to endurance and strength are highlighted, providing insights into physical traits favourable for judo. The physiological demands of judo are addressed through various metrics, including aerobic and anaerobic power and capacity, maximal strength, muscle power and strength-endurance, particularly as they relate to judo-specific actions. Competitive dynamics such as rapid weight loss, pacing and match intensity, are also explored. The study underscores the need for judo-specific evaluations and training adjustments, recognising that effective training is a function of applying knowledge related to the understanding of judo's unique demands. This synthesis of sport science principles with judo-specific requirements provides a framework for refining the training of Olympic athletes.*

Keywords: *judo, training, Olympic Games, Sport Science*

Judo was founded by a scholar, Dr Jigoro Kano; therefore, it is expected that science has a relevant and constant contribution to judo's development. Although some debate exists regarding Kano's support for introducing judo as an Olympic sport, its inclusion in the Tokyo Olympic Games in 1964 influenced perceptions of judo and how it became organised (Carr, 1993). Even before judo became an Olympic sport, scientific initiatives were conducted to understand it, with notable contributions from the Kodokan, which began publishing the Bulletin of the Association for the Scientific Studies on Judo, Kodokan in 1958. This bulletin, maintained by the Association for the Scientific Studies on Judo (founded in 1948 after its predecessor, the Association for Medical Studies on Judo, established by Kano in 1932), contained articles on physiology, biomechanics, biochemistry and more (Kodokan, 2024).

Before judo's establishment as an Olympic sport, events such as the world championships in the 1950's and the geopolitical climate of the Cold War encouraged different countries to determine effective methods for training their athletes. Japan's early dominance in international competitions influenced athletes from other nations to adopt Japanese training methods. However, while anecdotal evidence from successful athletes' training can be informative, it is well-established that individual factors influence training responses greatly. Therefore, simply following the training programme of a successful athlete may not be the best approach for another. This article discusses the foundational aspects of preparing an Olympic judo athlete, focusing on the general structure of training organisation and the key factors necessary for effective training prescription and performance optimisation.

Starting the Training Process What Information Should We Have?

The process of athletic preparation is a complex pathway in which many aspects must be considered in detail. The entire process is based on the athlete's goals and individual characteristics. Training is organised to help the athlete reach their full potential and achieve their established goals. Input for the training comes from different systems, with the following considered key components (adapted from Platonov, 2000):

1. The Competition System: This system comprises all aspects that define competition, including the number of competitions, their classification (e.g., qualifying or elimination rounds), intervals between events, combat rules, weigh-in procedures, age group classifications, the number of contests in a single competition and across the season, contest duration, intervals between contests, and the repechage system.

2. Professionals and Specialist Knowledge System: This system is concerned with the education and preparation of professionals who participate in the sport, including formal and informal knowledge acquisition, required qualifications and incentives for those achieving high proficiency.

3. Complementary Factors System: This system includes socio-economic and cultural conditions affecting the athlete, such as opportunities to practise the sport, the ability to dedicate time to high-level competition with

Author's affiliation : Martial Arts and Combat Sports Research Group, Sport Department, School of Physical Education and Sport, University of São Paulo, Brazil

sufficient financial and social support, family approval of the athletic career, opportunities to study while training and competing, financial benefits if successful, and personal relationships.

4. Talent Promotion System: In some countries, governments run specific programmes to support athlete development, from early years through high-level careers and career transitions, encouraging broader participation by providing structured support.

5. The Training System: This system is highly influenced by the other systems, as training must consider each athlete's unique characteristics to develop an adequate programme. A successful training programme depends on understanding the competition system, access to well-prepared professionals, suitable socio-economic conditions, and proper facilities. The programme is also more effective when part of a government or sport organisation that supports the athlete's academic pursuits and social life.

For general sports performance, studies have reported factors influencing high-level achievement (Rees et al., 2016), detailing evidence quality, study consistency and the relevance of scientific evidence concerning how the athlete, environment and practice affect high performance. In this article, a similar approach was applied but adapted to judo athletes instead of general sports performers, competition instead of environment, and training methods instead of practice. However, as judo research is less extensive than in general sport, the aim of this article was not to assess study quality or consistency but rather to consider relevant performance influences based on existing literature.

The Judo Athlete

As judo is a complex sport requiring the development of several components for Olympic-level performance, it is challenging to determine an optimal combination of characteristics that guarantees success (Franchini et al., 2011a). However, certain attributes are commonly acknowledged as critical in competitive sports, such as birthdate, genetics, anthropometric and physiological factors, psychological skills, motivational orientations and personality traits (Rees et al., 2016). Nevertheless, due to the specific focus of this article, psychological aspects were not covered here; instead, the focus was mainly on physical performance factors. The reader is referred to other articles in this special issue to find information about these other relevant performance factors.

Relative Age Effect

The relative age effect (RAE) refers to the advantage that individuals born earlier in a given selection period (e.g., the competitive season calendar year) may have in sports performance and other fields due to age-based physical and/or cognitive maturity (Kelly et al., 2021). This effect can lead to an over-representation of older or more mature individuals in youth development sports programmes, potentially limiting opportunities for younger or less mature peers. RAE has been investigated in judo (Albuquerque et al., 2013; Albuquerque et al., 2015; Campideli et al., 2018; Fukuda et al., 2023). Albuquerque et al. (2013) reported RAE in heavyweight Olympic judo athletes, showing that a higher percentage (33.80%) of these athletes were born in the first term compared to those born in the third (19.91%) and fourth trimesters (19.44%). For half-heavyweight Olympic judo athletes, a higher percentage were born in the third term (33.73%) compared to the fourth term (17.27%). In an extended analysis, Albuquerque et al. (2015) found an RAE for male medal winners and heavyweight Olympic judo athletes from 1964 to 2012. Specifically, 56.67% of judo Olympic medallists and 57.50% of heavyweight Olympic judo athletes were born in the first semester.

Campideli et al. (2018) were the first to report RAE effects in female Olympic judo athletes. They analysed data from the London 2012 and Rio de Janeiro 2016 Olympics, observing a lower percentage of female Olympic judo athletes born in the fourth term (15.5%) compared to other trimesters (first = 27.7%; second = 28.4%; third = 28.4%) for the London Olympics, and a higher percentage born in the first semester (57.5%) compared to the second semester (42.5%) when both editions were grouped. RAE is often reported to increase in sports or activities with high competition for limited positions. In sport, higher maturity may confer a competitive advantage at earlier ages, especially in categories like heavyweight, where there is no upper weight limit; this differs from other weight categories, which have limits that control the effect of maturity on performance (Albuquerque et al., 2013; Albuquerque et al., 2015). Since judo introduced female competitions later than male competitions, RAE has only become evident for females recently (Campideli et al., 2018). Thus, the initial advantage conferred by RAE appears at top-level judo competitions.

To better understand RAE's presence among top-level judo athletes, Fukuda et al. (2023) analysed Olympic cycles (i.e., every four years preceding 1996, 2000, 2004, 2008, 2012, and 2016 Olympic editions, and the five years preceding the Tokyo 2020+1 edition), covering athletes from different age groups (i.e., cadets, juniors and seniors), both sexes and each of the fourteen weight categories (7 eah for men and women) in play at world championship and Olympic Games editions. They found that male birthdates were more frequent in the first trimester. They also reported a higher prevalence of RAE (i.e., more athletes born in the first termthan the fourth) in cadet and junior judo athletes compared to seniors, probably due to initial maturation advantages at younger ages, an effect that diminishes over time. Regarding weight categories, Fukuda et al. (2023) found that middleweight male judo athletes had a higher odds ratio of being born in the first termthan the fourth, likely to be due to greater competition within this weight category, as more people fall within this

body mass range typically. Additionally, heavyweight female cadets exhibited RAE, confirming findings by other authors of greater effects in heavyweight categories. It is noteworthy that Fukuda et al. (2023) observed a higher prevalence of RAE among male judo athletes in Olympic cycles starting after 2009 than before the Beijing 2008 Olympics. This increase aligns with the introduction of the IJF World Ranking List and prize money for judo athletes, factors likely to contribute to heightened competition. Those cadets favoured by RAE in this new scenario were more successful in recent top-level judo competitions (Junior et al., 2024).

RAE could potentially be reduced if greater consideration was given to the maturation levels of younger judo athletes, providing similar opportunities to athletes at all stages rather than supporting only those with early superior performance. Such a strategy would ultimately benefit judo by retaining talented athletes who might otherwise leave the sport due to initial disadvantages, allowing them to reach top-level performance at the senior level.

Genetics

Human genome sequencing is considered one of the main scientific achievements of recent decades and its establishment has provided sport scientists with the opportunity to identify potential genetic factors, 'candidate genes' that contribute to sports performance (Ehlert et al., 2013). In sports where physical capacities are key performance determinants, this approach has gained relevance, as researchers have attempted to identify variations within specific genes among successful athletes compared to the general population with similar ethnic characteristics (Lucía et al., 2010). Although judo is a complex sport with multiple contributing factors to performance, some investigations have been conducted (Cieszczyk et al., 2010; Fedotovskaya et al., 2013; Hermine et al., 2015; Itaka et al., 2016; Rodríguez-Romo et al., 2013). These studies investigated the angiotensin-converting enzyme (ACE) (Cieszczyk et al., 2010), alpha-actinin 3 (ACTN3) (Rodríguez-Romo et al., 2013; Itaka et al., 2016), creatine kinase muscle type (CKM) (Fedotovskaya et al., 2013), insulin-like growth factor 2 (IGF2 ApaI) (Itaka et al., 2015), and homeostatic iron regulator (HFE) mutation (Hermine et al., 2015) polymorphisms in judo athletes. Although the exact mechanistic influence of these polymorphisms on physical capacity and performance is beyond the scope of this review, here are the main characteristics of each (Franchini, 2014): (a) ACE I/D alleles refer to a common genetic polymorphism in the ACE gene, encoding ACE, which plays a role in blood pressure regulation and cardiovascular function by converting angiotensin I to angiotensin II, a potent vasoconstrictor; (b) ACTN3 R577X polymorphism is a genetic variation in the ACTN3 gene, which encodes the protein alpha-actinin-3, found in fast-twitch muscle fibres involved in fast, forceful movements; (c) CKM A/G alleles refer to a genetic variation in the CKM gene, encoding creatine kinase muscle-type, an enzyme essential for energy metabolism within muscle cells by facilitating the conversion of creatine and adenosine diphosphate (ADP) to phosphocreatine and adenosine triphosphate (ATP), necessary for muscle contractions; (d) IGF2 ApaI polymorphism is a genetic variation in the IGF2 gene, which encodes insulin-like growth factor 2 (IGF2), a protein crucial for growth and development, especially during fetal stages and early life. IGF-2 influences cell growth, differentiation, tissue repair, muscle growth, and metabolic processes.

Cieszczyk et al. (2010) investigated 28 elite Polish and Lithuanian judo athletes and 115 unrelated college students for ACE I/D alleles. They found that the genotype distribution for judo athletes (28.6% II, 64.3% ID, 7.1% DD) differed significantly from controls (19.1% II, 50.4% ID, 30.4% DD). They also observed a significant excess of the I allele in judo athletes compared to controls (60.7% vs. 44.3%). The authors concluded that the judo athletes exhibited a genetic predisposition for endurance rather than speed or power, which could favour their performance during contests (which, at the time, had a 5-minute limit) and repeated bouts in competition (typically 4-6 contests to win a medal in major tournaments).

Fedotovskaya et al. (2013) analysed 29 Polish judo athletes from regional to national levels, comparing them with 342 Polish college students and 1,170 unrelated healthy Russian citizens with no competitive sports experience regarding CKM A/G genotype and allele frequencies. Both groups were Caucasian. They found no differences in genotypes between the judo athletes and controls (judo athletes - A/A = 34.5%; A/G = 37.9%; G/G = 27.6%; controls - A/A = 42.1%; A/G = 44.6%; G/G = 13.3%) or allele frequencies (judo athletes - A = 53.4%; G = 46.6%; controls - A = 64.4%; G = 35.6%). The authors suggested that the absence of differences could relate to judo's dual demands for powerful actions (e.g., throws) and endurance (e.g., maintaining effort throughout a match, which was 5 minutes long at the time).

Rodríguez-Romo et al. (2013) examined ACTN3 R577X genotype and allele frequencies among the majority of all-time-best Spanish male judo athletes (n = 111, 57.7% active at the time of the study, all with international competition experience and at least one Spanish title) and 343 ethnically matched non-athletic males. They found no differences between the judo athletes and controls in genotypes (judo athletes - RR = 22.3%; RX = 54.6%; XX = 23.1%; controls - RR = 30.9%; RX = 51.0%; XX = 18.1%) or alleles (judo athletes - R = 49.6%; X = 50.4%; controls - R = 56.4%; X = 43.6%). The authors concluded that the elite judo athletes' genotype resembled that of mixed-type athletes rather than pure power athletes, likely to reflect the combination of aerobic and anaerobic demands of judo.

Itaka et al. (2016) examined the IGF2 ApaI and ACTN3 R577X polymorphisms in judo athletes from different competitive levels: international-level competitors (n = 16), national-level college competitors (n = 37), and college club members (n = 103). They were compared with controls

(IGF2-controls, n = 167; ACTN3-controls, n = 1,191). Although no significant difference was found in the IGF2 genotype (GG + GA genotype vs. AA genotype) between the judo athletes as a group and controls, the authors reported an inverse correlation between IGF2 AA genotype frequency and judo status level. No significant difference was found in ACTN3 genotype frequency (RR + RX vs. XX) between controls and either the international-level or combined international- and national-level athletes.

Hermine et al. (2015) investigated the HFE mutation, which may provide an advantage in sports requiring high oxygen capacity or muscular performance, among French athletes. Judo was included due to its high muscular demands and the study also included rowers and Nordic skiers. They reported a higher mutation frequency in HFE in athletes (41%) compared to controls (27%), with an even higher prevalence in medal-winning athletes in European, world and Olympic tournaments (80.4%). The odds ratio was approximately 3 times higher for judo athletes compared to controls.

These studies indicated associations between aerobic performance polymorphisms (Cieszczyk et al., 2010; Hermine et al., 2015) and high muscular demands (Hermine et al., 2015), but no association with muscle power-related polymorphisms (Itaka et al., 2016; Rodríguez-Romo et al., 2013). As suggested previously (Franchini, 2014), training systems involving long-duration sessions and high annual training volumes, characteristic of judo training, likely benefit judo athletes with an endurance profile more than high-intensity, power-orientated training with low volumes. Future studies should consider the interaction between genetic profiles and environmental factors (particularly training) (Rodríguez-Romo et al., 2013). While few studies have addressed genetic profiling in judo athletes, further research is anticipated to enhance our understanding. Given judo's demands on aerobic and anaerobic pathways, requiring maximal strength, muscle power and strength-endurance, multiple genetic factors may contribute to an athlete's success (Franchini, 2014).

Anthropometric and Physiological Factors

As judo is disputed in seven weight categories for each sex, athletes with very different anthropometric and physiological profiles may be found when the lightest and heaviest weight categories are considered, but the variation among successive or within three weight categories is smaller. This happens because the body mass variation between weight categories is around 9-10%. Of note is the case of the heavyweight categories in which no upper limit exists, resulting in a higher variation within this single weight category (e.g., it is not rare to have athletes with 130 kg and 170 kg - a variation of 76% - in the male heavyweight category in a tournament) compared with the variation between the extra-lightweight and half-heavyweight categories. Regarding body fat percentage, when heavyweight judo athletes are not included in the sample, the values are around 7 to 12% among males and between 15 to 22% among females (Franchini et al., 2011a; Torres-Luque et al., 2016), whereas Iida et al. (1998) reported values of approximately 25.8% for Japanese elite university judo athletes. This variable does not seem to discriminate performance in judo, as only one study reported a lower body fat percentage in higher-ranked versus lower-ranked judo athletes (Callister et al., 1991).

Another important aspect to be considered is the variation that can be found when researchers use different methods or equations to estimate body fat percentage (Kasper et al., 2021), a variable that is relevant to determine whether the athlete can reduce his/her body mass to compete in a lower weight category and to monitor the body composition through the competitive season. A partial solution to this is to present the raw data on skinfold thickness for judo athletes. Following this approach, Franchini et al. (2014) reported the sum of six skinfold thicknesses (triceps, subscapular, suprailiac, abdominal, front thigh, and medial calf) for adult male judo athletes (values are median and first and third quartiles, in mm): ≤ 60 kg (*n*= 16) = 44.8 (37.9;54.5); ≤ 66 kg (*n*= 12) = 52.2 (40.5;57.4); ≤ 73 kg (n = 24) = 61.0 (40.5;73.6); ≤ 81 kg (n = 25) = 52.9 (48.0;74.1); ≤ 90 kg (n = 15) = 87.0 (61.4;121.3); ≤ 100 kg (n = 7) = 119.2 (77.4;146.0); > 100 kg (n = 5) = 194.0 (189.0;213.5). The authors reported significantly lower values for the ≤ 60 and ≤ 66 kg weight categories compared with those of the ≤ 90, ≤ 100 kg and > 100 kg weight categories, and lower values for the ≤ 73 and ≤ 81 kg groups compared with the > 100 kg weight category. It is important to note the need for studies using this approach with a bigger sample size in each weight category and exploring female judo athletes. The reader is referred to the original article (Franchini et al., 2014) for more information regarding different skinfold thicknesses, circumferences and bone diameters for each weight category. This information may be relevant for coaches because a previous study (Franchini et al., 2005a) observed that elite-level judo athletes (n = 43) presented bigger flexed arm, forearm, wrist and leg circumferences than non-elite judo athletes (n = 93), after using body mass as a covariate. In the same study, humerus and femur epicondyles' breadth were bigger in elite compared with non-elite judo athletes. However, it would be relevant to have the anthropometric characteristics of Olympic judo athletes determined and compared with lower-level competitors to establish whether any of them can properly discriminate judo athletes of different levels of achievement.

In terms of somatotype, judo athletes present a predominance of the mesomorph component, with males typically presenting 1.2 ± 0.5, 7.6 ± 0.9, 1.5 ± 0.7 and females presenting 3.6 ± 1.9, 5.1 ± 1.7, 1.5 ± 0.9 for the endomorph, mesomorph and ectomorph components (Franchini et al., 2011a).

The physiological profiling of judo athletes has a long tradition in judo investigations. Reviews published in the

last decade (Franchini et al., 2011a; Torres-Luque et al., 2016) focused on the maximal oxygen uptake (VO_{2max}), peak and mean power achieved in upper-body Wingate test, maximal isometric grip strength, maximal dynamic strength, strength-endurance, and flexibility.

Regarding aerobic power, VO_{2max} values are typically in the 50-60 mL.kg-1.min-1 range for males and in the 40-50 $mL.kg^{-1}.min^{-1}$ range for female judo athletes (Franchini et al., 2011a; Torres-Luque et al., 2016). It is important to note that VO_{2max} did not differ between elite (58.13 ± 10.83 $mL.kg^{-1}.min^{-1}$) and non-elite judo athletes (63.28 ± 10.55 $mL.kg^{-1}.min^{-1}$) when body mass was used as covariate (Franchini et al., 2005a), between team members (54.5 ± 4.9 $mL.kg^{-1}.min^{-1}$) and their reserves in the Polish national team (54.4 ± 5.6 $mL.kg^{-1}.min^{-1}$) (Borkowski et al., 2001), and between winners (52.8 ± 0.84 $mL.kg^{-1}.min^{-1}$) and defeated (50.4 ± 1.11 $mL.kg^{-1}.min^{-1}$) judo athletes in direct opposition (Suay et al., 1999). The velocity associated with the onset of blood lactate accumulation (OBLA) has been used as an indicator of aerobic capacity. A study investigating velocity at OBLA in judo athletes did not find any difference between elite (10.82 ± 1.52 $km.h^{-1}$) and non-elite groups (10.80 ± 1.67 $km.h^{-1}$) in a treadmill test (Franchini et al., 2005a). Additionally, no difference was found between titular and reserves from the Polish judo team regarding their power at OBLA for males (titular = 2.17 ± 0.26 $W.kg^{-1}$; reserves = 2.11 ± 0.26 $W.kg^{-1}$) or females (titular = 1.64 ± 0.28 $W.kg^{-1}$; reserves = 1.69 ± 0.29 $W.kg^{-1}$) during a cycle ergometer graded exercise test. However, it is important to consider that these studies used non-specific testing settings as no judo-specific graded exercise test had been validated at that time (Shiroma et al., 2019), were conducted before the rule change, and the increase in the percentage of contests defined in the golden-score period (Kons et al., 2022) may have altered the relevance of aerobic power for judo athletes; there is a lack of studies specifically addressing Olympic-level judo athletes compared to their less-successful counterparts.

Concerning the anaerobic profile, the Wingate test has been the most used test to evaluate athletes in general (Bar-Or, 1987) and this also happens with judo athletes. The main difference is that as judo demands a high solicitation of upper-body muscles, some authors have directed their attention to the upper-body version of the Wingate test (Franchini et al., 2005a). Indeed, both peak and mean power were found to be higher in elite (n = 34; peak power = 7.63 ± 0.98 $W.kg^{-1}$; mean power = 5.73 ± 0.77 $W.kg^{-1}$) compared with non-elite judo athletes (n = 56; peak power = 7.00 ± 1.30 $W.kg^{-1}$; mean power = 5.36 ± 0.75 $W.kg^{-1}$) (Franchini et al., 2005a). The high anaerobic development of judo athletes is confirmed by the fact that Thomas et al. (1989) reported that they achieved the 90th percentile of the lower-body Wingate classification even though the judo athletes had executed the upper-body version. This is due to the high upper-body training status of judo athletes, who achieved around 80% of the lower-body values when executing the upper-body Wingate test, a value much higher than that observed in the general population (i.e., around 50 to 60% for peak and mean power). Therefore, the use of general Wingate test classificatory tables when working with judo athletes must be done with caution and tables specifically developed for judo athletes (Franchini, 2019) should be used instead of the standard ones.

As a grappling combat sport, judo is highly dependent on the grip and some studies have investigated the maximal grip strength of judo athletes, reporting values between 50 and 65 kgf for males (Franchini et al., 2011a). However, a study (Franchini et al., 2005a) comparing elite (51 ± 10 kgf) and non-elite judo athletes (42 ± 11 kgf) did not find any difference between groups, when body mass was used as a covariate. The authors (Franchini et al., 2005a) discussed whether, from a physical point of view, the grip dispute is more dependent on the strength-endurance or on maximal strength, suggesting that strength-endurance is more relevant, considering the duration of the efforts involved in this action. However, as this variable is easily measured and can be used for both athlete evaluation and training monitoring purposes, the use of classificatory tables can be relevant in the judo context. A classificatory table using data of 406 judo athletes is available and can be consulted for these purposes (Franchini et al., 2018a).

A relevant aspect to be considered is that specificity is a key factor in training and, therefore, the use of judo-specific tests is likely to be more sensitive to properly discriminate judo athletes from different competitive levels than general tests (Chaabene et al., 2018). Some initiatives have been conducted in this direction, and a test that gained popularity in the last decades to evaluate judo athletes was the Special Judo Fitness Test (SJFT) (Sterkowicz-Przybycień et al., 2019). The fact that the SJFT was appropriate to discriminate elite and non-elite judo athletes (Franchini et al., 2005a), that it was estimated to be predominantly anaerobic - with a higher contribution of the ATP-PCr system (Franchini et al., 2011c), that it is easy to be applied with materials available to most judo coaches and strength and conditioning professionals, resulted in its application in different countries to determine the profile of both male and female judo athletes from different age groups (cadets, juniors, and seniors) (Agostinho et al., 2018; Franchini et al., 2009; Sterkowicz-Przybycień et al., 2019).

Regarding maximal dynamic strength, general exercises such as bench press, row, leg press and squat have been used to evaluate judo athletes (Aruga et al., 2002; Aruga et al., 2003; Fagerlund and Hakkinen, 1991; Franchini et al., 2007; Sbriccoli et al., 2007). Fagerlund & Hakkinen (1991) reported higher squat one-repetition maximum (1RM) at the international level (squat 1RM = 185 ± 25 kg) compared with recreational judo athletes (140 ± 36 kg). However, when judo athletes competing for a position in a national team (the Brazilian male national team specifically) were compared, no differences were found in the 1RM for bench press (team A = 110 ± 25 kg; teams B and C = 110 ± 23 kg), row (team A = 116 ± 21 kg; teams B and C = 115 ± 24 kg), squat (team A = 104 ± 27 kg; teams B and

C = 104 ± 18 kg) (Franchini et al., 2007). However, these values can be considered low for athletes in this sport because they were around the 60th percentile of the general population and in comparison with European counterparts (e.g., Italian male Olympic team) in one exercise (bench press = 160.0 ± 29.8 kg) (Sbriccoli et al., 2007) or with a classificatory table for Japanese college judo athletes (e.g. a middleweight judo athlete with an average result would lift between 105 and 120 kg in the bench press, whereas to achieve an excellent result it would be needed to lift more than 135 kg) (Aruga et al., 2003). An exercise that has been used by Japanese researchers is the unilateral snatch and they found higher values for higher-level Japanese college judo athletes (42.0 ±1.5 kg) compared to lower-level ones (38.0 ± 4.0 kg) (Aruga et al., 2002). Classificatory tables are available for the bench press, squat and power clean exercises, for each weight category for males (Aruga et al., 2003). These tables are extremely relevant for coaches and strength and conditioning professionals to evaluate their athletes. Future studies should develop similar classificatory tables for females and consider a division concerning the competitive level.

For strength, power and strength-endurance tests, some authors have tested judo athletes using approaches related to judo-specific movements, including movements used during the *kuzushi* (unbalance) phase and/or the grip on *judogi* during the tests (Aruga et al., 2006; Blais et al., 2007; Franchini et al., 2004a; Franchini et al., 2011b; Iteya et al., 2005; Helm et al., 2018; Zaggelidis & Lazaridis, 2012).

Blais et al. (2007) analysed the maximal force generated in the lapel and in the sleeve when judo athletes executed the *morote-seoi-nage* technique on a partner or with a machine specifically designed to allow the execution of judo techniques, using loads of 15, 20, 25 or 30 kg. They reported higher values in the execution conducted using the machine compared to those in the partner for both the lapel and the sleeve. The same machine was used to determine the effectiveness of a 10-week training protocol in which athletes executed the technique with the machine. The results demonstrated that the maximal load in both *o-soto-gari* (pre-training = 25.0 ± 6.1 kg; post-training = 31.1 ± 7.0 kg) and *seoi-nage* (pre-training = 13.1 ± 2.4 kg; post-training = 27.8 ± 7.9 kg) increased after the training, demonstrating that the machine was sensitive to detect changes induced by maximal strength training (Blais & Trilles, 2006). Therefore, determining the profile of Olympic-level judo athletes using this type of ergometer would provide relevant information on athletes' characterisation and to verify whether the performance in this type of test can properly discriminate judo athletes from different competitive levels.

Concerning muscle power, Iteya et al. (2005) indicated that elite Japanese female judo athletes were able to generate more power output during the *hikite* (sleeve-pulling action) compared to university and high-school female judo athletes. This difference was higher when the higher load was used, which can be interpreted as a specificity adaptation to move higher loads by higher-level female judo athletes. A similar result was reported by Helm et al. (2018) when testing male judo athletes in a judo-specific ergometer developed to assess torque during the *kuzushi* pulling action using both the *hikite* and the *tsurite* (lapel action). They observed that during the *kuzushi* without tsukuri, elite judo athletes achieved higher torque values for the *hikite* (2.6 ± 0.4 $Nm.kg^{-1}$) and *tsurite* (1.8 ± 0.4 $Nm.kg^{-1}$) compared with sub-elite judo athletes (*hikite* = 1.8 ± 0.5 $Nm.kg^{-1}$; *tsurite* = 1.4 ± 0.5 $Nm.kg^{-1}$). Therefore, this approach seems to be valuable in discriminating judo athletes of different competitive levels. The use of a force platform to measure the ground reaction force and the time to reach peak force during the execution of judo techniques also indicated a difference between advanced and novice judo athletes, indicating that the advanced group achieved higher forces in a shorter time during the execution of *harai-goshi*, *hane-goshi*, and *uchi-mata* compared with the novice group (Zaggelidis & Lazaridis, 2012). Whether this approach would be useful for discriminating athletes at higher levels is still to be determined but the procedure is promising because it presents data derived from judo techniques.

For strength-endurance, isometric and dynamic chin-up tests with the athlete gripping the *judogi* have been used (Aruga et al., 2006; Franchini et al., 2004a; Franchini et al., 2011b). A comparison between judo athletes from the 2004 Brazilian Olympic Team and state-level judo athletes did not find any difference regarding performance in the isometric test (Olympic team = 35 ± 18 s; state-level = 37 ± 15 s), whereas the dynamic version was able to discriminate these groups (Olympic team = 12 ± 5 rep; state-level = 7 ± 5 rep) (Franchini et al., 2011b). However, Aruga et al. (2006) did not find any difference in the dynamic test between higher and lower-level university Japanese judo athletes (values around 15 repetitions); but it is important to note that the values of both groups were higher than those observed in the Brazilian Olympic Team, suggesting a ceiling effect for the sensitiveness of this test. It is also important to indicate that since its introduction, classificatory tables were developed for female and male cadet, junior and senior judo athletes (Agostinho et al., 2018; Branco et al., 2017a) and that to achieve an excellent classification using those tables, athletes must be able to execute more than 30 repetitions, indicating the adaptation athletes had to this test along the last two decades since its introduction.

No study reported that flexibility is a discriminant performance factor in judo (Franchini et al., 2011a; Torres-Luque et al., 2016); therefore, this variable was not addressed here.

An important aspect to be considered is to differentiate the variables that need to be developed because they are necessary for performance but not determinant, i.e., they are needed but not enough to discriminate the competitive level and those that are determinant or discriminant between competitive levels (Franchini, 1999; Schoof et al., 2024). A good approach is to consider how physical and physiological characteristics affect actions du-

ring contests. Some research has been done about this (Franchini et al., 2005b; Franchini et al., 2023b), but more investigations are necessary to understand these relationships better, in different weight categories in each sex, and Olympic-level judo athletes.

The Competition

Since its introduction in the Olympic scenario, judo has evolved constantly, which can be exemplified by changes in the number of weight categories or its body mass limits, duration of contests and the possibility of extra time or not, area of competition, the inclusion of female competition, inclusion or exclusion of scores (e.g., inclusion and then exclusion of koka and yuko scores) and penalties, dimensions and colour of judogi, techniques allowed or prohibited, inclusion of mixed team competition, criteria to qualify for the Olympic Games, among other modifications. Therefore, it is likely that no more than two successive editions were disputed under the same rules, considering the aspects listed above. While these changes are needed to keep the sport attractive to the public, they pose an important challenge for professionals preparing judo athletes to compete at this level.

he Olympic Cycle and Qualification for the Olympic Games

To prepare an athlete for competition, it is important to gather relevant information for decision-making regarding the training organisation. Considering the Olympic Games as the most valuable competition for judo athletes, coaches and strength and conditioning professionals, all try to set a programme for the 4 years between two successive editions of this competition. Since the introduction of the International Judo Federation World Ranking List, in 2009, and its use to qualify judo athletes for the Olympic Games, the establishment of the list of competitions to be disputed is one of the first aspects determining the training process (Franchini, 2010). As the points valid for the Olympic Games qualification are those gained in the last two years of the cycle, with a higher weighting for the ones conquered in the last year and a limitation on the number of competitions counting in this process, national teams with bigger budgets have more flexibility to choose the competitions to be disputed, whereas national teams with smaller budgets need to determine the competitions their athletes are going to participate in carefully. Factors associated with the home advantage need to be considered, as there is evidence that competing at home provides a performance advantage for athletes (Franchini & Takito, 2016; Julio et al., 2013). Therefore, for athletes struggling to get points in the ranking and with very limited financial support, competing in countries far from their training base, in tournaments where the best athletes register and in countries where locals have a tradition of judo results (e.g., Tokyo Grand Slam, Paris Grand Slam) seems to be something to avoid. Those athletes with consistent results can set the number of competitions to the limit or even choose a smaller number of competitions, i.e., some athletes can achieve the required number of points for Olympic Games qualification even with a small number of competitions such as three or four events. Athletes using this approach can have a longer interval between competitions, which can be advantageous to work on specific aspects to be improved, to avoid constant rapid weight loss, to be less exposed to opponents and sports analysts who can create strategies to defeat them, and to avoid injuries due to constant competition. Indeed, a study analysing the competition of the World Judo Tour indicated that depending on the type of competition, specific intervals can provide a higher probability of winning a medal (Franchini et al., 2017). Considering 20,916 female and 29,900 male competition participations on the World Judo Tour for tournaments contested between January 2009 and December 2015, Franchini et al. (2017) indicated an increased odds ratio of winning a medal in grand prix competitions for female (OR = 1.58; 95% CI = 1.25, 1.86) and male judo athletes (OR = 1.47; 95% CI = 1.23, 1.75), continental championships for female (OR = 2.64; 95% CI = 2.05, 3.41) and male judo athletes (OR = 2.15; 95% CI = 1.70, 2.71), and world championships for female (OR = 2.39; 95% CI = 1.47, 3.90) and male judo athletes (OR = 3.16; 95% CI = 1.83, 5.48) when the previous competition was entered 10 to 13 weeks before these events. For grand slams, World Judo Masters and Olympic Games, a specific interval period was associated with competitive performance only for male judo athletes. Specifically, an increased probability of winning a medal was found in the 10 to 13-week interval for grand slam events (OR = 1.37; 95% CI = 1.11, 1.70). However, for competitions in which only a limited number of athletes well-positioned in the World Ranking List can participate, an interval longer than 14 weeks was needed for male judo athletes (World Judo Masters - OR = 4.15; 95% CI = 2.20, 7.83; Olympic Games - OR = 3.03; 95% CI = 1.12, 8.21). Even though these results can be used to improve decision-making concerning the choice of competitions, many other factors may prevent utilisation, such as the need for an athlete to compete in successive events due to economic constraints or due to the need to accumulate points to pass a direct opponent from the same country, etc. Important examples regarding short intervals before the Olympic Games happened in the last two editions (Tokyo 2020+1 and Paris 2024) when the world championships were disputed less than two months before the Olympics. Indeed, some athletes were successful in winning medals in both competitions but a good approach was also not competing in the world championships before the Olympic Games, as this was also associated with an increased probability of winning medals in the latter for those who did not take part in the first (Franchini et al., 2023a). Additionally, as the seeding process is also determined by the ranking position and there is evidence of an increased probability of winning a medal in the Olympic Games when seeded (Guilheiro and Franchini, 2017; Brunel, 2022) coaches may consider the participation of their athletes in competitions close to the Olympic Games in search of better positioning in the draw.

The Week of Competition and Rapid Weight Loss

The week of competition is used frequently in many sports for tapering purposes (Bosquet et al., 2007), however, as most judo athletes reduce their body mass to be within their weight category limits (Santos et al., 2024), the tapering process is compromised in this sport. This process of reducing body mass abruptly is known as rapid weight loss (RWL) and the idea behind it is to increase performance, gaining leverage over potentially smaller and weaker opponents (Artioli et al., 2016). Recent investigation (Malliaropoulos et al., 2018) indicated that the prevalence of RWL among judo athletes was 92.9% among international-level judo athletes, which is similar to that observed in a representative sample of judo athletes (89%) (Artioli et al., 2010). The main problem with RWL is the utilisation of risky procedures to achieve the desired body mass. There is evidence that international-level judo athletes engage in more aggressive and dangerous procedures compared to regional-level ones (Artioli et al., 2010). A recent scoping review (Santos et al., 2024) indicated that athletes reduce around 5% of their body mass but the range is between 3% and 10%, three to seven days before competition. As the current rules allow approximately 17 hours between the weigh-in and the beginning of the competition, with a 5% tolerance for those who have to re-weigh on competition day, the recovery process gained greater relevance since this rule was introduced. It is not the scope of the present review, but detailed indications regarding nutritional interventions to provide a safer body mass reduction (Reale et al., 2017a), better recovery and competitive performance (Reale et al., 2017b) have been provided elsewhere. Within the Olympic context, the fact that some countries do not have athletes in the exact weight categories of the mixed team competition has resulted in athletes from lower weight categories going up to face heavier opponents. As the interval between the individual competition and the mixed team event varies according to the weight categories, some concern has been raised regarding the fluctuation of body mass that some athletes may be subjected to (Santos et al., 2023). These authors reported that athletes from lighter weight categories presented a higher body mass than those in the proper weight category and were limited by the 2 kg additional tolerance (4.0 ± 2.1 kg versus 1.6 ± 0.8 kg; 5.7 ± 2.9% versus 2.3 ± 1.2%; 1.5 ± 0.9% per day versus 0.6 ± 0.3% per day) between the individual and the mixed team competition weigh-ins. This can result in health risks, especially considering that these athletes will have to return to their original weight category in other competitions. Therefore, coaches, strength and conditioning professionals and nutritionists need to consider this scenario carefully in their decision-making.

Physical and Physiological Responses to the Match and the Competition

During the Olympic judo competition, athletes typically perform four to five matches to win a medal. The time limit of judo matches has changed over the years and is 4 minutes currently, with an extra time period in case the contest is tied in the normal period. Studies regarding the duration of judo matches have reported durations of (mean and standard deviation) 2min52s ± 1min28s, with 2min05s ± 1min10s in the standing combat and 54s ± 38s in the groundwork combat for the 1991 World Championships (Castarlenas et al., 1997). Regarding the Olympic Games, Calmet et al. (2017) reported mean times around 278 s and 204 s for London 2012 and Rio de Janeiro 2016, which represented approximately 92.7% and 85% of the total time for females (5 min and 4 min, respectively), and 273 s and 226 s for males (91.0% and 75.3% of the 5-min time limit in both editions). The authors also reported no significant difference concerning contest duration between weight categories. However, it is important to consider that for the Tokyo 2020+1 Olympics (Kons et al., 2022), a high percentage of contests were defined in extra-time (28.8% of the females' contests and 40.3% of the males' contests; with significantly higher values for this last group). Contests in extra-time ended in 9 to 12min41s in that event. For each contest athletes typically have 20-30 s of combat and 7-13 s of pause, with a mean effort to pause ratio of 23s:11s or approximately 2:1 (Franchini et al., 2013). Importantly, most of the time in standing combat involves grip dispute, which represents approximately 50% of the valid time (Miarka et al., 2012; Miarka et al., 2014). Before contact with the opponent's *judogi* the athlete tries to approach the adversary in actions with no opposition, but demanding fast displacements, especially for the arm and hand. Once the grip is set, strength-endurance - specifically in the forearm and hand muscle groups - is highly relevant to maintain dominance over the opponent (Franchini et al., 2013; Kashiwagura and Franchini, 2022). Throwing techniques are the main scoring actions in judo and they involve elevated muscle power from both lower and upper-body muscles, with variation depending on the type and quality of the technique executed, lasting only a few seconds from the preparation to the final contact of the opponent. When the action proceeds to the ground, several physical aspects must be combined, especially strength-endurance and muscle power (Franchini et al., 2013). As these actions are executed in the ratio, for the total duration of the contest, and in the number of contests reported above, judo athletes need to have well-developed physical fitness involving aerobic and anaerobic power and capacity, muscle power and strength-endurance, with demands varying depending on the judo athlete style (Gariod et al., 1995).

As a combat sport, the execution of real-time measurements during official judo contests is not possible. Therefore, to understand the physical demands of judo contests, researchers have utilised time-motion analysis to infer the requirements or submitted athletes to simulated contests conducting measurements pre- and post-match or in matches with different durations (Bonitch-Domínguéz et al., 2010; Bonitch-Góngora et al., 2012; Branco et al., 2013; Carballeira & Iglesias, 2007; Detanico et al., 2015; Franchini et al., 1998; Franchini et al., 2003; Franchini et al., 2009; Franchini et al., 2018b; Julio et al. 2017; Julio et

al., 2018; Kons et al., 2018; Sbriccoli et al., 2007; Sikorski, 1985; Sikorski et al., 1987).

Due to the intermittent nature and the efforts executed by the athletes during the judo contests, the aerobic and anaerobic pathways are requested to resynthesise ATP to maintain the intensity needed. Julio et al. (2017) estimated the energy systems' contribution to judo contests lasting 1, 2, 3, 4, and 5 minutes, and reported a predominance of the oxidative system for all durations investigated. As expected, longer contests resulted in higher energy costs, with a higher increment of the oxidative system to provide the energy needed. The ATP-PCr had a higher relative contribution (i.e., percentage of contribution) in contests lasting 1 min compared to all other durations, and lasting 2 min compared to longer duration contests. The opposite happened with the oxidative system, i.e., a lower percentage of contribution was observed in contests lasting 1 min compared to all other durations, and lower in contests lasting 2 min compared to all other durations. The glycolytic system had a similar relative contribution for contests with the durations investigated. When the 4-min duration was considered, the authors reported approximately 79% oxidative contribution, 14% ATP-PCr contribution and 7% the glycolytic contribution. Regarding the cardiovascular demand of the contests, Sbriccoli et al. (2007) observed that Italian Olympic judo athletes remained close to their maximum heart rate (HRmax) during a simulated contest. Mean and peak values of 176 bpm and 190 bpm - representing 92.7% of the HRmax - were reported by Carballeira & Iglesias (2007) in one simulated judo contest. When successive simulated judo contests (four 5-min matches with 30-min intervals between them) were conducted (Franchini et al., 2018b), no significant changes were observed (match 1 = 171 ± 10 bpm; match 2 = 177 ± 14 bpm; match 3 = 178 ± 9 bpm; match 4 = 178 ± 10 bpm). Another variable frequently measured before and after judo contests is blood lactate. Only one study (Sikorski, 1985) comparing this variable between simulated standing and groundwork contests was found, reporting lower values during the groundwork compared to the standing combat. A review of blood lactate values was presented before (Franchini et al., 2013), with values between 7.1 ± 2.0 mmol.L^{-1} in Australian (Tumilty et al., 1986) and 18.1 ± 4.4 mmol.L^{-1} in Spanish judo athletes (Bonitch-Góngora et al., 2012) submitted to simulated contests, and between 5.72 ± 2.22 mmol.L^{-1} (Nunes, 1998) in state level contests and 19.2 ± 2.3 mmol.L^{-1} in international-level contests (Majean & Gaillat, 1986). Therefore, simulated judo contests seem to impose a similar glycolytic demand as official ones. However, it is important to consider that during official contests the duration cannot be the same for all athletes and higher differences are likely between opponents in the first contests compared with the finals, which may result in a higher demand in the last contests compared with the first ones (Sikorski et al., 1987). In controlled conditions, some authors (Franchini et al., 1998; Franchini et al., 2018b) indicated that 30-min intervals between the contests were not enough to result in a blood lactate concentration returning to pre-simulation values. Even though the blood lactate per se is not a fatigue agent, this marker has been used as a proxy of glycolytic activation (Artioli et al., 2012). Importantly, there is evidence that elite judo athletes presented lower blood lactate concentration after contest simulation compared to non-elite judo athletes (Franchini et al., 2004b), likely to be due to increased technical skills. Another important aspect is the fact that active recovery after the contests resulted in faster blood lactate removal (Franchini et al., 2003; Franchini et al., 2009). One study (Franchini et al., 2009) reported that this approach resulted in an approximately 10 times increase in the odds ratio of winning a subsequent contest when the opponent recovered passively. However, caution is recommended regarding this finding as in other experiments from the same study, active and passive recovery resulted in similar recovery for upper-body intermittent efforts or performance in the SJFT. A warm-up or increased readiness likely resulted from the active recovery, improving technical and tactical actions during the contest in this condition, but the study did not provide a mechanistic explanation for this finding. More studies are needed to understand the physiological responses better for a single judo contest to multiple contests, and the effects of different approaches during the recovery period on these physiological responses and performance.

An important parameter to understand judo athletes' behaviour is their rating of perceived exertion (RPE). When four 5-min simulated contests, with 30 min intervals, were analysed (Franchini et al., 2018b), the RPE stayed close to 14-5 in the Borg 6-20 scale (contest 1 = 15 ± 2 a.u.; contest 2 = 16 ± 2 a.u.; contest 3 = 14 ± 3 a.u.; contest 4 = 14 ± 2 a.u.), whereas the rating of perceived recovery (0-10) (Laurent et al. 2011), assessed before the contest, indicated that athletes felt fully recovered, given that values above 7 in this scale are considered as representing a total recovery (contest 1 = 8 ± 1 a.u.; contest 2 = 8 ± 1 a.u.; contest 3 = 8 ± 2 a.u.; contest 4 = 8 ± 2 a.u.). Only one study was found (Kons et al., 2018) analysing the RPE during official judo contests. These authors indicated an increase in the RPE from the warm-up to post- each of the four contests, with mean values around 13 a.u. to 14 a.u. A relevant approach to understanding the muscular demand of judo is to ask the athletes to report their rating of perceived exertion for each muscle group. Kons et al. (2018) utilised this approach in a state-level competition and observed no difference between medallists and non-medallists, who indicated the following muscle groups as those with higher exertion (values are the percentage of medallist athletes, and mean and standard deviation of 6-20 Borg scale): chest - 100%, 9 ± 3 a.u.; biceps - 93%, 10 ± 3 a.u.; forearm - 93%, 12 ± 4 a.u.; finger muscles - 100%, 12 ± 3 a.u.; quadriceps - 93%, 9 ± 3 a.u.; abductors - 93%, 10 ± 3 a.u.; trapezius - 93%, 10 ± 3 a.u.; abdomen - 100%, 8 ± 3 a.u.; anterior tibia - 100%, 9 ± 3 a.u.; foot muscles - 93%, 8 ± 2 a.u. It is important to note that the muscle groups involved directly in the grip dispute (i.e., forearm and finger muscles) were those with higher values and most muscle groups reported were from the anterior part of the body and involved in flexion actions, which suggests an imbalance in terms of solicitation between these muscle groups, inducing a higher risk of injury. Therefore, compensatory training must be conduc-

ted for those muscles not fatigued during the contest but that act as antagonists of those involved in the main actions and strength-endurance development seems to be important for those that athletes perceived exertion. Additionally, all values were slightly below the general rating of perceived exertion reported in simulated or official contests, suggesting that the multiple points where exertion is perceived together with the cardiovascular stress, generates the general perceived exertion. Taken together, these studies suggest that judo athletes seem to regulate their pace to avoid perceiving extreme general exertion, which is likely to affect decision-making, i.e., it is probable that athletes exerting maximal effort would make more technical and tactical errors than their opponents. Moreover, the local rating of perceived exertion is even smaller than the general perceived exertion, indicating an additional control of athletes to avoid extreme muscle fatigue. However, more research is needed to understand how judo athletes regulate their pace (Franchini et al., 2018c; Franchini et al., 2019).

Neuromuscular responses to judo contests were also investigated. When a single simulated contest was analysed, no significant change was observed concerning the maximal isometric handgrip performance (Carballeira & Iglesias, 2007), with athletes remaining at 95 ± 10% of the baseline for the left and 97 ± 9% for the right hand. These authors also assessed maximal isometric strength utilising other exercises (i.e., bench press, squat and row) and reported a decrease only for bench press (pre = 1265.75 ± 254.68 N; post = 1187.30 ± 245.05 N). Another study (Julio et al., 2018) was conducted to verify whether the contest duration affects this variable. Judo athletes executed contests lasting 1, 2, 3, 4, and 5 min (in random order and on different days), with maximal isometric strength measured before and after each duration. No significant difference was observed between the pre- and post-match maximal isometric strength of the dominant hand (lapel hand in judo) for any duration, but the non-dominant hand's (sleeve hand in judo) maximal isometric strength decreased post- compared to pre-contest. Thus, it seems that the lapel hand is less affected than the sleeve hand, likely to be because more force can be applied to the sleeve compared to the lapel (Heinisch et al., 2013). However, when multiple simulated contests (i.e., four 5-min matches with 15-min intervals) were investigated, a decrease in maximal isometric hand grip strength was observed from pre- to post-contest 1 and 2 for both hands, and in contests 3 and 4 for the dominant hand only (Bonitch-Góngora et al., 2012). Additionally, these authors also found that the 15-min interval was not enough to provide full recovery of the maximal isometric hand grip strength; values pre-contest 3 (dominant = 528.35 ± 75.89 N; non-dominant = 494.83 ± 68.03 N) and 4 (dominant = 527.29 ± 92.38 N; non-dominant = 490.58 ± 75.70 N) were lower compared to pre-contest 1 (dominant = 575.85 ± 69.14 N; non-dominant = 554.26 ± 74.20 N) for both hands. Internal and external shoulder rotation torques were also decreased post-contest 2 (internal = 58.56 ± 15.94 Nm; external = 42.87 ± 8.79 Nm) and 3 (internal = 59.73 ± 19.12 Nm; external = 43.40 ± 8.45 Nm) compared to the baseline (internal = 62.18 ± 16.86 Nm; external = 45.85 ± 8.33 Nm) when three 5-min simulated contests with 15-min intervals were conducted (Detanico et al., 2015). Only one study conducting maximal isometric hand grip strength measurements during official judo competitions was found (Kons et al., 2018). These authors also found reduced maximal isometric handgrip strength post-contests 3 and 4 compared to pre-contests and post-contests 1 and 2 in a state-level tournament. Therefore, studies using simulated contests were able to properly describe what occurs in official competition regarding maximal isometric hand grip strength.

For grip disputes, from the physical point of view, strength-endurance is considered more relevant than maximal strength (Franchini et al., 2011). A study (Franchini et al., 2018b) analysing the strength-endurance response to four 5-min simulated judo contests, with 30-min intervals between contests, using the chin-up dynamic test gripping the judogi, indicated a decrease in this variable from pre- to post-contest for all four contests.

Muscle power is fundamental for the successful application of throwing techniques but no study was found that assessed this variable using measurements derived from a throwing technique pre- and post-judo contest. Studies have used general exercises such as the counter-movement jump (CMJ) (Carballeira & Iglesias, 2007; Detanico et al., 2015; Julio et al., 2018) and loaded squat jump (Bonitch-Domínguez et al., 2010). When a single contest was used (Carballeira & Iglesias, 2007), no significant change was observed regarding CMJ height (pre = 39.31 ± 4.08 cm; post = 39.96 ± 5.06 cm). Using three 5-min contests with 15-min intervals, Detanico et al. (2015) did not find a significant decrease in CMJ height from pre- (45.38 ± 5.24 cm) to post-contest 1 (44.96 ± 5.56 cm) but values after contest 2 (43.74 ± 5.81 cm) and 3 (43.93 ± 6.13 cm) were significantly lower than the baseline. Conversely, Julio et al. (2018) reported a main effect of time on CMJ height for single contests with different durations (1, 2, 3, 4, and 5 min), with higher values post- compared to pre-contest. However, the authors conducted the measurements 5 min after each contest and indicated that at this point an effect of potentiation was likely to be in place as the fatigue effect time had passed. The only study using four 5-min contests with 15-min intervals (Bonitch-Domínguez et al., 2010) did not indicate any change before or after each contest or between contests for peak power, force or velocity of the loaded squat jump.

The information about physiological and physical responses to simulated and official contests can be relevant to improve the understanding of the judo athletes need to perform and therefore it can be used to improve the training organisation. Although a recent investigation tried to verify the relationship between physical fitness and performance in a simulated judo contest (Franchini et al., 2023b), more information is needed regarding official contests. Additionally, research with Olympic-level judo athletes, especially females, can add relevant information regarding these aspects.

The Training Methods

The training process involves the establishment of the sport's key performance determinants, of the athletes' physical fitness via a proper evaluation, the training prescription and its goals, and an analysis of the effectiveness of the training effects for the introduction of changes in the process aiming at its evolution (Impellizeri et al., 2019). Key physical and physiological determinants and athletes' physical fitness were explored in the topics above. Therefore, it is important to present some aspects of judo athletes' evaluation and training prescription. The evaluation of athletes needs to provide useful information to rank athletes, monitor training effects and prescribe training (Weakley et al., 2023). Some proposals for the physical and physiological evaluation of judo athletes have been published recently (Wallace & Franchini, 2021; Kons et al., 2024). In this topic, only tests that can be applied to prescribe training are described. As judo athletes execute general and specific training sessions focusing on multiple components of physical fitness (e.g., aerobic and anaerobic power and capacity, maximal strength, muscle power, and strength-endurance), a brief presentation of them is provided. For general training, judo athletes typically conduct aerobic training, which can be based on graded exercise testing to exhaustion either in laboratory (e.g., a treadmill or cycle ergometer VO_{2max} test) or field (e.g., shuttle run tests, track tests) settings, strength training within weight rooms, which depends on the 1RM testing or prediction or optimal load determination for power training, and plyometric training, which depends on information about jumping performance (e.g., optimal drop height) (Wallace & Franchini, 2021; Kons et al., 2024). Aerobic training can also be conducted within the dojo and a maximal judo-specific graded exercise test (Shiroma et al., 2019) can be useful to establish the training prescription (Franchini, 2020; Franchini, 2021). As indicated above, judo-specific ergometers have been developed (Leplanquais et al., 1994; Blais et al., 2007; Helm et al., 2018) and testing with this equipment can provide information for judo-specific strength and power training.

An important variable to be considered is the long-term training of judo athletes. Two recent findings are relevant to establish this process: (a) the fact that judo athletes winning medals at earlier ages (cadet and junior world championships, specifically) are more likely to win medals at senior world championships and Olympic Games (Junior et al., 2024); and (b) judo athletes are winning Olympic medals at older ages (Franchini et al., 2020). Therefore, judo athletes' careers at top-level competitions are longer now than they used to be and a long-term plan must be set to provide this career longevity.

The training description of Olympic judo athletes has focused more on the technical and tactical aspects, given their primary link with judo competitive achievement, than on physical factors. Physical training or physical preparation has been reported in some books providing information about some judo legends (e.g., Yasuhiro Yamashita - Yamashita, 1993, Neil Adams - Adams & Carter, 1988, etc.). Only in the last decade, detailed descriptions of the type of physical training prescription (Weldon et al., 2024; Kons et al., 2024) and the training executed by judo athletes (Franchini & Takito, 2014) have been reported. Weldon et al. (2024) reported that strength and conditioning coaches considered physical training very important to provide the physical abilities to execute *randori* well(78-88%), judo performance (67-97%), and fitness related to judo (62-78%). In terms of the variables to be developed, they indicated it to be very important to work on speed and power (76-89%), strength (71-89%), and injury reduction activities (69-78%). These authors observed that strength and conditioning coaches with judo grades were more likely to integrate judo-specific training with strength and conditioning training (67%) than those with just strength and conditioning qualifications (11%). For instance, Kons et al. (2024) reported that all the strength and conditioning coaches who participated in their survey considered physical training important or very important. These strength and conditioning coaches indicated they considered this type of training very important for physical performance (79%), grip training (70%), transition to groundwork (70%) and technical performance (70%). However, only 21% of this sample considered their training programmes very effective, whereas 42% considered it effective, 30% moderately effective and 6% slightly effective. So far, the only study found (Franchini & Takito, 2014) that investigated Olympic-level judo athletes regarding their final preparation for this competition (i.e., the last six months) was conducted with Brazilian judo athletes who competed up to the Beijing 2008 Olympics and, thus, exploring a period before many of the changes were introduced to the sport, such as the World Judo Tour and the World Ranking List. Franchini & Takito (2014) compared medal winners (n =10) with non-medal winners (n = 51) and reported that the only difference between these groups was a lower frequency of groundwork *randori* sessions for the medallists. The entire group trained 6 ± 1 days per week, 2 ± 3 sessions per day, 2.1 ± 0.7 hours per session, totaling 23.5 ± 8.8 hours per week. Standing *randori* (70% and 88% of the medal winners and non-medal winners, respectively, executed it 5 to 7 days per week), static (i.e., partner in a still position; 70% and 88% of the medal winners and non-medal winners, respectively, executed it 5 to 7 days per week) and dynamic *uchi-komi* (60% and 61% of the medal winners and non-medal winners, respectively, executed it 5 to 7 days per week), static (60% and 37% of the medal winners and non-medal winners, respectively, executed it 3 to 4 days per week) and dynamic *nage-ai* (60% and 33% of the medal winners and non-medal winners, respectively, executed it 3 to 4 days per week) where the judo-specific exercises were more frequently executed. Most of the time, per session, dedicated to *randori* was, specifically standing (63 ± 37 min), groundwork (36 ± 20 min), and complete (i.e., standing and groundwork integrated; 35 ± 31 min) *randori* sessions. Static *uchi-komi* was the only other judo-specific exercise that achieved almost half an hour per session (28 ± 18 min). For these judo-specific exercises athletes rated above 7 (on a 0 to 10 scale) for their relevance, effort, pleasure and concen-

tration needed to execute them. Regarding non-specific judo training, these athletes dedicated most of their time to strength exercises (60% and 45% of the medal winners and non-medal winners, respectively, executed it 3 to 4 days per week), continuous running (40% and 49% of the medal winners and non-medal winners, respectively, executed it 3 to 4 days per week) and sprint running (20% and 41% of the medal winners and non-medal winners, respectively, executed it 3 to 4 days per week) exercises. The time spent in these exercises was 55 ± 37 min for strength, 43 ± 23 min for continuous running and 27 ± 22 for sprint running exercises. However, a full description of the periodisation adopted by Olympic-level judo athletes is missing in the scientific literature.

Considering what strength and conditioning coaches reported to be relevant for preparing judo athletes and the description of what Olympic-level judo athletes executed, it seems that muscle power, strength-endurance, maximal strength, aerobic power and capacity are the main variables to be addressed in training programmes for this sport. Even though judo-specific suggestions for training programmes (Amman & Adam, 2005; Broussal-Derval, 2012; Harris et al., 2019; Paillard, 2010) and how to develop each of these variables (Branco & Franchini, 2021; Franchini, 2020; Franchini, 2021; Julio & Franchini, 2021; Lopes-Silva & Franchini, 2021; Santos-Junior & Franchini, 2021; Silva Santos & Franchini, 2021) have been presented, studies about training periodisation in judo athletes were conducted with lower-level judo athletes (Franchini et al., 2015a), younger judo athletes (Agostinho et al., 2017), focusing on a few variables for periods shorter than three months (Franchini et al., 2015b; Franchini et al., 2016a; Franchini et al., 2016b). One (Marques et al., 2017) of the few studies to investigate the effect of periodisation for more than three months in international-level judo athletes utilised block periodisation, specifically using 5 weeks of accumulation phase, 5 weeks of transmutations phase, and three weeks of realisation phase. This group was compared with a state/national level group. No effects of training, group or interaction of training and group were observed for squat jump and CMJ performances or the cortisol and testosterone responses. Both groups presented lower 1RM for the row exercise after the accumulation compared to the beginning of this phase and after the transmutation phase, a higher number of throws in the set C of the SJFT after the transmutation phase compared with the beginning of the accumulation phase, and a decrease in the total number of throws in the SJFT from the beginning of the accumulation phase compared to its ending and an increase from this late point to the end of the transmutation phase. HR after the SJFT increased after the transmutation phase compared to the beginning of the accumulation phase, while HR 1 min after the SJFT had an opposite behaviour, i.e., values were lower after the transmutation phase compared to the measurements before and after the accumulation phase. The SJFT index decreased from the beginning of the accumulation phase to its ending and from this point to after the transmutation phase. The only difference between groups was found in the SJFT variables. Specifically, the number of throws during set A was affected by training for the state/national level group, with higher values after the transmutation phase compared to the beginning and end of the accumulation phase, whereas no changes were observed for the international level group. Additionally, the total number of throws in the SJFT changed only for the state/national level group, with higher values after the transmutation phase when compared with the beginning and end of the accumulation phase. The changes observed in the SJFT index during the training periods were more pronounced in the state/national level group. Therefore, both groups coped similarly to the high training loads imposed but the changes were more pronounced in the lower-level group, suggesting a possible ceiling effect on international-level judo athletes. Future research is needed to understand the physical and physiological responses of judo athletes to periodisation approaches better when preparing for the Olympic Games.

Considering the high number of competitions that judo athletes need to take part in to qualify for the Olympic Games, the close monitoring of their training load has gained relevance in recent decades. The need analysis and the proper selection of training means and exercises seem to be two very important factors in implementing good training prescriptions for judo athletes. The use of the session rating of perceived exertion to quantify the internal training load of combat sport athletes is an approach that has been demonstrated as valid (Slimani et al., 2017) but other methods have also been proposed for judo athletes (Morales et al., 2017). Indeed, the use of the rating of perceived exertion was demonstrated to be appropriate for modelling the physical response to the training of judo athletes (Agostinho et al., 2015). The use of modelling of training responses is an important aspect that will likely be more used due to recent advances in artificial intelligence, which will allow the processing of more data in a shorter time, providing information promptly to judo coaches and strength and conditioning coaches.

Final Considerations

Preparation of Olympic judo athletes requires an integrated approach that combines scientific insights with a deep understanding of judo's unique demands. The article emphasises that no single training regimen fits all athletes, given the diversity in their genetic, physiological and anthropometric profiles. Therefore, individualised training programmes, aligned with each athlete's characteristics and competitive level, are essential for performance optimisation. Furthermore, training must evolve continuously to incorporate new findings from sport science, especially as competition formats and rules in judo undergo periodic changes to maintain the sport's appeal.

A major insight from this review is the critical influence of the RAE on athletes' trajectories, suggesting that younger athletes should be supported to mitigate disadvantages due to later physical maturation. This factor, along with genetic predispositions favouring endurance or strength,

underscores the necessity for a personalised approach to identifying and nurturing judo talent. Additionally, comprehensive knowledge of anthropometric and physiological profiles tailored to judo's weight categories provides further depth to training design.

The physiological analysis underscores the demand for a combination of aerobic and anaerobic power and capacity, maximal strength, muscle power and strength-endurance in judo. Simulated and official contest analyses reveal the importance of grip strength-endurance for maintaining control over opponents, highlighting it as a critical training component. The findings also confirm that athletes regulate exertion strategically to avoid extreme fatigue, which could impair decision-making and increase injury risk.

This review also indicated the need for attention to the physiological stress associated with RWL practices. These practices, often intensified during the week of competition, highlight the need for safe, effective body mass management strategies and recovery protocols. Athletes' pacing strategies and contest demands indicate the need for well-planned training cycles and sufficient recovery intervals, particularly in the weeks leading up to major events like the Olympics.

Finally, a comprehensive evaluation and monitoring system that includes both general and judo-specific assessments are key components to improve judo athletes' performance. The complexity of judo demands a holistic training model that incorporates both traditional and sport science methods, addressing the various aspects of physical conditioning necessary for Olympic success. Integration of these elements in a structured, flexible training system could foster the sustained success of judo athletes on the world stage.

Acknowledgements

The author thanks the CNPq for the research grant (305507/2023-0).

References

Adam, N., & Carter, C. A. (1988). *Olympic judo: Preparation and training*. Michael Joseph.

Agostinho, M. F., Philippe, A. G., Marcolino, G. S., Pereira, E. R., Busso, T., Candau, R. B., & Franchini, E. (2015). Perceived training intensity and performance changes quantification in judo. *Journal of Strength and Conditioning Research, 29*, 1570-1577.

Agostinho, M., Moreira, A., Julio, U. F., Marcolino, G. S., Antunes, B. M., Lira, F. S., & Franchini, E. (2017). Monitoring internal training load and salivary immune-endocrine responses during an annual judo training periodization. *Journal of Exercise Rehabilitation, 13*, 68-75.

Agostinho, M. F., Olivio Junior, J. A., Stankovic, N., Escobar-Molina, R., & Franchini, E. (2018). Comparison of special judo fitness test and dynamic and isometric judo chin-up tests' performance and classificatory tables' development for cadet and junior athletes. *Journal of Exercise Rehabilitation, 14*, 244-252.

Albuquerque, M. R., Tavares, V., Lage, G. M., De Paula, J. J., Da Costa, I. T., & Malloy-Diniz, L. F. (2013). Relative age effect in Olympic judo athletes: A weight category analysis. *Science & Sports, 28*(3), e59-e61.

Albuquerque, M. R., Franchini, E., Lage, G. M., Costa, V. T., Costa, I. T., & Malloy-Diniz, L. F. (2015). The relative age effect in combat sports: An analysis of Olympic judo athletes, 1964-2012. *Perceptual and Motor Skills, 121*, 300-308.

Amtmann, J., & Cotton, A. (2005). Strength and conditioning for judo. *Strength and Conditioning Journal, 27*(2), 26-31.

Artioli, G. G., Gualano, B., Franchini, E., Scagliusi, F. B., Takesian, M., Fuchs, M., & Lancha, A. H. (2010). Prevalence, magnitude, and methods of rapid weight loss among judo competitors. *Medicine and Science in Sports and Exercise, 42*, 436-442.

Artioli, G. G., Bertuzzi, R. C. M., Roschel, H., Mendes, S. H., Lancha Junior, A. H., & Franchini, E. (2012). Determining the contribution of the energy systems during exercise. *Journal of Visualized Experiments*, (e3413).

Artioli, G. G., Iglesias, R. T., Saunders, B., & Franchini, E. (2016). It is time to ban rapid weight loss from combat sports. *Sports Medicine (Auckland)*, 46, 1579-1584.

Aruga, S., Terao, R., Onda, T., Nakamura, Y., Yamashita, Y., Nakanishi, H., & Ubukata, K. (2002). Quick-lift exercise with dumbbell in judo players. *Tokai Journal of Sport Medical Science, 14*, 23-33.

Aruga, S., Onda, T., Aso, K., Shirase, H., Yamashita, Y., Nakanishi, H., & Ubukata, K. (2003). Measurement of barbell lifting capacity and making strength standards in judo players. *Tokai Journal of Sport Medical Science, 15*, 7-17.

Aruga, S., Nakanishi, H., Yamashita, Y., Onda, T., & Ubukata, K. (2006). A study on the training method of improving judo players' kumite strength: On judogi chin-up method. *Tokai Journal of Sport Medical Science, 18*, 44-53.

Bar-Or, O. (1987). The Wingate anaerobic test: An update on methodology, reliability, and validity. Sports *Medicine, 4*(6), 381-394.

Blais, L., Trilles, F., & Lacouture, P. (2007). Three-dimensional joint dynamics and energy expenditure during the execution of a judo throwing technique (Morote Seoi Nage). *Journal of Sports Science, 25*(11), 1211-1220.

Bonitch-Domínguez, J., Bonitch-Góngora, J., Padial, P., & Feriche, B. (2010). Changes in peak leg power induced by successive judo bouts and their relationship to lactate production. *Journal of Sports Science, 28*(14), 1527-1534.

Bonitch-Góngora, J. G., Bonitch-Domínguez, J. G., Padial, P., & Feriche, B. (2012). The effect of lactate concentration on handgrip strength during judo bouts. *Journal of Strength and Conditioning Research, 26*(7), 1863-1871.

Bosquet, L., Montpetit, J., Arvisais, D., & Mujika, I. (2007). Effects of tapering on performance: A meta-analysis. *Medicine and Science in Sports and Exercise, 39*(8), 1358-1365.

Branco, B. H. M., Massuça, L. M., Andreato, L. V., Miarka, B., Monteiro, L., Marinho, B. F., & Franchini, E. (2013). Association between rating of perceived exertion, heart rate, and blood lactate in successive judo fights (Randori). *Asian Journal of Sports Medicine, 4*, 125-130.

Branco, B. H. M., Diniz, E., Da Silva Santos, J. F., Shiroma, S. A., & Franchini, E. (2017a). Normative tables for the dynamic and isometric judogi chin-up tests for judo athletes. *Sport Sciences for Health, 13*, 47-53.

Branco, B. H. M., Lopes-Silva, J. P., Santos, J. F. S., Julio, U. F., Panissa, V., & Franchini, E. (2017b). Monitoring training during four weeks of three different modes of high-intensity interval training in judo athletes. *Archives of Budo, 13*, 51-61.

Branco, B. H. M., & Franchini, E. (2021). Developing maximal strength for combat sports athletes. *Revista de Artes Marciales Asiáticas, 16*, 86-132.

Broussal-Derval, A. (2012). *La prépa physique judo*. 4Trainer.

Brunel, V. (2022). Seed advantage in sport competitions: The case of professional judo. *Revista de Artes Marciales Asiáticas, 17*(2), 108-118.

Callister, R., Callister, R. J., Staron, R. S., Fleck, S. J., Tesch, P., & Dudley, G. A. (1991). Physiological characteristics of elite judo athletes. *International Journal of Sports Medicine, 12*(2), 196-203.

Campideli, T. S., Ferreira, R. M., Coelho, E. F., Penna, E. M., Panza, P. S., & Werneck, F. Z. (2018). Efeito da idade relativa em atletas olímpicos de esportes de combate. *Motricidade, 14*(S1), 279-286.

Carballeira, E., & Iglesias, E. (2007). Efectos agudos del enfretamiento en judo: análisis multiparamétrico. *Motricidad - European Journal of Human Movement, 19*, 117-144.

Carr, K. G. (1993). Making way: War, philosophy and sport in Japanese “Jûdô”. *Journal of Sport History, 20*(2), 167-188.

Chaabene, H., Negra, Y., Bouguezzi, R., Capranica, L., Franchini, E., Prieske, O., Hbacha, H., & Granacher, U. (2018). Tests for the assessment of sport-specific performance in Olympic combat sports: A systematic review with practical recommendations. *Frontiers in Physiology, 9*, 386.

Cieszczyk, P., Maciejewska, A., Sawczuk, M., Ficek, K., Eider, J., & Jascaniene, N. (2010). The angiotensin converting enzyme gene I/D polymorphism in elite Polish and Lithuanian judo players. *Biology of Sport, 27*(2), 119-122.

Detanico, D., Pupo, J. D., Franchini, E., & Dos Santos, S. G. (2015). Effects of successive judo matches on fatigue and muscle damage markers. *Journal of Strength and Conditioning Research, 29*, 1010-1016.

Ehlert, T., Simon, P., & Moser, D. A. (2013). Epigenetics in sports. *Sports Medicine, 43*(2), 93-110.

Fagerlund, R., & Hakkinen, K. (1991). Strength profile of Finnish judoists: Measurement and evaluation. *Biology of Sport, 8*(3), 143-150.

Fedotovskaya, O., Eider, J., Cieszczyk, P., Ahmetov, I., Moska, W., Sawczyn, S., Sawczyn, S., Sawczuk, M., Czubek, Z., Jascaniene, N., Żychowska, M., Maciejewska-Karłowska, A., & Ficek, K. (2013). Association of muscle-specific creatine kinase (CKM) gene polymorphism with combat athlete status in Polish and Russian cohorts. *Archives of Budo, 9*(3), 233-237.

Franchini, E. (1999). Bases para a detecção e promoção de talentos na modalidade judô. In INDESP/Ministério do Esporte e Turismo (Eds.), *I Prêmio INDESP de Literatura Esportiva* (Vol. 1, pp. 15-104). Brasília: INDESP - Imprensa Oficial.

Franchini, E., Nakamura, F. Y., Takito, M. Y., Kiss, M. A. P. D. M., & Sterkowicz, S. (1998). Specific fitness test developed in Brazilian judoists. *Biology of Sport, 5*(3), 165-170.

Franchini, E., Souza, C. E. B., Urasaki, R., Oliveira, R. S. F., Sauressig, F., & Matheus, L. (2004a). Teste de resistência de força isométrica e dinâmica na barra com o judogi. In *III Congreso de la Asociación Española de Ciencias del Deporte* (p. 77). Valencia: Gráficas Mari Montañana, S.L.

Franchini, E., Takito, M. Y., Bertuzzi, R. C. M., & Kiss, M. A. P. D. M. (2004b). Nível competitivo, tipo de recuperação e remoção do lactato após uma luta de judô. *Revista Brasileira de Cineantropometria & Desempenho Humano, 6*, 7-16.

Franchini, E., Takito, M. Y., Kiss, M. A. P. D. M., & Sterkowicz, S. (2005a). Physical fitness and anthropometrical differences between elite and non-elite judo players. *Biology of Sport, 22*, 315-328.

Franchini, E., Takito, M. Y., & Bertuzzi, R. C. M. (2005b). Morphological, physiological and technical variables in high-level college judoists. *Archives of Budo, 1*(1), 1-7.

Franchini, E., Nunes, A. V., Moraes, J. M., & Vecchio, F. B. (2007). Physical fitness and anthropometrical profile of the Brazilian male judo team. *Journal of Physiological Anthropology (Online), 26*, 59-67.

Franchini, E. (2010). *Judô: Desempenho competitivo* (2nd ed.). Barueri: Editora Manole.

Franchini, E., Matsushigue, K. A., Vecchio, F. B., & Artioli, G. G. (2011a). Physiological profiles of elite judo athletes. *Sports Medicine (Auckland), 41*, 147-166.

Franchini, E., Miarka, B., Matheus, L., & Vecchio, F. B. (2011b). Endurance in judogi grip strength tests: Comparison between elite and non-elite judo players. *Archives of Budo, 7*, 1-4.

Franchini, E., Sterkowicz, S., Szmatlan-Gabrys, U., Gabrys, T., & Garnys, M. (2011c). Energy system contributions to the Special Judo Fitness Test. *International Journal of Sports Physiology and Performance, 6*, 334-343.

Franchini, E., Artioli, G. G., & Brito, C. J. (2013). Judo combat: Time-motion analysis and physiology. *International Journal of Performance Analysis in Sport, 13*, 624-641.

Franchini, E., & Takito, M. Y. (2016). Home advantage in combat sports during the Olympic Games. *Sport Sciences for Health (Testo stampato), 12*, 287-290.

Franchini, E. (2014). Born to fight? Genetics and combat sports. *Revista de Artes Marciales Asiáticas, 9*, 1-8.

FRANCHINI, E., Vecchio, F. B., Julio, U. F., Matheus, L., & Candau, R. (2015a). Specificity of performance adaptations to a periodized judo training program. *Revista Andaluza de Medicina del Deporte, 8*, 67-72.

Franchini, E., Branco, B. H. M., Agostinho, M., Calmet, M., & Candau, R. (2015b). Influence of linear and undulating strength periodization on physical fitness, physiological and performance responses to simulated judo matches. *Journal of Strength and Conditioning Research, 29*, 358-367.

Franchini, E., Ferreira Julio, U., Panissa, V., Lira, F., Gerosa Neto, J., & Branco, B. H. M. (2016a). High-intensity intermittent training positively affects aerobic and anaerobic performance in judo athletes independently of exercise mode. *Frontiers in Physiology, 7*, 268-e268.

Franchini, E., Julio, U. F., Panissa, V., Lira, F., & Agostinho, M. (2016b). Short-term low-volume high-intensity intermittent training improves judo-specific performance. *Archives of Budo, 12*, 219-229.

Franchini, E., Takito, M. Y., Da Silva, R. M., Shiroma, S. A., Wicks, L., & Julio, U. F. (2017). Optimal interval for success in judo world-ranking competitions. *International Journal of Sports Physiology and Performance, 12*, 707-710.

Franchini, E., Schwartz, J., & Takito, M. Y. (2018a). Maximal isometric handgrip strength: Comparison between weight categories and classificatory table for adult judo athletes. *Journal of Exercise Rehabilitation, 14*, 968-973.

Franchini, E., Lira, F. S., Julio, U. F., Antunes, B. M., Agostinho, M. F., Shiroma, S. A., & Gonçalves Panissa, V. L. (2018b). Cytokine, physiological, technical-tactical, and time structure responses in simulated judo competition. *International Journal of Performance Analysis in Sport, 18*, 595-608.

Franchini, E. (2018c). Pacing in judo: Relevance to performance and proposed investigations. In *Proceedings of the 5th European Judo Research and Science Symposium* (pp. 7-11). Zagreb: Tangir, Samobor.

Franchini, E., De Moura, C. F. D., Shiroma, S. A., Humberstone, C., & Julio, U. F. (2019). Pacing in judo: Analysis of international-level competitions with different durations. *International Journal of Performance Analysis in Sport, 19*, 121-130.

Franchini, E. (2019). Upper-body Wingate test classificatory table for adult judo athletes. *Journal of Exercise Rehabilitation, 15*, 55-59.

Franchini, E. (2020). High-intensity interval training prescription for combat-sport athletes. *International Journal of Sports Physiology and Performance, 15*, 767-776.

Franchini, E., Fukuda, D. H., & Da Silva, J. P. L. (2020). Tracking 25 years of judo results from the World Championships and Olympic Games: Age and competitive achievement. *Journal of Sports Sciences, 38*, 1531-1538.

Franchini, E. (2021). High-intensity interval training in judo uchi-komi: Fundamentals and practical recommendations. *The Arts and Sciences of Judo, 1*, 35-45.

Franchini, E., Da Silva, J. P. L., Santos, D. C. F., Kons, R., & Takito, M. Y. (2023). Prioritizing, making final adjustments or competing for the ultimate glory: The case of World Championships and Olympic Games judo tournaments within 48 days. *Science & Sports, 38*, 318-321.

Franchini, E., Takito, M. Y., & Julio, U. F. (2023). Physiological, perceptual and performance variables partially predict pacing in judo. *International Journal of Performance Analysis in Sport, 23*, 371-385.

Fukuda, D. H., Lopes-Silva, J. P., Takito, M. Y., & Franchini, E. (2023). Relative age effect in judo competitions: Influence of age, weight category, sex, and time frames. *Perceptual and Motor Skills, 130*, 1168-1184.

Gariod, L., Favre-Juvin, A., Novel, V., Reutenauer, H., Majeans, H., & Rossi, A. (1995). Évaluation du profil énergétique des judokas par spectroscopie RMN du P31. *Science & Sports, 10*(4), 201-207.

Guilheiro, L. M., & Franchini, E. (2017). Be seeded or not be seeded? A study with Olympic judo athletes. *Journal of Exercise Rehabilitation, 13*, 148-152.

Harris, D. M., Foulds, S., & Latella, C. (2019). Evidence-based training recommendations for the elite judoka. Strength and Conditioning Journal, 41(2), 108-118. Heinisch, H. D., Knoll, K., Kindler, M., & Haupt, H. (2013). Development and evaluation of a judo-specific grip-strength-test. *IAJR Research Symposium*, Rio de Janeiro, CD-ROM.

Helm, N., Prieske, O., Muehlbauer, T., Krüger, T., Chaabene, H., & Granacher, U. (2018). Validation of a new judo-specific ergometer system in male elite and sub-elite athletes. *Journal of Sports Science and Medicine, 17*(3), 465-474.

Hermine, O., Dine, G., Genty, V., Marquet, L. A., Fumagalli, G., Tafflet, M., et al. (2015). Eighty percent of French sport winners in Olympic, World and European competitions have mutations in the hemochromatosis HFE gene. *Biochimie, 119*, 1-5.

Iida, E., Nakajima, T., & Tanaka, H. (1998). Research on the education of basic physical fitness of college judoists. *13th Asian Games Scientific Congress*, Bangkok, Thailand, 51.

Impellizzeri, F. M., Marcora, S. M., & Coutts, A. J. (2019). Internal and external training load: 15 years on. *International Journal of Sports Physiology and Performance, 14*(2), 270-273.

Itaka, T., Agemizu, K., Aruga, S., & Machida, S. (2016). G allele of the IGF2 ApaI polymorphism is associated with judo status. *Journal of Strength and Conditioning Research, 30*(7), 2043-2048.

Iteya, M., Yanagisawa, H., Watanabe, R., Kimura, M., Deguchi, T., Kaneko, K., Saito, S., & Takeuchi, Y. (2005). Characteristics of hikite power in elite women judo players. *Bulletin of the Association for the Scientific Studies on Judo, Tokyo, Report X*, 57-64.

Julio, U., Panissa, V. L. G., Miarka, B., Takito, M. Y., & Franchini, E. (2013). Home advantage in judo: A study of the world ranking list. *Journal of Sports Sciences, 31*, 212-218.

Julio, U. F., Panissa, V. L. G., Esteves, J. V., Cury, R. L., Agostinho, M. F., & Franchini, E. (2017). Energy-system contributions to simulated judo matches. *International Journal of Sports Physiology and Performance, 12*, 676-683.

Julio, U. F., Panissa, V. L. G., Agostinho, M. F., Cury, R. L., Esteves, J. V., & Franchini, E. (2018). Time-course of time-motion, physiological, perceived exertion and neuromuscular responses during simulated judo matches. *International Journal of Performance Analysis in Sport, 18*, 582-594.

Julio, U. F., & Franchini, E. (2021). Developing aerobic power and capacity for combat sports athletes. *Revista de Artes Marciales Asiáticas, 16*, 1028-1059.

Junior, M. N., Lopes-Silva, J. P., Takito, M. Y., & Franchini, E. (2024). Cadet and junior performance is associated with senior's world championship and Olympics achievement in judo. *Research Quarterly for Exercise and Sport, 95*, 54-59.

Kashiwagura, D., & Franchini, E. (2022). The grip dispute (kumi-kata) in judo: A scoping review. *Revista de Artes Marciales Asiáticas, 17*, 1-18.

Kasper, A. M., et al. (2021). Come back skin folds, all is forgiven: A narrative review of the efficacy of common body composition methods in applied sports practice. *Nutrients, 13*, 1075.

Kelly, A., Côté, J., Jeffreys, M., & Turnnidge, J. (2021). Birth advantages and relative age effects in sport - exploring organizational structures and creating appropriate settings.

Kodokan, Association for the Scientific Studies on Judo. (2024). Kodokan. Retrieved from https://kdkjd.org/association-for-the-scientific-studies-on-judo-kodokanassocia/

Kons, R. L., Pupo, J. D., Ache-Dias, J., Garcia, T., da Silva, R. R., Katicips, L. F. G., & Detanico, D. (2018). Effect of official judo matches on handgrip strength and perceptual responses. *Journal of Exercise Rehabilitation, 14*(1), 93-99.

Kons, R. L., Agostinho, M. F., Lopes-Silva, J. P., Santos, D. F., Detanico, D., & Franchini, E. (2022). More time for judo matches? Analysis of type of techniques, time, scores, and penalties in the Tokyo 2020 Olympic Games. *Frontiers in Sports and Active Living, 4*, 960365.

Laurent, C. M., Green, J. M., Bishop, P. A., Sjökvist, J., Schumacker, R. E., Richardson, M. T., & Curtner-Smith, M. (2011). A practical approach to monitoring recovery: Development of a perceived recovery status scale. *Journal of Strength and Conditioning Research, 25*(3), 620-628.

Leplanquais, F., Cotinaud, M., & Lacouture, P. (1994). Propositions pour une musculation specifique: exemple du judo. *Cinesiologie, Paris, 34*(160), 80-86.

Lopes-Silva, J. P., & Franchini, E. (2021). Developing anaerobic power and capacity for combat sports athletes. *Revista de Artes Marciales Asiáticas, 16*, 60-85.

Lucía, A., Morán, M., Zihong, H., & Ruiz, J. R. (2010). Elite athletes: Are the genes the champions? *International Journal of Sports Physiology and Performance, 5*(1), 98□102.

Malliaropoulos, N., Rachid, S., Korakakis, V., Fraser, S. A., Bikos, G., Maffulli, N., & Angioi, M. (2018). Prevalence, techniques and knowledge of rapid weight loss amongst adult British judo athletes: A questionnaire-based study. *Muscles, Ligaments and Tendons Journal, 7*(3), 459-466.

Majean, H., & Gaillat, M. L. (1986). Etude de l'acide lactique sanguin chez le judoka au cours de la saison 1984-1985. *Médecine du Sport, 60*, 198-203.

Marques, L., Franchini, E., de Arruda, A. F. S., Aoki, M. S., Drago, G., & Moreira, A. (2017). Physiological and performance changes in national and international judo athletes during block periodization training. *Biology of Sport, 34*, 371-378.

Miarka, B., Panissa, V. L. G., Julio, U. F., Del Vecchio, F. B., Calmet, M., & Franchini, E. (2012). A comparison of time-motion performance between age groups in judo matches. *Journal of Sports Sciences, 30*, 899-905.

Miarka, B., Cury, R., Julianetti, R., Battazza, R., Julio, U. F., Calmet, M., & Franchini, E. (2014). A comparison of time-motion and technical-tactical variables between age groups of female judo matches. *Journal of Sports Sciences, 32*, 1529-1538.

Morales, J., Franchini, E., Garcia-Masso, X., Solana-Tramunt, M., Buscà, B., & González, L. M. (2016). The Work Endurance Recovery Method for quantifying training loads in judo. *International Journal of Sports Physiology and Performance, 11*, 913-919.

Nunes, A. V. (1998). Avaliação de atletas do judô com alto rendimento–perfil da seleção gaúcha–1997 [Dissertation]. *Federal University of Rio Grande do Sul, Porto Alegre*.

Paillard, T. (2010). *Optimisation de la performance sportive en judo*. De Boeck.

Platonov, V. N. (2000). *Tratado Geral de Treinamento Desportivo*. Porte.

Reale, R., Slater, G., & Burke, L. M. (2017a). Acute-weight-loss strategies for combat sports and applications to Olympic success. *International Journal of Sports Physiology and Performance, 12,* 142-151.

Reale, R., Slater, G., & Burke, L. M. (2017b). Individualised dietary strategies for Olympic combat sports: Acute weight loss, recovery and competition nutrition. *European Journal of Sport Science, 17*, 727-740.

Rees, T., Hardy, L., Güllich, A., Abernethy, B., Côté, J., Woodman, T., Montgomery, H., Laing, S., & Warr, C. (2016). The Great British Medalists Project: A review of current knowledge on the development of the world's best sporting talent. *Sports Medicine, 46*, 1041-1058.

Rodríguez-Romo, G., Yvert, T., de Diego, A., Santiago, C., Díaz de Durana, A. L., Carratalá, V., Garatachea, N., & Lucía, A. (2013). No association between ACTN3 R577X polymorphism and elite judo athletic status. *International Journal of Sports Physiology and Performance, 8*(5), 579□581.

Santos, D. F. C., Lopes-Silva, J. P., Kons, R. L., Agostinho, M. F., & Franchini, E. (2023). Body mass variation of judo athletes during the Tokyo Olympic Games and its relationship with performance in the mixed team competition. *Sport Sciences for Health, 19*, 649-655.

Santos, D. F. C., Yan, W. H., & Franchini, E. (2024). A scoping review of rapid weight loss in judo athletes: Prevalence, magnitude, effects on performance, risks, and recommendations. *Physical Activity and Nutrition, 28*(3), 001-012.

Santos Junior, R. B., & Franchini, E. (2021). Developing strength-endurance for combat sports athletes. *Revista de Artes Marciales Asiáticas, 16*, 174-191.

Sbriccoli, P., Bazzucchi, I., Di Mario, A., Marzattinocci, G., & Felici, F. (2007). Assessment of maximal cardiorespiratory performance and muscle power in the Italian Olympic judoka. *Journal of Strength and Conditioning Research, 21*(3), 738-744.

Schoof, S., Sliedrecht, F., & Eferink-Gemser, M. T. (2024). Throwing it out there: Grip on multidimensional performance characteristics of judoka – A systematic review. *International Journal of Sports Science & Coaching, 19*(2), 908-928.

Shiroma, S. A., Julio, U. F., & Franchini, E. (2019). Criterion validity, reliability, and usefulness of a judo-specific maximal aerobic power test. *International Journal of Sports Physiology and Performance, 14*, 987-993.

Sikorski, W. (1985). Current problems of training and rivalry in judo. Prace i Materiał Instytut Sportu, Warszawa: Wydawnictwa Instytutu Sportu.

Sikorski, W., Mickiewicz, G., Majle, B., & Laksa, C. (1987). Structure of the contest and work capacity of the judoist. In *Proceedings of the International Congress on Judo: Contemporary Problems of Training and Judo Contest* (pp. 9-11). 9-11 Nov 1987; Warsaw: Spala-Poland.

Da Silva Santos, J. F., & Franchini, E. (2021). Developing muscle power for combat sports athletes. *Revista de Artes Marciales Asiáticas, 16*, 133-173.

Slimani, M., Davis, P., Franchini, E., & Moalla, W. (2017). Rating of perceived exertion for quantification of training and combat loads during combat sport specific activities. *Journal of Strength and Conditioning Research, 31*, 2889-2902.

Sterkowicz-Przybycień, K., Fukuda, D. H., & Franchini, E. (2019). Meta-analysis to determine normative values for the Special Judo Fitness Test in male athletes: 20+ years of sport-specific data and the lasting legacy of Stanisław Sterkowicz. *Sports, 7*, 194.

Torres-Luque, G., Hernández-García, R., Escobar-Molina, R., Garatachea, N., & Nikolaidis, P. T. (2016). Physical and physiological characteristics of judo athletes: An update. *Sports (Basel), 4*(1), 20.

Tumilty, D. M., Hahn, A. G., & Telford, R. D. (1986). A physiological profile of well-trained male judo players. In J. Watkins, T. Reilly, & L. Burwitz (Eds.), *Proceedings of VIII Commonwealth and International Conference on Sport, Physical Education, Dance, Recreation, and Health* (pp. 99-103). 18-23 Jul 1986; Glasgow: E & F.N. Spon.

Yamashita, Y. (1993). The *Fighting Spirit of Judo*. Ippon Books.

Wallace, K., & Franchini, E. (2022). Judo. In R. Davison, P. M. Smith, J. Hopker, M. J. Price, F. Hettinga, G. Tem, & L. Bottoms (Eds.), *Sport and Exercise Physiology Testing Guidelines: Volume I - Sport Testing* (2nd ed., pp. 315-320). London: Routledge.

Zaggelidis, G., & Lazaridis, S. (2012). Evaluation of vertical ground reaction forces in three different judo hip throwing techniques in novice and advanced Greek athletes. *Medicina dello Sport, 65*(1), 29-36.

Article history
Received : 23 September, 2024
Accepted : 12 December, 2024

The Evolution of Olympic Judo
An Events Management and Gender Perspective

By Lisa Allan[1] and Larisa Kiss[2]

Abstract: *Judo, a martial art with deep historical roots, has transitioned from its origins in Japan to a globally recognised sport. The journey from its inaugural appearance at the Tokyo 1964 Olympics to its anticipated presence in Los Angeles 2028 reflects a dynamic evolution encompassing rule changes, more high-level competitions with prize money, evolving athleticism, technological innovations, improved understanding of safety and fairness, globalisation, and shifting cultural landscapes. This journey, far from linear, has seen periods of significant reform alongside moments of continuity, ultimately shaping the sport into the globally recognised spectacle we see today.*

This article explores the evolution of Olympic judo from the perspectives of the management of the competitions and gender equality, analysing key milestones and challenges that have shaped its modern form. The analysis focuses on two interconnected dimensions: the competition logistics and framework that underpin the management of judo as an Olympic sport, and the strides made toward gender parity within the sport. By investigating these aspects, we gain insights into how traditional sports adapt to modern values and expectations.

Keywords: *judo, Olympic Games, competition, event management, gender equality*

The organisation of Olympic judo has evolved jointly with the need for uniformity and fairness. The International Judo Federation (IJF), established in 1951, plays the central role in standardising the competitive aspect of the sport, from defining the Olympic qualification process, the competition rules and formats, age groups and weight categories, and refereeing criteria to developing the events calendar, managing the world ranking lists and running the annual IJF World Judo Tour (IJF WJT) in partnership with national judo federations. This standardisation ensures consistency across national and international tournaments, culminating in the Olympic Games.

Olympic judo requires specialised venues for competition and training, these are equipped with *tatami* (mats) and many other items required to ensure that the needs of each client group is catered for. The layout of these venues must balance safety and security, client flows, logistical efficiency and, in the competition venue, spectator visibility. Modern venues now incorporate temperature and climate control, advanced lighting and media broadcasting capabilities to enhance both athlete performance and audience experience.

For instance, the 2020 Tokyo Olympics showcased the Nippon Budokan, a venue specifically designed for martial arts as a symbol of Japan's cultural heritage. This venue is unique in that it has now held the Olympic judo competition twice. Still resembling the original venue, it has been renovated and updated to enable it to host many different types of event now, in additional to sport.

Other key innovations in event management include the transition from manual to digital scoring systems and video replay technology (Computer Assisted REplay (CARE) system), introduced to resolve contentious decisions and ensure transparency and fairness.

Authors' affiliations :
1 - Secretary General (IJF Events Director 2013-2023)
2 - IJF International Relations Director

Changes in the Olympic qualification system, based on the IJF world ranking list, mean that the qualification places are given to athletes who earned them and not to a National Olympic Committee for an athlete of their choice. This guarantees that the world's best *judoka* compete at the Olympics.

From an organisational perspective, the diversification of participating nations has been a priority. The IJF has invested in training programmes and given financial support for underrepresented countries, ensuring that judo maintains its place as one of the most universal sports in the Olympics.

Historical Overview of Judo at the Olympics

Judo was created in 1882 by Jigoro Kano, who combined traditional jujutsu techniques with modern educational principles. Its inclusion in the Tokyo 1964 Olympics symbolised Japan's re-emergence on the global stage post-World War II. Initially, judo featured only male competitors in four weight classes. The exclusion of women and limited international representation reflected the gender biases and logistical constraints of the era. Since then, judo as an Olympic sport has evolved significantly in both organisational structure and societal impact.

After its debut, judo was removed from the Olympic programme in 1968 but was reinstated in 1972. Over subsequent decades, it expanded in scope and scale, with the inclusion of more weight classes, higher athlete participation and the eventual addition of women's events in 1988 in Seoul, where it was a demonstration sport, before being fully integrated in 1992 for the Olympic Games in Barcelona. These developments required the refinement of event

management strategies to accommodate larger and more diverse athlete pools, to appeal more to the public and to the media and broadcast environment.

1964-1980: Establishing the Foundation

The inclusion of judo in the 1964 Tokyo Olympics was a significant moment, solidifying its international recognition. The venue was the iconic Nippon Budokan and the competition was held on two *tatami* in front of a full house. The early Olympic judo competitions were characterised by a simpler management structure relatively.

The rules were less formalised than today, leading to occasional inconsistencies in judging. The weight categories were fewer and the referees and judges, though striving for objectivity, lacked the sophisticated technology and training that would later become standard. Emphasis was on demonstrating the traditional aspects of judo, with ippon being the decisive victory.

This era's competition management faced challenges such as:

- Standardisation of rules and judging: ensuring consistency across different national styles and referee interpretations was a major hurdle. The IJF was still working towards developing universally accepted rules and training referees to a uniform standard.

- Limited technological support: there was no sophisticated system available, like the CARE system which is used today, making challenges and controversial decisions difficult to overturn. Reliance was solely on the on-mat referee and judges' subjective interpretations.

- Basic athlete support: athlete preparation and support infrastructure was less developed than the more modern editions of the Olympics since. The focus was on the competition itself, with fewer resources devoted to athlete welfare, injury prevention and recovery.

- Limited global participation: though an international sport, the early Olympic judo competitions had a smaller pool of participating nations than seen in later Games, reflecting the sport's growing global reach over time.

The inclusion of judo in the Olympics did serve as a powerful catalyst for its internationalisation. While Japan initially dominated, other nations began developing their own judo programmes, leading to increased participation and competition. This early globalisation, however, was not without its challenges. Cultural differences in training methods, interpretations of rules and judging criteria created initial inconsistencies in competition.

The 1970's and early 1980's witnessed the rise of non-Japanese judoka, though Japan remained a dominant force. The competition began to show more diversity in techniques, reflecting the growing influence of different national styles. This era also saw the establishment of international refereeing standards, aiming to ensure fairness and consistency across competitions, marking an important step towards a truly global sport.

1984-2000: Refinement and Professionalisation

The period from 1984 to 2000 saw a significant shift towards the professionalisation of Olympic judo competition management, driven by a desire to increase the dynamism and spectator appeal of the sport. Several key developments impacted the administration and execution of judo competitions:

- Rule refinements: the IJF implemented a series of rule changes to enhance the clarity and speed of the sport.

- Enhanced judging technology: the introduction of video replay, though initially limited, began to address the challenges of inconsistent judging. Slow-motion replays allowed for a more thorough review of controversial moments, improving accuracy and fairness.

- Referee training advancements: the IJF invested more heavily in referee training programmes, creating a more standardised approach to officiating. Reflective coaching, detailed analysis of contests and higher standards for referee qualification gradually reduced subjective inconsistencies in scoring and penalty application.

- Improved athlete support systems: as judo's popularity grew, so did the focus on athlete welfare. The provision of medical services, anti-doping programmes and performance enhancement support improved significantly. The IJF also focused on fostering international co-operation and exchanges to enhance athlete development globally.

Furthermore, the increasing participation of female *judoka* added another dimension to the sport's evolution. While initially facing significant challenges in gaining recognition and participation, women's judo grew in popularity progressively and became a fully integrated part of the Olympic programme. This expansion not only enriched the competition but also challenged existing notions about the sport's physical demands and the athletic capabilities required.

2000-2024: Globalisation, Technology and Data-Driven Management

The 21st century witnessed a dramatic transformation in Olympic judo competition management, driven primarily by globalisation, technological advancements and a data-driven approach:

- Globalisation and increased participation: the number of participating nations soared, reflecting judo's global growth. Competition management had to adapt to the logistical challenges of managing a larger, more diverse field of athletes and officials. This involved better communication systems, efficient scheduling and international collaboration.

- Greater opportunity came in the form of the annual IJF WJT, allowing athletes to compete more regularly and win prize money. This tour set the standard with specific requirements for the events which met the needs of all the participants.

- An enhanced competition format with the introduction of a mixed team event, with three men and three women competing as one team, proved to be a huge success.

- Technological integration: the use of technology became widespread. The CARE system became high definition with multiple camera angles as standard, allowing for comprehensive reviews. Electronic scoring systems replaced manual systems, eliminating human error and providing instant results. Detailed statistical analysis of contests became possible, providing valuable insights for coaches and athletes.

- Data-driven decision making: the IJF embraced data analytics to improve competition management. Statistical analysis helped identify trends in judging, athlete behaviour and injury patterns. This allowed for informed decision-making in rule adjustments, referee training, and injury prevention programmes.

- Enhanced media integration: the Olympics became a global media event. Effective management of media relations, including live broadcasts, social media engagement and post-competition media releases, became crucial to elevate the sport's visibility and attract new fans.

- Emphasis on athlete safety and wellbeing: improved medical facilities at Olympic venues, advanced injury prevention programmes and stricter anti-doping protocols demonstrated an enhanced commitment to athlete welfare. The IJF promoted fair play and sportsmanship actively.

- Sustainability and social responsibility: increasingly, the IJF and the Olympic movement have incorporated sustainability initiatives and social responsibility programmes in their competition management frameworks. This includes environmentally conscious venue design and operations, along with educational programmes promoting fair play and respect for human rights.

Olympic judo truly became a global sport, no longer dominated by a single nation, competitions features a diverse array of competitors from across the world, each reflecting their unique national styles and training methods.

The increasing media coverage and popularity of Olympic judo have also contributed to its evolution. The desire to present an engaging spectacle for television audiences has influenced the sport's presentation, leading to more strategic and visually captivating matches. The use of replays and insightful commentary has enhanced the viewers' understanding and appreciation of the technical nuances of the sport.

Challenges and Future Directions

Looking towards Los Angeles 2028 and beyond, the future of Olympic judo is marked by several key trends. The continued globalisation of the sport, with emerging nations contributing to the ever-increasing pool of talent, guarantees to diversify the competition further and introduce new tactical approaches. The continued refinement of rules and judging systems will ensure the balance between dynamic competition and safety is maintained. The integration of technology is set to play an increasingly important role.

The Olympic Games is a platform for pushing boundaries and inspiring future generations. Judo, with its rich history and dynamic evolution, is well-positioned to continue its journey. The emphasis on athleticism, technical prowess and strategic thinking will remain core to the sport. The global community of judoka, coaches and administrators will continue to work collaboratively to ensure the sport remains engaging, accessible and fair.

However, the evolution of Olympic judo is not without its challenges. Maintaining the balance between traditional techniques and modern adaptations is crucial. Ensuring the sport's accessibility and inclusivity, addressing potential bias in judging, and adapting to the ever-changing media landscape, will also be key considerations for its future development. The need to retain the spirit of Jigoro Kano's philosophy, emphasising mutual welfare and self-improvement, alongside the demands of a high-stakes competitive environment, will be a continuous balancing act. The evolution of Olympic judo, therefore, will continue to be a fascinating and complex interplay of tradition, innovation and global participation. The Los Angeles 2028 and Brisbane 2032 Olympic Games will be milestones in this ongoing journey, reflecting the continuing evolution of a sport that has captivated millions around the globe.

Despite significant progress, challenges remain for the future management of Olympic judo competitions:

- Maintaining the balance between tradition and modernisation: while technology enhances fairness and efficiency, it's important to preserve the essence of judo's traditional values. Striking a balance between modernisation and the preservation of the sport's cultural integrity is crucial.

- Judo's cultural heritage is both a strength and a challenge. Efforts to modernise the sport must respect its traditional values while appealing to global audiences. Striking this balance is critical for maintaining authenticity and ensuring continued growth.

- Ensuring global consistency in officiating and rules enforcement: even with advanced technology and training, maintaining consistency in officiating across different regions and cultures requires continuous effort. The IJF needs to address cultural bias and refine its referee training to promote a universally accepted standard of judging.

- Managing the increasing complexity of athlete support systems: the growing number of participating nations and athletes necessitates streamlined and efficient support systems. While participation has diversified, some regions remain underrepresented due to economic and infrastructural barriers. Expanding grassroots programmes and funding initiatives is essential for achieving true inclusivity. The IJF needs to develop effective mechanisms to ensure that all athletes have equitable access to resources and services.

- Leveraging technology for enhanced fan engagement: innovative uses of technology can enhance fan experience and interest in the sport. Live streaming, interactive platforms, virtual reality applications, and detailed data visualisation can draw new audiences and create a more immersive fan experience.

- Addressing doping and ethical issues: maintaining a zero-tolerance policy towards doping and fostering an ethical sporting culture is essential. This includes robust anti-doping programmes, comprehensive education initiatives and transparent mechanisms for addressing ethical violations.

- Adapting to changing media landscapes: the rise of digital media presents opportunities and challenges for judo. Engaging younger audiences through social media, streaming platforms and interactive content is essential for the sport's future relevance.

- Promoting gender parity beyond the mat, although strides have been made in athlete representation, gender parity in coaching, refereeing and leadership, remains a work in progress. Encouraging more women to pursue careers in these areas is vital for sustaining long-term equality.

Women in Olympic Judo

Women's judo faced significant resistance before achieving Olympic recognition. Although women's judo competitions had been taking place including the first world championships in 1980, the sport was not included in the official Olympic programme until 28 years after it was first introduced. This delay reflected broader societal biases against women in combat sports, often perceived as incompatible with traditional gender roles. The inclusion of women's judo marked a turning point, signalling a commitment to gender equality.

The representation of female athletes in judo has challenged traditional stereotypes, promoting the idea that women can excel in physically demanding and strategic sports. Role models such as Ryoko Tani (Japan), Kayla Harrison (USA) and Clarisse Agbegnenou (France) have inspired new generations of *judoka* while reshaping societal perceptions of women in sport.

The IJF has implemented policies to promote gender equity at all levels, including coaching, officiating and leadership roles. Initiatives such as women's leadership programmes, programmes for retiring female athletes and coaching scholarships have been instrumental in increasing female representation in the sport's governance structures.

Gender Equality

The IJF has always been committed to advancing gender equality within the sport. As athletes are in the centre of all IJF endeavours and all rules, regulations and policies are created around them, it was evident that for any gender equality measure to work, it must begin with athletes. Recognising the pivotal role that competition plays in driving visibility and engagement, already in 2015, the IJF's Executive Committee introduced a set of landmark measures to foster equal opportunities and visibility for male and female athletes in judo.

Core Measures

- **Unified Competition Calendar**: To ensure equal representation, the IJF mandates that only events featuring both men's and women's divisions are sanctioned and included in the IJF calendar and the prestigious World Judo Tour. This policy guarantees that every major competition showcases both genders, enabling fans and new audiences alike to engage with a balanced and inclusive presentation of judo.

- **Equal Competition Conditions**: The IJF upholds that men and women compete under the same rules and with identical equipment standards. By providing a uniform framework, the IJF ensures that gender does not influence the conditions or expectations of performance, promoting a fair and inclusive sporting environment.

- **Equal Rewards and Exposure**: In addition to parity in competition structure, the IJF has committed to offering equal prize money and media exposure to male and female competitors. This approach not only recognises the achievements of all athletes equally but also seeks to inspire young judo practitioners, regardless of gender, by celebrating role models across the sport.

These initiatives reflect the IJF's commitment to making judo a sport where gender equality is integrated at every level, setting an example for its member national federations and continental unions. By mandating balanced competition opportunities, establishing equal rewards and ensuring consistent media visibility, the IJF fosters a more inclusive environment for current and future generations of judoka.

Achievements and Outcomes

- **Increased Participation and Talent Development**: By fostering an inclusive environment with equal opportunities, the IJF could see higher female participation rates in judo. Equal visibility and rewards can inspire more women and girls to take up the sport, creating a richer talent pool and broadening the future of judo worldwide.

- **Enhanced Public Perception and Popularity**: Gender-equal policies can improve the IJF's public image, appealing to a broader, more progressive audience. This commitment to gender equality can position judo as a leader among international sports in promoting diversity and inclusion, potentially boosting global popularity and attracting new fans.

- **Role Modelling for Member National Federations**: By setting an appropriate standard for gender equality, the IJF influences national federations to adopt similar policies. This influence could lead to a widespread cultural shift in how gender is perceived and treated in sport, amplifying the impact beyond judo alone.

- **Improved Sponsorship and Funding Opportunities**: Increasingly, corporations seek partnerships with organisations that prioritise social responsibility and gender equality. By emphasising equal treatment and visibility, the IJF may attract sponsors interested in supporting progressive values, which could lead to greater funding and resources for judo.

Challenges and Limitations

- **Funding and Sponsorship Constraints**: Equal prize money requires a substantial financial commitment and securing this funding consistently may be challenging, especially during economic downturns or if sponsorship remains limited. Smaller events, especially in countries where judo for women still largely depends on the equipment used, face more difficulty in adhering to these standards without sufficient backing.

- **Regional and Cultural Resistance**: While gender equality is a shared objective, there may be varying levels of acceptance across regions where traditional views on gender roles prevail. Encouraging local judo federations to fully adopt and promote these principles may be a gradual process in some areas, requiring ongoing education and support from the IJF.

- **Media Coverage Imbalance**: While the IJF may promote equal exposure for men's and women's competitions, external media coverage may not fully align. Media organisations may still display biases, focusing more on men's events, which can limit the visibility and popularity of women's judo. The IJF would need to collaborate closely with media partners to mitigate this challenge.

- **Ensuring Consistent Standards Worldwide**: Implementing and monitoring gender-equal policies across all IJF-sanctioned events globally requires significant oversight and resources. Variability in regional resources and infrastructure could create inconsistencies in how these policies are upheld, potentially affecting their effectiveness and credibility.

Through these initiatives, the IJF sets a strong example for gender equality in sports, although achieving lasting change requires navigating financial, cultural and operational challenges. By addressing these issues proactively, the IJF can continue to make meaningful strides in promoting inclusivity and equality across the global judo community.

Conclusion

In conclusion, the evolution of Olympic judo competition management from 1964 until today showcases a remarkable journey of adaptation, innovation and professionalisation. From rudimentary systems to sophisticated technology and data-driven strategies, the IJF has constantly striven to enhance client service levels, fairness, efficiency and athlete welfare. However, future success depends on the continuous refinement of competition management strategies, embracing technological innovations and maintaining a commitment to the core values of judo while catering to the evolving demands of a globalised Olympic movement. The path ahead requires a delicate balance between tradition and modernisation, ensuring that Olympic judo continues to thrive and captivate audiences worldwide for decades to come.

From its origins as a male-dominated discipline to its status as a globally inclusive sport, judo's journey reflects broader societal changes in gender equality and event management.

Efforts by the IJF and the Olympic movement have transformed judo into a model of innovation and inclusivity. However, challenges remain, particularly in achieving full gender parity across all levels of the sport. By continuing to prioritise equity, transparency and global engagement, Olympic judo can build on its rich legacy and inspire future generations.

Ultimately, the story of judo serves as a testament to the power of sport to drive cultural change and unite diverse communities under shared values of respect, discipline and mutual benefit.

Article history
Received : 16 October, 2024
Accepted : 19 December, 2024

Judo and the Media
A Personal Insight

By Vlad Marinescu

Judo is a sport that is both deeply rooted in centuries-old traditions with roots in Asia and particularly in Japan, and resolutely modern and forward-looking. This is why the International Judo Federation (IJF) places great emphasis on the values of the sport conveyed through its moral code and the principles of mutual aid and prosperity (*jita kyoei*) and better use of energy (*seiryoku zenyo*), found in the educational dimension of judo.

It is also for these same reasons that judo, particularly over the last decade, has taken a turn that places a strong marketing and promotional dimension at the centre of the *tatami*. The latter is obviously visible in the field of sport but there are many bridges between education and sport, making judo an activity appreciated from early childhood to old age. Everyone can find happiness in practising and learning through judo.

It is indeed incompatible to consider a global development of the practice without visibility and this visibility requires a presence on modern communication platforms. The first of these, the one that can be described as historical, is television. Today we must include all the social networks present on the internet.

Before 2007 and the election of President Marius Vizer at the head of the IJF, judo was present on television episodically. To simplify, this was the case mainly during the Olympic Games and on the occasion of major events such as the world championships, which took place every four years at the time, or major tournaments such as the Paris Tournament or the Kano Cup in Japan. Beyond these events, judo remained confidential and reserved for a minority of fans. If you wanted to see judo, you had to be on site to watch live in the audience.

Ongoing since 2007, a vast reflection has been conducted to determine the best way to give greater visibility to judo by offering wider access to the public. It was necessary to have a product that was both saleable and spectacular that would attract not only spectators on site but also television viewers and internet users. This approach marked the birth of the World Judo Tour, comprising a circuit organised around the World Judo Masters, grand slams, grand prix and a change to the world championship schedule, now every year. Today the World Judo Tour is made up of about twenty events per year, to which must be added international circuits for cadets and juniors, as well as veteran and kata competitions.

From an episodic visibility, judo has moved to more consistent, regular visibility, at least every month. These changes have brought a better readability of high-level competitions. Each event offers points towards world ranking, which allows the list of qualified athletes to be determined as the Olympic Games approach. Athletes and their coaches, but also the public, can follow the progress of each sporting season easily. In terms of marketing, the product is clear, simple and easy to follow.

It remained to make it attractive and professional. The IJF has invested heavily in the production of each of its tournaments. By relying on the expertise of pioneering countries in the field, such as Japan or France, massive investments have been made so that each competition delivers a very high standard, worthy of the spectacle delivered by the athletes. Today, several dozen cameras are used to ensure coverage of each event. This systematically includes super slow-motion technology and cranes for example, among other equipment and techniques.

Another crucial project was undertaken with the development of harmonised TV graphics being made available to all television networks wishing to broadcast judo. The World Judo Tour is a turnkey product, the professional quality of which is no longer in doubt. From a handful of broadcasters before 2007, more than 150 territories across the planet now have easy access to judo.

A number of other elements are also made available to the media around the world. This includes, for instance, live interviews with *judoka* as they leave the *tatami* or specific features on some of them. Everyone can therefore take an interest in the circuit according to regional or national prisms.

Author's affiliation: Director general of the International Judo Federation

The IJF has developed strong partnerships with television networks around the world, broadcasters and other major players in the promotion of the sport, reaching all four corners of the globe. Gradually, judo has emerged from its anonymity, the rights generated allowing it to offer an ever more professional approach, itself attracting more sponsors and partners in a virtuous circle of development.

In parallel with this development in the field of television, the IJF has set about promoting the World Judo Tour product and its champions more and more widely, on the internet and especially on social networks. In 2024, more than 5.5 million fans follow judo news on the internet, which places judo among the most present sports on the web.

To do this, the production of documentaries, side stories, interviews and resolutely young and dynamic content is generated internally by the IJF production teams. Recently the IJF created its own broadcast channel, the JudoTV.com platform, which broadcasts live events as well as editorial content.

To maintain the system and keep it alive, the IJF TV and media-communication department is in constant contact and interaction with the other departments of the organisation. This includes refereeing, education and the sport sector. This constant co-operation guarantees harmonious and concerted development at all levels.

Judo, as has been said, is a discipline that has both deep roots that guarantee respect for universal values (courtesy, courage, friendship, honesty, honour, modesty, respect, self-control) and a forward-looking development policy. It is by combining these two aspects that the IJF has initiated a vast communication campaign by launching a game for young people on the Minecraft platform. While having fun, participants can learn more about the values of judo and discover its history. To date, the first two episodes of the game (‘The Mystery of the Kodokan’ and ‘The Mystery of the Budokan’) have been downloaded more than 4.5 million times, while on the occasion of the Paris 2024 Games, a new episode (Journey to the Great Shiai) was launched. For judo, being present on Minecraft is an integral part of the overall marketing strategy that allows it to reach a wider audience through new, modern and fun methods of communication.

In a few years, judo has gone from a sport that could be described as marginal, intended for specialists, to a booming activity, attracting more and more spectators and viewers. It is considered resolutely modern when we observe interactions on social media. It generates an obvious sporting interest but also an interest in terms of related content in a variety of presentation styles. Modern judo is an inventor of stories, beautiful and great stories that have the capacity to attract more and more people. Who doesn't want to identify with heroes like Teddy Riner, Christa Deguchi or Shohei Ono, to name a few?

The universality of judo, which was illustrated during the Paris 2024 Olympic Games by the fact that 10 countries won gold medals in the 14 categories at stake, makes our sport a vector of social progress on the five continents. Everyone has a chance and everyone can climb the social ladder, thanks to judo.

A fundamentally humanist and modern approach, in which marketing is used to create common values, also allows the International Judo Federation to continue to develop practical philosophies and projects such as Judo for Children, Judo in Schools, Judo for Peace, Judo for Refugees, Gender Equality. There is therefore no dichotomy between sport and its dimension as a spectacle and the development of a more just and respectful society. One does not go without the other.

Article history
Received : 23 September, 2024
Accepted : 19 December, 2024

Paralympic Judo

By Emanuela Pierantozzi[1], Nicole Maussier[2]

Abstract: *The Paralympic Games (PG), which evolved from the Stoke Mandeville Games, have developed into the world's second largest multi-sport event, focusing on athletic ability rather than disability. This shift highlights the growing recognition and development of Paralympic sports, including judo. Judo is a Japanise martial art that promotes discipline, respect and personal growth. The inclusion of judo in the Paralympic programme has a significant history, with its first appearance at the Seoul Paralympic Games in 1988. The Tokyo 2020 PG and Paris 2024 PG marked significant milestones for judo, with unprecedented participation in Japan and a change in the classification system of Para judoka and consequent changes in their division in competition in France. Until the 2020 PG, Para judoka were classified into three classes based on their visual impairment, however they were fighting together, divided only by gender and weight. Some studies showed that athletes with partial vision tended to outperform athletes who were completely blind in competitive settings. Therefore, after the Tokyo 2020 PG, a new classification system, J1 and J2, was introduced to better differentiate performance levels and ensure a fairer competition. Paralympic judo competitions follow the same rules as Olympic judo, with some adjustments. The physical training guidelines for Para judo are also fundamental for Para athletes, considering their unique psycho-physical needs and the demands of the sport. Participation in sport can improve quality of life significantly for athletes with disabilities, making it a component of their training and rehabilitation programmes. Paralympic judo embodies the principles of judo's founder Jigoro Kano, who saw judo as a means of personal and social development, promoting self-discipline, respect for others and resilience..*

Keywords: *Paralympic Games, Para judo, rules, values*

The Paralympic Games and their predecessors, the Stoke Mandeville Games, grew out of the rehabilitation of spinally injured military personnel at Stoke Mandeville Hospital, UK (Brittain, 2013). Even though the Paralympic Games are rooted in a rehabilitation background, they are now the second largest elite multi-sport event in the world after the Olympic Games (Brittain, 2013), marking a shift from a focus on disability to one on athletic ability (Legg & Steadward, 2011). This transformation highlights the growing recognition and development of Paralympic sports, including judo. Paralympic sports serves a dual purpose, as highlighted by Jobling (2012): they provide a platform for elite competitions, allowing athletes with disabilities to showcase their skills and athletic excellence on a global stage; they act, at the same time, as powerful rehabilitation tools, helping individuals rebuild their lives and integrate with competitive sports. This dual role promotes inclusiveness and highlights the potential of people with disabilities, inspiring broader societal change, challenging stereotypes. The following sections aim to give an overall view of the topic and have been divided as follows: A Brief History of Para Judo, Classification System, Competition and Qualification Rules, Training Recommendations, Psychological and Social Benefits, Jigoro Kano's Values and a short description about Para Judo in Italy.

A Brief History of Para Judo

Judo, in addition to being a martial art, is a means of physical and mental education that promotes discipline, respect and personal growth (Ciaccioni et al., 2024; Garbeloto et al., 2023). The inclusion of judo in the Paralympic programme has a significant history and represents a fundamental step in the path of openness and inclusion of the sport at a global level. Para judo, the adapted discipline of judo for athletes with disabilities, underwent significant evolution between 1960 and 1988, linked to both the development of judo as an Olympic sport and its growing inclusion in the Paralympic movement. Between 1960 and 1988, Para judo evolved from an embryonic stage, with localised initiatives and small tournaments, to an internationally recognised discipline, gaining its first entry into the Paralympic context. This growth was driven by rule adaptations, the commitment of federations and the enthusiasm of athletes and coaches (Winnick, 2011).

Paralympic judo was officially introduced at the Seoul Paralympic Games in 1988, where only male athletes competed, with a total of 33 athletes from 9 countries, for 6 gold medals events (Strielkowski & Shishkin, 2017). In this edition, blind and visually impaired athletes (who until Tokyo 2020 fought together, without distinctions between visual disabilities), had the opportunity to compete accor-

Authors' affiliations:
1 - Department of Neuroscience, Rehabilitation, Ophthalmology, Genetics, Maternal and Child health, University of Genoa (Italy)
2 - Department of Sport, Health and Human Sciences, University "Foro Italico", Rome (Italy)

ding to rules similar to those of Olympic judo, with some modifications to adapt the competition to their needs. The success of the inclusion of judo in the Paralympics did not stop at men and in 2004, at the Athens PG, women also had the opportunity to participate in Paralympic judo competitions, for the first time, marking a milestone in the expansion and inclusiveness of the discipline. In Greece, 118 athletes (83 men and 35 women) from 30 different countries participated in the PG, with 13 gold medal events, (Strielkowski & Shishkin, 2017), devided in 13 weight categories (7 males and 6 females).

During the years judo has grown steadily in popularity and prestige. In fact, the Tokyo 2020 Paralympics, postponed to 2021 due to the covid-19 pandemic, marked another significant milestone for Para judo. In its homeland of Japan, the discipline saw unprecedented participation with 41 countries, 136 athletes (80 men and 56 women) involved. At the Paris 2024 Paralympic Games, approximately 4,400 athletes from 185 National Paralympic Committees participated, competing in 23 sports, including judo. For the first time in judo, athletes were divided not only by weight, but also by two disability classes (J1 and J2). Across 549 medal events, judo was present in 16, with a total of 148 *judoka* participating (62 men, 56 women and 30 athletes with no gender distinctions) (EJU, 2024).

Classification System

The classification system for the Paralympic judo athletes is designed to ensure a fair competition by grouping the athletes based on the impact of their disabilities on performance. This system is supported by taxonomic classification principles and aims to provide a method standardised to assess the functional skills of the athletes. The classification process provides a combination of medical and functional ratings to determine the entity from the disability of an athlete and his/her effect on sport performances (Tweedy, 2002).

The classification system in Paralympic sports, including judo, is influenced by the framework from the International Classification of Functioning, Disability and Health (ICF), wich provides a basis for understanding the relationship between health conditions and functional abilities, which is essential to develop a unified classification system (Tweedy, 2002).

At the beginning, until Tokyo 2020, the Para judo classification system categorised athletes into three classes based on their visual impairment (B1 for totally blind athletes, B2 for those with severe vision loss and B3 for athletes with moderate vision loss) (Mashkovskiy et al., 2016). Studies have shown that athletes with partial vision (B2 and B3) tend to outperform totally blind athletes (B1) in competitive settings, for instance, the odds of winning a medal are significantly lower for B1 athletes compared to their partially sighted counterparts (Kons et al., 2019; K. Krabben et al., 2021; K. J. Krabben et al., 2019; Mashkovskiy et al., 2016).

The new classification system introduced after the Tokyo 2021 Paralympic Games, groups athletes into two classes, J1 and J2, to differentiate performance levels better and ensure fair competition. In their study on Match-Outcome Performance at the Tokyo 2020 Paralympic Games, Kons et al. (2024), through a simulated analysis, provided evidence that the new classification based on visual acuity as a primary test seemed adequate to classify Para judo athletes, since it was found that groups with different degrees of visual impairment presented different variability in performance during competitions. The key point is that the groups (J1 and J2) compete separately, unlike the previous competitive system and classification (Kons et al., 2024).

Competition and Qualification Rules

Paralympic judo competitions, in general, follow the same rules as Olympic judo. There are only a few adaptations such as beginning the combat with a grip in place, no penalties for blind *judoka* for stepping out of the contest area and being guided onto the *tatami* by a referee at the beginning of a contest. The International Blind Sports Federation (IBSA) is the governing body for Para judo which determines the refereeing rules.

In J1 competitions (IBSA, 2022), each athlete is accompanied to and from the *tatami* by an official escort. At the beginning of a contest, the central referee (CR) will take (and bring back at the end) the athletes from the edge of the *tatami* to the centre of the fighting area, positioning them one metre apart, facing each other for the initial bow ("*Rei*"). After the *rei*, the athletes are approached by the CR who, with vocal commands, orders them to assume neutral grips in a natural-neutral position, before the "*Hajime*." Each time the competitive action is interrupted with "Mate," for example when the *judoka* completely lose their grips, the CR must recover both athletes, beginning with the more visually impaired competitor, reorientating them each time towards *joseki*. At the conclusion of the competition, the athletes are repositioned one metre apart and the CR will raise his/her outstretched arm and open palm towards the winner, simultaneously announcing the colour of his/her judogi. If an athlete is also deaf, the CR will assist him/her in the *rei*, and in the communication of "*Hajime*" and *"Mate"* and with scores and penalties through pre-established contact. For J2 athletes, all rules are the same as above but there is no need to use an escort or assistant (IBSA, 2022).

The weight categories of Paralympic judo are the same for the two categories J1 and J2, four male (-60 kg, -73 kg, -90 kg, +90 kg) and four female (-48 kg, -57 kg, -70 kg, +70 kg), for a total of 16 gold medals per Paralympic edition.

The rules for qualifying for the Paralympics, in general, are similar to those for qualifying for the Olympics. For Paris 2024, for an athlete to be eligible to compete, they must (International Paralympic Committe, 2024): be born

before 1st January 2010, so be at least 14 years old; have competed in at least one IBSA international competition providing Paralympic ranking points between 1st September 2022 and 24th June 2024; be internationally classified in an eligible sport class with a sport class status of (i) confirmed; or (ii) reviewed with a fixed review date of 2025 or later.

Training Recommendations

Adaptations for athletes competing in Paralympic judo require a multifaceted approach, considering the unique physical demands of the sport and the specific needs of athletes with disabilities. From the point of view of technical-tactical teaching and training, adaptations are based on the specific needs of the athlete and training must be individualised. Often the coach must work one-to-one with the athlete, to effectively communicate the teaching or training instructions (IBSA - IJF, 2017). The communication between coach and athlete requires precise and concise spoken language, often additional contact with various parts of the body, to make tensions felt and/or guide movement and sometimes sounds to orientate the athlete in space (IBSA - IJF, 2017). In fact some studies have shown that in contact sports, such as judo and wrestling, kinaesthetic information is considered equally or more important than vision (and other senses), making those sports par-ticularly suitable for individuals with vision impairment (Kuznetsova & Barabanshchikova, 2005; Starosta, 2013).

Kuznetsova et al. (2005), on the effects of self-regulation techniques on human functional states, have also highlighted the importance of the moderating role of the dominant sensory modality. Kinesthetic sense and awareness in combat is therefore essential for structures, training and developing the the feeling of the opponent" (Starosta, 2013). The key elements of Paralympic judo are balance, touch, proprioception and combative instinct, all of which are highly developed qualities possessed by athletes with visual impairment (Monteiro et al., 2022) .

It is important that coaches supervise athletes during their training activities, especially in standing *randori*, to help them stay at a safe distance from other training partners and not go off the *tatami* (IBSA - IJF, 2017).

The attack system can be considered as a technical-tactical passport of judoka, allowing direct attacks, feints and combinations to put the opponent in a situation of uncertainty. (Calmet et al., 2016). Calmet et al., in their study case (2016), showed that the attack directions of a sample of Para *judoka* (PJ) were comparable with a sample of Olympic *judoka* (OJ) (PJ 5 ± 1.5 vs OJ 6 ± 1.2), but the areas of effectiveness seemed smaller (PJ1.8 ± 0.8 vs OJ 2.7 ± 0.7). The longer combat times and the number of direct attacks allows consideration of specific physical training for the Para *judoka* (Calmet et al., 2016).

Kons et al. (2024) analysed match-outcome performance and competitive success in male and female Para judo athletes with visual impairments who competed in the Tokyo 2020 PG, considering, in the different visual sport classes, the relationship between the win ratio and variability in performance index. The performance index was verified according to the old classification (B1,B2,B3) and simulating the new (J1 and J2) classification systems. They found that the Para athletes with most visual impairment (B1 and J1) presented less variability in performance compared to the partially sighted categories (B2–B3 and J2). Furthermore, medallists presented a better variability in the performance index compared with non-medallists, regardless of the classification. In the Kons et al. study (2024), it was also identified that variability in performance and match outcome differed between genders with a higher variability in groundwork for women and more penalties per match for men.

The time structure of Para judo bouts in competition has much longer pauses than in Olympic judo, which changes the effort-pause ratio, meaning that competition-specific conditioning must take this into account to provide adequate training (Gutiérrez-Santiago et al., 2022). The Paralympic contests present longer isometric action and may rely more on neuromuscular capacity than on anaerobic capacity (Loturco et al., 2017). Power performance assessments can provide information on the evolution of Paralympic *judoka* and training in the optimal power zone appears to be an effective method to improve upper and lower limb power in these athletes (Loturco et al., 2017). Furthermore strength and conditioning are essential for judo athletes to improve performance but also to prevent injuries (Amtmann & Cotton, 2005). Fagher et al.,2019 interviewed 45 Paralympic *judoka* and found a high prevalence of mainly traumatic and severe sports-related injuries among athletes, where the majority of injuries occurred during judo training and in the standing technique (*tachi-waza*) phases. The authors suggested a first step towards prevention could be to minimise the time in *tachi-waza* during training (Fagher et al., 2019).

Joint mobility training is useful in improving muscle flexibility and range of motion, which is essential for injury prevention and for the effectiveness of some judo techniques, especially in ground fighting. A structured programme can lead to significant gains in flexibility (Saraiva et al., 2014).

Beyond the different training education methods for Para judo coaches and referees of the different national federations, at international level the International Judo Federation (IJF) and the International Blind Sport Federation (IBSA) signed a Memorandum of Understanding in 2014 to reinforce the co-operation between the two organisations at a higher level. The agreement aims to build regular dialogue between the IJF and IBSA, to disseminate judo worldwide, to synchronise and co-ordinate the preparation of athletes, the education of trainers and referees, develop a common communication and media appearance, and to enable the joint organisation of competitions and events (International Paralympic Committee, 2014).

IBSA has been the only official representative of visually impaired judo since 1981. The IJF, as the sole legal representative of judo worldwide, aims to spread judo worldwide in terms of education, promotion, training of professionals, organising annual competitions (International Paralympic Committee, n.d.). For this purpose, seminars and video tutorials have also been produced and are being produced to help coaches to introduce themselves to this field correctly and understand the specific needs of these judoka. The specific needs addressed, not only concern the adaptations to be adopted in the teaching and training methodologies of judo and physical exercises, but there are also guidelines for the actions to be taken to assist these athletes before, during and after training sessions, for their safety, having specific needs to be understood and respected, to best welcome these athletes into the dojo.

Psychological and Social Benefit

Participation in sport, including judo, offers psychological benefits and social benefits, promoting self-discipline, competitive spirit and social integration. These wait is particularly useful for athletes with disabilities, helping their general wellbeing and rehabilitation process (Chawla, 1994). Although the attention is revolt to the physical adaptations, the psychological and social dimensions of training are equally important. Participation in sport can improve quality of the life significantly for athletes with disabilities, making it an essential component of their training and rehabilitation programmes.

Jigoro Kano Values

The presence of judo at the Paralympic Games holds a particularly significant role, not only for its sporting importance but also for the profound values that accompany it, in line with the philosophy of its founder, Jigoro Kano (Kano, 2013 ; Magnanini, 2013). Analysing Paralympic judo through Kano's principles allows us to understand how this discipline is not merely a sport but also a powerful educational and inclusive tool (Kano, 2013).

Jigoro Kano, the founder of Judo in 1882, conceived of this martial art not only as a form of combat but especially as a means of personal and social development. Kano's central principle was *seiryoku zenyo*, which translates to 'maximum efficient use of energy, and *jita kyoei*, meaning 'mutual prosperity and mutual benefit.' These concepts reflect the idea that judo is not just a struggle against an opponent but a form of co-operation and mutual growth. Kano saw judo as a way to develop individuals physically, mentally and morally, promoting self-discipline, respect for others and resilience. The ultimate goal was to improve society through the education of the individual, an aspect that finds a clear application in Paralympic judo, where the commitment to equality and inclusion is central. Paralympic judo embodies Kano's principles perfectly. *Seiryoku zenyo* is reflected in the ability to make the best use of one's energy, despite physical limitations. *Jita kyoei*, on the other hand, is represented by the judo community, which promotes mutual respect and equality among athletes of all abilities. This mutual prosperity concerns not only the competition outcome but also the personal and moral growth that the Paralympic sporting experience offers. Paralympic judo not only promotes athletic excellence but also plays a key role in cultural change towards inclusion. By recognising the abilities of disabled athletes, the sport helps to challenge stereotypes about disability. In this sense, the Paralympic judo event is not merely a stage to showcase athletes' talents but also a practical expression of Jigoro Kano's values, demonstrating how judo can be a useful tool for positive social change toward disability.

Judo in the Paralympics has come a long way since its debut in 1988, becoming one of the most representative sports in terms of inclusion and equality. Through judo, visually impaired athletes can compete at the highest level and showcase their strength, both physical and mental. The future of Paralympic judo looks bright and with each edition of the Paralympic Games, the sport continues to evolve, inspire and promote fundamental values such as respect and inclusion.

A Brief Description of Para Judo in Italy

The Italian Paralympic Movement participated in Paris 2024, the 17th edition of the Paralympics Games, with many more athletes than ever (CIP, 2024): 141 athletes (70 men and 71 women) engaged in 17 disciplines, including judo, with 4 qualified athletes (double the number of Para *judoka* in Tokyo 2020). The *judoka* registered with the Italian Federation of Paralympic Sports for the Visually Impaired and Blind (FISPIC) which, under the aegis of the Italian Paralympic Committee (CIP) manages the blind and visually impaired in Italy, are approximately 150, of which approximately 70 are currently participating in competitions.

The Para judo movement in Italy is growing rapidly, thanks to the great effort of the experts in the sector (managers, coaches, referees and the athletes themselves). This chapter was written thanks to the information obtained through an interview with the Sport Director (SD) of the Italian Para judo team, Silvio Tavoletta, who managed the Italian team both for the Tokyo and Paris Paralympic Games. The SD underlines three fundamental aspects for the current and future growth of Para judo (quantity and quality): involvement of judo coaches (recruitment and education), collaboration with the national judo federation (organisation of events, training, competitions and education) and economic resources (to allow all this).

The SD emphasises that to become a judo coach of a Para athlete, it is not enough to be educated from the point of view of the adapted teaching and training methodology, with all the necessary adjustment to apply individually,

but above all a great empathic quality and availability is needed. The SD also highlights the skills of a coach who must include both the technical aspects and the ability to understand the needs related to the type of disability. When, for example, the team goes on a trip and arrives in a new environment, the athletes must be helped to learn to orientate themselves in new places (for example: their hotel room, restaurant, toilets, training room etc). Specific education therefore becomes a fundamental and essential pillar for achieving objectives. In this direction, the Italian Federation of Judo, Wrestling, Karate and Martial Arts (FIJLKAM) has organised, in collaboration with FISPIC, an education course on visually impaired and blind athletes, and a course in collaboration with the Italian Federation of Paralympic Sports of Intellectual Relational (FISDIR) to educate coaches on intellectual relational disabilities, now in its third year with the participation of 386 technical teachers (about 13% of total) to date. With a view to providing concrete support to families, the register of technical teachers specialised in intellectual relational disabilities has been added to the federal website, divided by region and discipline with their respective contacts. Furthermore, on 8th-9th April 2024, the first international conference on adapted judo (intellectual relational disabilities) was organised by FIJLKAM in collaboration with the European Judo Union (EJU), with a view to providing a broader training offer; it is important to have maximum availability towards these athletes. The SD in fact continues their interview by reporting that for a visually impaired or blind athlete, at the beginning the work is often one-to-one (coach-athlete) because there is the need to know each other deeply, to better understand the needs of the athlete, gain their trust and find the most effective communication. Speaking on specific training adaptations, the SD emphasises that it is important to build valid and effective exercise routines for each phase of training and competition, to help athletes orientate themselves, not only in space but also in time. The SD highlighted the diversity of adaptations needed between blind and visually impaired athletes. According to the expert, blind athletes have very different motor patterns and the fact that competitive activity is shared with visually impaired athletes creates teamwork that can be, if well used, very profitable: the visually impaired help the blind in certain aspects related to space management, while the blind train their teammates in different movements in terms of strength and possible actions. The Italian expert concluded the interview by saying that his ambition would be to create a consistent group of Para athletes on whom one can work for longer periods than the current ones and for several years, to make the real leap in quality in terms of expression of competitive Para judo. Today, when the athlete is called up to the national team, he/she is subjected to intensive and higher quality training for a few days and a few times a year, too few to meet all his/her specific needs. This investment would also allow the subsequent growth of the Para judo movement in Italy, because once these athletes have been trained, these same athletes, during and after their competitive career, would be the trainers of the coaches and referees of the Para *judoka* . The SD wanted to say at the end of the interview, on behalf of the entire technical staff of Italian Para Judo, that it is an honour and a privilege to have been able to work and to be able to work with such special men and women. These people have truly extraordinary gifts, that only those like them, who share these training and competitive experiences, can live with them in certain contexts and thus understand these incredible abilities. The SD concluded by saying, "It would be useful to raise awareness in the entire judo community in this sense."

Conclusion

Since its debut in 1988, judo in the Paralympics has made significant strides, becoming one of the most representative sports of inclusion and equality. Through judo, visually impaired and blind athletes can compete at the highest level, showcasing their strength, both physically and mentally. Paralympic judo combines the universal principles of martial arts, such as respect, discipline and perseverance, with the personal and collective challenge of overcoming barriers related to disability. Through judo, athletes with visual limitations or blindness not only demonstrate their physical capabilities but also exhibit extraordinary mental strength, highlighting an essential truth: disability is not an insurmountable limit but a condition that can be addressed and, in many cases, overcome.

Each edition of the Paralympics strengthens judo's role as a symbol of resilience and determination. Paralympic athletes embody an inspirational model for all, showing that true sportsmanship lies not only in victory but also in the ability to face challenges with courage and dignity. The growth of Paralympic judo reflects a growing global recognition of the importance of creating opportunities for sporting participation for people with disabilities, promoting a more just and inclusive society.

As the sport continues to gain visibility, its practices and techniques are further refined, paving the way for an increasingly broad and diverse participation of athletes. This path of evolution involves not only the sporting aspect but also the social and cultural role of judo, which continues to challenge perceptions of disability and inspire new generations of athletes and spectators.

In a global shift towards inclusion, Paralympic judo stands as one of the highest expressions of equality in sport. It reflects the principle that every individual, regardless of physical abilities, can achieve excellence through hard work, determination and collaboration. The Paralympics is not just a stage for athletic performance but also a movement that challenges social barriers and promotes inclusion.

In summary, Paralympic Judo is destined to grow, evolve and thrive, continuing to serve as a concrete example of the fundamental values of sport: respect, inclusion and resilience.

References

Amtmann, J., & Cotton, A. (2005). Strength and conditioning for judo. *Strength and Conditioning Journal, 27*(2), 26–31. https://doi.org/10.1519/00126548-200504000-00005

Brittain, I. (2013). The Paralympic Games: from a rehabilitation exercise to elite sport (and back again?). *Https://Doi.Org/10.12968/Ijtr.2012.19.9.526, 19*(9), 526–530. https://doi.org/10.12968/IJTR.2012.19.9.526

Calmet, M., Delonca, J., Landes, A., Lecarderonnel, J., Mellado, J., Roy, R., Rychter, A., Rychter, M., & Omegane, T. (2016). *Etude des systèmes d'attaques des judokas Paralympiques*. https://hal.science/hal-02455265

Chawla, J. C. (1994). ABC of sports medicine. Sport for people with disability. *BMJ : British Medical Journal, 308*(6942), 1500. https://doi.org/10.1136/BMJ.308.6942.1500

Ciaccioni, S., Perazzetti, A., Magnanini, A., Kozsla, T., Capranica, L., & Doupona, M. (2024). Intergenerational Judo: Synthesising Evidence- and Eminence-Based Knowledge on Judo across Ages. *Sports, 12*(7), 177–177. https://doi.org/10.3390/SPORTS12070177

CIP. (n.d.). *Comitato Italiano Paralimpico - Giochi Paralimpici Parigi 2024: squadra italiana da record, 141 atleti in 17 discipline*. Retrieved November 23, 2024, from https://www.comitatoparalimpico.it/item/giochi-paralimpici-parigi-2024-squadra-italiana-da-record-141-atleti-in-17-discipline.html

EJU. (2024). *ANOTHER THREE OPTIONS*. https://www.eju.net/another-three-options/

Fagher, K., Hassan Ahmed, O., Pernheim, N., & Varkey, E. (2019). Prevalence of sports-related injuries in paralympic judo: An exploratory study. *Journal of Science and Medicine in Sport, 22*(8), 902–906. https://doi.org/10.1016/J.JSAMS.2019.03.005

Garbeloto, F., Miarka, B., Guimarães, E., Gomes, F. R. F., Tagusari, F. I., & Tani, G. (2023). A New Developmental Approach for Judo Focusing on Health, Physical, Motor, and Educational Attributes. *International Journal of Environmental Research and Public Health, 20*(3), 2260–2260. https://doi.org/10.3390/IJERPH20032260

Gutiérrez-Santiago, A., Gutiérrez-Santiago, J. A., & Prieto-Lage, I. (2022). Sex and weight category differences in the temporal combat structure of judokas with visual impairment. *International Journal of Performance Analysis in Sport, 22*(2), 225–249. https://doi.org/10.1080/24748668.2022.2039089

IBSA. (2022). *Rules - Judo*. https://ibsajudo.sport/about-judo/rules-and-downloads/

IBSA - IJF. (n.d.). *Blind Judo coach education film - YouTube*. Retrieved November 23, 2024, from https://www.youtube.com/watch?v=2gOzQKRW8fs

International Paralympic Committe. (2024). *PARIS 2024 PARALYMPIC GAMES- QUALIFICATION REGULATIONS*. https://www.paralympic.org/sites/default/files/2024-06/2024_06_24%20Paris%20QR_v1.9.3.pdf

International Paralympic Committee. (n.d.). *Memorandum of Understanding between the IJF and IBSA*. Retrieved November 23, 2024, from https://www.paralympic.org/news/memorandum-understanding-between-ijf-and-ibsa

Kons, R. L., França Conceição Dos Santos, D., Carvalho, R., Ferreira da Silva, A., Lopes-Silva, J. P., Franchini, E., & Detanico, D. (2024). Variability Analysis in Judo Para Athletes With Visual Impairments: Match-Outcome Performance in the Tokyo 2020 Paralympic Games With Evidence From the New Classification System. *Adapted Physical Activity Quarterly, 41*(3), 365–381. https://doi.org/10.1123/APAQ.2023-0119

Kons, R. L., Krabben, K., Mann, D. L., Fischer, G., & Detanico, D. (2019). The Effect of Vision Impairment on Competitive and Technical-Tactical Performance in Judo: Is the Present System Legitimate? *Adapted Physical Activity Quarterly, 36*(3), 388–398. https://doi.org/10.1123/APAQ.2018-0181

Krabben, K. J., Ravensbergen, R. H. J. C., Nakamoto, H., & Mann, D. L. (2019). The development of evidence-based classification of vision impairment in Judo: A Delphi study. *Frontiers in Psychology, 10*(FEB), 426604. https://doi.org/10.3389/FPSYG.2019.00098/BIBTEX

Krabben, K., Mashkovskiy, E., Ravensbergen, H. J. C., & Mann, D. L. (2021). May the best-sighted win? The relationship between visual function and performance in Para judo. *Journal of Sports Sciences, 39*(sup1), 188–197. https://doi.org/10.1080/02640414.2020.1851899

Kuznetsova, A. S., & Barabanshchikova, V. V. (2005). The effects of self-regulation techniques on human functional states: The moderating role of dominant sensory modality. *Review of Psychology, 12*(1), 45–53.

Legg, D., & Steadward, R. (2011). The Paralympic Games and 60 years of change (1948–2008): unification and restructuring from a disability and medical model to sport-based competition. *Sport in Society, 14*(9), 1099–1115. https://doi.org/10.1080/17430437.2011.614767

Loturco, I., Pereira, L. A., Winckler, C., Bragança, J. R., Da Fonseca, R. A., Kobal, R., Cal Abad, C. C., Kitamura, K., Nakamura, F. Y., & Franchini, E. (2017). Performance Changes of Elite Paralympic Judo Athletes During a Paralympic Games Cycle: A Case Study with the Brazilian National Team. *Journal of Human Kinetics, 60*(1), 217. https://doi.org/10.1515/HUKIN-2017-0111

Mashkovskiy, E., Magomedova, A., Achkasov, E., Predatko, K., & Ryzhkov, P. (2016). O-19 Degree of vision impairment can influence fight outcomes in the paralympic judo. *British Journal of Sports Medicine, 50*, A10.2-A11. https://doi.org/10.1136/BJSPORTS-2016-097120.19

Monteiro, L., Lanham, S. N., Langford, E. L., & Abel, M. G. (2022). Comparison of Key Performance Indicators Between Portuguese Olympic and Paralympic Judo Athletes. . *The Arts and Science of Judo. IJF Journal, 2*(2), 22-30.

Saraiva, A. R., Reis, V. M., Costa, P. B., Bentes, C. M., Costae Silva, G. V., & Novaes, J. S. (2014). Chronic effects of different resistance training exercise orders on flexibility in elite judo athletes. *Journal of Human Kinetics, 40*(1), 129–137. https://doi.org/10.2478/HUKIN-2014-0015

Starosta, W. (2013). Kinesthetic Sense and Awareness in Wrestling: The Structure, Conditions and Development of an "Opponent's Feeling." *International Journal of Wrestling Science, 3*(2), 29–50. https://doi.org/10.1080/21615667.2013.10878987

Strielkowski, W., & Shishkin, A. (2017). Paralympic judo: Is there evidence for match rigging among athletes with disabilities? *Annals of Applied Sport Science, 5*(3), 63–68. https://doi.org/10.29252/ACADPUB.AASSJOURNAL.5.3.63

Tweedy, S. M. (2002). Taxonomic Theory and the ICF: Foundations for a Unified Disability Athletics Classification. *Adapted Physical Activity Quarterly, 19*(2), 220–237. https://doi.org/10.1123/APAQ.19.2.220

Winnick, J. P. . (2011). *Adapted physical education and sport*. 637. https://books.google.com/books/about/Adapted_Physical_Education_and_Sport.html?hl=it&id=6_aY-HejIEgC

Article history
Received : 23 September, 2024
Accepted : 19 December, 2024

A Three-Pillar Approach to Judo Practice for Lifespan Development: Leveraging Olympic Glory Through Shared Ideals

By David Fukuda and David Matsumoto

Abstract: *Kodokan Judo was originally proposed as a comprehensive system for character building using a three-pillar approach focused on the physical, moral and intellectual domains. The global nature of judo from its beginning, as well as clear intersectionality with the Olympic movement, have provided a platform for its broad dissemination. Correspondingly, much research has been conducted to document the effects of judo practice. Given the extensive existing support for the physical domain, the purpose of this paper is to: 1) review existing empirical research examining the intellectual and moral pillars across the lifespan 2) suggest how balancing the three pillars supports a framework for sustainable judo practice, personal development and contributions to society. Fifty-four original research studies with a focus on non-competitive settings and outcome variables beyond those related to physical fitness were identified. When applicable, the results were categorised as 'ji,' corresponding to the 'self,' and/or 'ta,' corresponding to 'others,' in the principle of jita kyoei (translated as mutual prosperity for the self and others). Existing literature demonstrates that judo participation has been associated with numerous positive physical and psychosocial outcomes for people of all ages. In order to reinforce the potential for personal and societal benefits of judo participation, a proposed framework is presented based on Japanese terms for practice (renshuu, keiko and shugyou). With its global popularity, including inclusion in the Olympic Games, judo has the potential to extend the three-pillar approach to a much larger population, including those of working age, older adults and those with varying abilities and with much greater benefits to the self and societies. Further evaluation of ta-related outcomes focused on benefits to others or for society may be needed to better establish the extension of judo practice beyond the individual.*

Keywords: *judo participation, psychosocial, self-development, societal benefit, aging, physical education*

The Olympic Games are held on a quadrennial basis and possess the ability to capture the world's attention through the lens of elite athletic achievement while offering common ground among people from different cultures, religious beliefs and economic statuses. With its impressive number of delegate nations and relatively large proportion of medals available, the Olympic judo competition serves as a showcase through which its foundational ideals may be shared and potentially used to shape society. For example, using press conferences from judo medallists at Tokyo 2020, Dubinsky (2024) identified themes related to universal values (e.g. life lessons, respect, physical/mental strength and diversity) and the individual and collective (e.g. my journey, supportive community and team effort) that contextualise their Olympic experiences with the practice of judo beyond podium-worthy performances. As such, individual stories of competitive glory and the paths to success provide us with a glimpse into how engaging in judo affects the lives of its practitioners and how its practitioners can impact their communities (Perrotta, 2016).

Jigoro Kano developed Kodokan Judo as a comprehensive system focused on physical education combined with moral and intellectual development to improve the lives of its practitioners (Matsumoto, 1996). Through this three-pillar approach (*aka saniku shugi* – 三育主義 – or the physical, moral and intellectual domains) of character building, judo practitioners would be prepared as productive members of society and citizens of the world (Maekawa & Hasegawa, 1963). Two core principles provide the foundation for judo practice: *seiryoku zenyo* (精力善用), which is often translated as 'maximum efficient use of energy' and *jita kyoei* (自他共栄), which is translated as 'mutual prosperity for the self and others' (Kanō & Bennett, 2009). Of note, *seiryoku zenyo* is a shortened version of the phrase '*seiryoku saizen katsuyo*' (精力最善活用), which specifies that this principle be applied for the greater good (Kanō & Bennett, 2009), further emphasising that the benefits of judo were intended to reach beyond the individual practitioner (Although "maximum efficient use of energy" is the typical way in which *seiryoku-zenyo* has been translated, we contend that this translation does not encompass Kano's original intent of those words. A more appropriate translation would be something like, "the use of one's spiritual energy for a greater good.") The overlap, or perhaps expansion, of these ideals with those propagated by the Olympic Movement, namely the 'harmonised development of mind and body' focused on the values of excellence, respect and friendship, was probably intentional as Kano appeared to have had global intentions for judo from the beginning (The Olympic Movement and Kano Jigoro | JOC - Japanese Olympic Committee, n.d.; What Are the Olympic Values?, n.d.). Evidence of this idea is supported by the large number of his early students who left Japan and went on to promulgate the development of judo practice and culture on nearly every continent (Falatovics & Szikora, 2023; Sato, 2013; Solmoe, 2024).

Since originating in Japan in the 1880's, judo has spread throughout world, initially as a novel means of physical education or self-defence training for the military and

police as well as a cultural product and eventually as an Olympic sport beginning in 1964, marked by the triumph of Anton Geesink from the Netherlands in the open weight category (Brousse & Matsumoto, 1999). The modernisation and sportification of judo is likely to have begun shortly after its founding (notably, Dr Kano was invited to be Japan's first representative on the International Olympic Committee in 1909) and this process has continued to the present day (Brousse & Matsumoto, 1999; Takahashi et al., 2005; Villamón et al., 2004). Also note the importance competition played in the acceptance of judo in the matches for the police academies that were highlighted in the movie Sugata Sanshiro.

From the end of World War II, the popularity of judo grew immensely and 122 different countries were represented by athletes at the 2024 Olympic Games (International Judo Federation, n.d.-b). Subsequently, judo practice as a means of physical fitness and training for competition has been well-documented (Drid et al., 2021; Franchini et al., 2014; Fukuda et al., 2011). This evolution of judo has been associated with questions about its overall goals; presciently, Kano had initial concerns that judo, in the narrow sense, would be viewed simply as a means of self-defence or physical education, while judo, in the wide sense, was intended to extend beyond the dojo or competition venue to include moral and intellectual endeavors (Maekawa & Hasegawa, 1963).

Interestingly, modern physical education has been established primarily for children and adolescents within school settings, which currently pose limitations to lifelong engagement in physical fitness activities due to a clear transition to vocational-related endeavors upon graduation. Furthermore, recent trends show that physical education in these settings is being de-emphasised due to resource limitations and to allow for greater focus on other academic curricula (Lounsbery et al., 2011). This de-emphasis has the potential to minimise physical literacy leading to long-term deficits in physical activity and health (Dlugonski et al., 2022). From a judo philosophical standpoint, without the physical foundation, the development of the moral and intellectual pillars would be hindered. This notion is also consistent with the importance of physical manipulation of the environment necessary for cognitive growth, an idea first posited by Jean Piaget, often considered the founder of most modern theories of cognitive development. Consequently, the International Judo Federation has implemented the Judo in Schools programme to promote the integration of judo practice within educational settings (International Judo Federation, n.d.-a), which may allow for a broader application of the three-pillar approach.

The evolution and continued sportification of judo, combined with the decoupling of physical development from intellectual and moral education in most educational systems around the world, raises questions concerning whether judo practice actually produces positive outcomes in the intellectual and moral domains of development. While most judo practitioners can quickly point to anecdotal evidence and the mottoes of judo to support such claims, sufficient research has been conducted that can address such claims more rigorously. The purpose of this paper, therefore, is to: 1) review existing empirical research that has examined the potential benefits of judo practice on the intellectual and moral pillars of education across the lifespan, and given the findings from the literature review, 2) suggest how an appropriate balance of the three judo pillars can be used to develop a framework for sustainable judo practice, personal development and contributions to society.

Review of Empirical Literature Examining Potential Benefits of Judo on the Intellectual and Moral Pillars across the Lifespan

A review of the existing literature was conducted to identify primary research (available through December 2024) with an emphasis on judo participants outside of competitive settings and the evaluation of outcome variables beyond those related to physical fitness. The results of this review included a total of 54 original research studies published in peer-reviewed journals. Seventeen of the investigations were cross-sectional and/or descriptive in nature (Table 1), while 37 involved judo interventions specifically (Tables 2-4). Presented below is a review of these two bodies of studies separately. To aid in the interpretation of the literature, the authors reviewed the studies and their results and, when applicable, categorised the relevant findings as *'ji'* (自), corresponding to the 'self' in the principle of *jita kyoei* (自他共栄) and suggesting a personal benefit to the judo participant, and/or *'ta'* (他), corresponding to 'others' and suggesting a benefit that had implications for others.

Descriptive/Cross-Sectional Studies

Within the descriptive/cross-sectional studies, 10 examined children or adolescents, while seven utilised samples of adults or mixed groups of adolescents and adults. Moreover, outcomes for six of the studies that were categorised as *'ji'* (or self-orientated) focused on executive function/self-regulation, spirituality and body awareness, emotional repair/attention, quality of life/life satisfaction, and satisfaction with judo practice/wish to continue with the programme.

Positive benefits of judo practice on *'ji'* outcomes were demonstrated across both young and older adult populations. Both non-elite (n=358) and elite (n=129) judo athletes were shown to have better emotional intelligence from the Trait Meta Mood Scale 24 (TMMS-24), specifically emotional repair, defined as "how people use positive thinking to repair negative moods," than individuals who did (n=2466) and did not (n=472) meet the World Health Organisation physical activity recommendations (Acebes-Sánchez et al., 2021). The emotional attention subscale used in the study, which evaluated "how people attend to and value their fee-

Table 1. Descriptive/Cross-Sectional Judo Studies

Authors	Country	Participants	Age (years)	Judo Experience	Design	Relevant Findings	Orientation
Acebes-Sánchez et al. (2021)	Spain	2938 undergraduate students (472 inactive, 694 active without sports involvement, & 1772 active with sports involvement) & 487 judo athletes (129 elite & 358 non-elite)	students: 21.1 ± 3.5, judo: 30.2 ± 9.5	judo: ≥ 3 years of experience, active: individuals who meet World Health Organization guidelines	Descriptive, cross-sectional	Judo athletes have better emotional repair than physically active and inactive individuals, and better emotional attention compared to the physically inactive.	"ji"/self
Bocioacă & Marin (2023)	Romania	41 judo coaches	--	--	Descriptive	77% indicated support for the contribution of judo to social integration	"ta"/other
Demıral (2018)	Turkey	Parents of preschool children involved with judo (38 boys & 23 girls)	5-6	--	Descriptive		--
Guedes & Missaka (2015)	Brazil	392 youth judo athletes (229 boys & 163 girls)	range: 12-18	varied	Descriptive, cross-sectional	Friendship and achievement were the primary motivation for younger participants (≤14 years)	"ta"/other
Khitaryan et al. (2023)	Armenia	82 judo athletes split into 6-11 year old (n=52) and 12-16 year old (n=3) groups	Younger group: 9.1 ± 1.4; older group: 13.4 ± 1.1	Younger group: 2.2 ± 1.4 y; older group: 4.0 ± 2.3 y	Descriptive, cross-sectional	Differences in autonomic function, perception of bullying roles, and aggressive behavior	--
Lamarre & Nosanchuk (1999)	Canada	51 judo students from three different dojos	30.5 ± 13.0 (range: 11-63)	7.3 ± 10.4 y	Descriptive, cross-sectional	Negative association between judo rank and level of aggression after controlling for sex and age	--
Lo et al. (2019)	Hong Kong	28 secondary school students (14 judo athletes & 14 age-matched controls with no martial arts experience)	12-16	≥4 years	Descriptive, cross-sectional	Better executive function/self-regulation: set-shifting ability (assessed as the error rate during switch trials)	"ji"/self
Lockard et al. (2023)	USA	24 individuals with Autism Spectrum Disorder and/or developmental disabilities (15 males and 9 females)	10.3 ± 5.5 (range 4-23)	2 years	Descriptive	62.5% of parents agreed that judo participation had improved 'Behaviour at home', 'Eye contact', 'Behaviour at school', 'Ability to share', 'Social skills', and 'Performance in school'.	"ji"/self "ta"/other
Lotfian et al. (2011)	Iran	291 adolescent females (70 judo, 66 karate, 59 swimmers, & 96 nonathletes)	15.5 ± 1.9 (range: 11-19)	judo: 3.6 ± 2.1 y; karate: 5.4 ± 2.4 y, swimming: 5.0 ± 2.4 y	Descriptive, cross-sectional	Total anger scores: judo > swimming but no different than non-athletes; anger control: judo < swimming but no different than non-athletes	--
Matsumoto & Konno (2005)	USA	90 youth judo athletes (47 males & 41 females)	14.4 ± 1.7 (range: 11-18)	3.8 ± 4.1 y	Descriptive	Quality of life and life satisfaction greater than normative data and positively correlated with judo participation. Judo rank related to intimacy, emotional wellbeing, and life satisfaction	"ji"/self
Matsumoto et al. (2001)	Japan, Poland, and USA	Judo coaches from Japan (n=113), Poland (n=33), and USA (n=65)	44	30 y; 5th dan	Descriptive, cross-sectional	'Spiritual harmony' as a consistently top-rated value with some differences between countries based on the emphasis of competition	--

Nolte & Roux (2023)	South Africa	School administrators (n=6), school judo coaches (n=7), and professional judo coaches (n=4)	--	--	Descriptive	Interviews and focus groups identified the following themes: community, responsibility, inclusion and equality, physical development, leadership, cognitive development, enhanced participation, active, healthy lifestyle choices, and fairness.	--
Reynes & Lorant (2001)	France	150 children (57 judo students, 27 karate students, 84 judo + karate students, & 66 controls)	8	<1 y	Descriptive, cross-sectional	Similar aggression and hostility scores compared to karate athletes and other athletes but rated higher for anger	--
Sakuyama et al. (2021)	Japan	383 participants completing the Yawarachan judo-based exercise programme involving 1-hour sessions each month at a dojo along with at least 2x weekly at-home exercises	71 (range: 45-83)	8 months	Descriptive, cross-sectional	~95% reported they were satisfied and ~93% indicated they would like to continue with the programme	"ji"/self
Sterkowicz-Przybycień & Lech (2006)	Poland	Parents of youth judo (n=40) and swimming (n=30) athletes	Judo: 10.7; Swimming: 11.8	judo: 1.6 y; swimming: 2.4 y	Descriptive, cross-sectional	Positive changes in socially desirable character traits with unique benefits compared to parents of similar-aged swimmers	"ta"/other
Szabolcs et al. (2021)	Hungary	341 physically active adults (69 involved with judo, 121 involved with aikido, 75 involved with yoga, & 76 controls involved with other "Western-style" exercise)	group averages range: 26-44	judo: ~8 hours weekly, aikido: ~4.5 hours weekly, yoga: ~5.4 hours weekly, controls: ~7 hours weekly	Descriptive, cross-sectional	Higher scores for spirituality and body awareness than controls, but lower scores for mindfulness, spirituality, and self-compassion than yoga practitioners, similar scores to aikido	"ji"/self
Ziaee et al. (2012)	Iran	201 adolescent males	12.9 ± 2.1 (range: 11-19)	judo: 2.0 ± 1.5 y; karate: 4.4 ± 2.5 y, swimming: 5.2 ± 2.3 y	Descriptive, cross-sectional	Total anger scores: judo > swimming but no different than non-athletes; anger control: judo < swimming but no different than non-athletes; reactive anger: judo > swimmers but no different than controls	--

lings," was also greater for judo practitioners compared to those who were physically inactive. Additionally, Szabolcs et al. (2021) demonstrated that judo practitioners (*n*=69; ~33 years old; 22% women; ~8 hours of weekly practice) had higher scores for spirituality from the Spiritual Connection Questionnaire (SCQ-14) and body awareness from the Body Awareness Questionnaire (BAQ) than controls (*n*=76; ~27 years old; 67% women; ~7 hours of weekly practice). However, the judo group had lower scores for mindfulness and spirituality and self-compassion from the Self-Compassion Scale (SCS) compared to yoga practitioners (*n*=75; ~44 years old; 84% women; ~5.4 hours of weekly practice).

With consideration for pre-existing mobility, a cohort of older adults in Japan separated into high- (*n*=39) and low-mobility (*n*=14) groups engaged in the Yawarachan programme, which involved 1-hour sessions each month at a dojo along with a minimum of twice-weekly at-home exercises over the course of eight months (Sakuyama et al., 2021). The low-mobility group improved scores related to social and physical functions as well as the physical composite score from the Short-Form Health Survey (SF36 Ver2), while the high-mobility group only increased in the mental composite score. A larger group of participants (*N*=388) provided survey responses with ~95% reporting they were satisfied and ~93% indicating they would like to continue with the programme.

Outcomes for three of the studies were categorised as *'ta'* and provided positive results. Parents of 10-11 year olds practising judo reported positive changes in socially desirable character traits with unique benefits compared to parents of similar-aged swimmers (Sterkowicz-Przybycień & Lech, 2006), while friendship and achievement from the Participation Motivation Questionnaire (PMQ) were the primary motivation for younger (12-14 years) compared to older judo participants (14-18 years) (Guedes & Missaka,

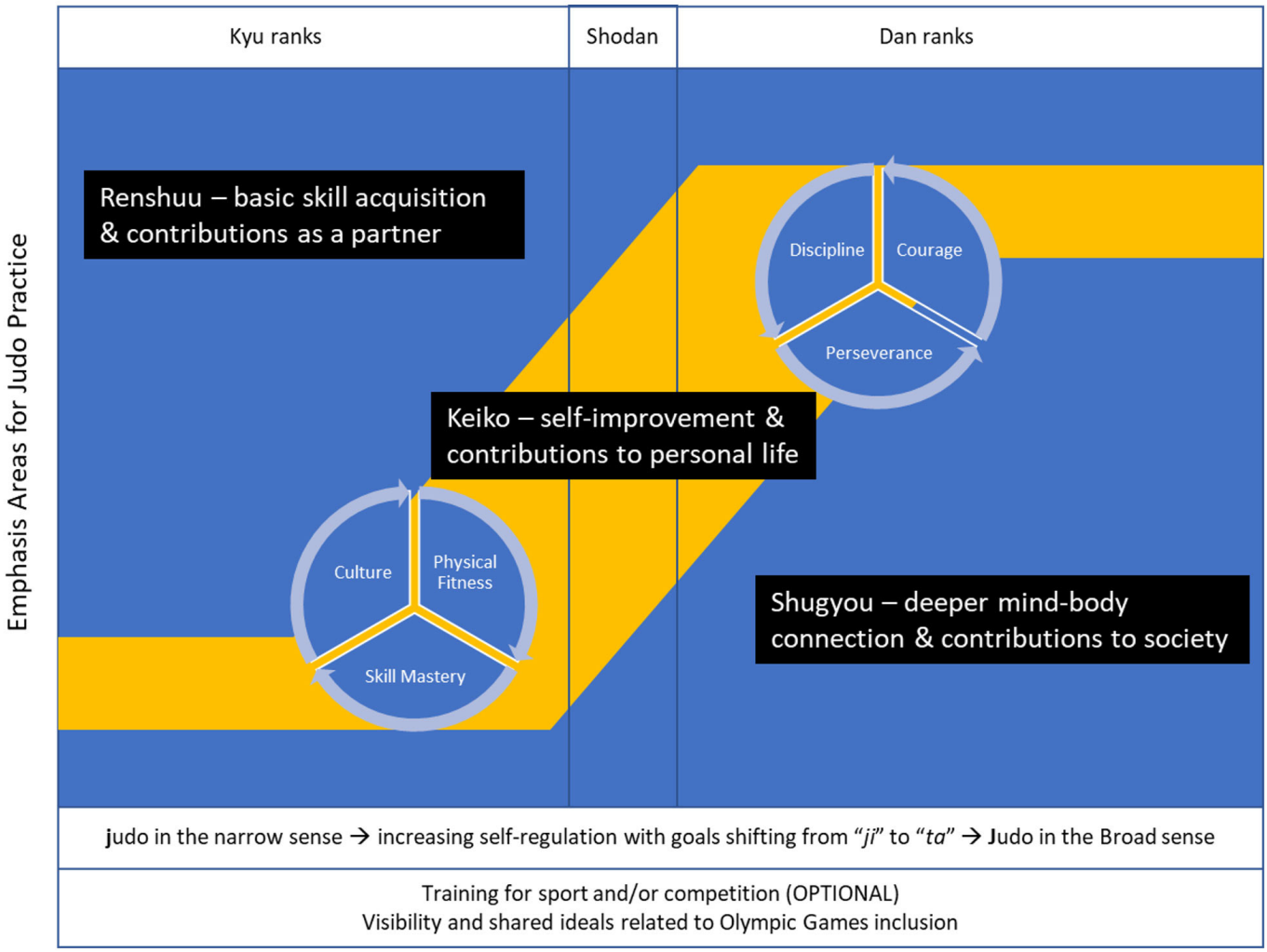

Figure 1. Framework for sustainable judo practice, personal development and contributions to society

2015). The majority of a sample of parents of children with ASD and/or developmental disabilities agreed that judo participation had improved 'Bbehaviour at home,' 'eye contact,' 'behaviour at school,' 'ability to share,' 'social skills,' and 'performance in school' which include combined features of both *'ji'* and *'ta'* orientations determined using an unvalidated questionnaire (Lockard et al., 2023).

Intervention Studies

Within the intervention studies, 25 examined children or adolescents, with eight specifically aimed at those with developmental disabilities and/or visual impairments. Additionally, four studies utilised samples of young or middle-aged adults and 10 utilised samples of older adults. Below this review is separated according to these different sample characteristics.

Interventions Focused on Children/ Adolescents

Nineteen of the intervention studies focused on children or adolescents were categorised as 'ji,' with a variety of outcomes ranging from basic psychosocial needs and mental health to executive function and academic performance. For example, when combined with a comprehensive support programme, a year-long judo intervention improved academic performance (reading, spelling and arithmetic) on the Wide Range Achievement Test (WRAT), along with teacher ratings decreasing for 'problems' and increasing for 'competence' on the Child Behaviour Rating Scale (BRS) in a group of underserved children (8-11 years old; *N*=65) living in a "low-income, high-crime Latino immigrant area of Los Angeles" (Fleisher et al., 1995). Interestingly, parents of these children increased social learning and involvement with adult education activities as indicated by the Miller Social Learning Test and Community Activities Questionnaire, respectively. While not specifically measured, the research team reported that the students appeared more eager to engage in additional academic tutoring as well as judo practice after completion of the project.

In a unique anti-bullying intervention termed the 'A-Judo Programme' using Self-Determination Theory (Deci & Ryan, 2012), elements of judo were incorporated into a physical education course delivered by teachers without prior judo experience following a 20-hour judo programme (Montero-Carretero et al., 2021). The children involved with A-Judo (*n*=40; ~ 11 years old) completed ten 50-minute sessions over five weeks, focused on strategies to promote the basic psychological needs of autonomy, com-

petence and relatedness, while a control group (*n*=39) participated in standard physical education. In addition to improvement in the targeted Basic Psychological Needs in Exercise Scale, the A-Judo group showed positive changes in motivation, tolerance–respect, moral identity and bullying on several validated instruments compared to the similarly-aged controls. The authors defined moral identity as "a commitment to a sense of self in lines of action that promote or protect the wellbeing of others," which uniquely aligns with "judo in the broad sense" as mentioned in the introduction.

Ten of the studies examining children or adolescents were categorised as *'ta'* with a focus on socialisation, assisting others, translating judo etiquette, managing anger/aggression, and collaboration/co-operation. Several qualitative research studies have also been conducted examining the potential impact of judo practice on groups of at-risk adolescents. Gleser & Lison (1986) reported both physical and psychological benefits in emotionally disturbed Israeli teenagers during a 5-month, twice-weekly judo programme. The authors noted that judogi were introduced after the 2nd month with the following observation,

> *"The judo uniforms acted as a mask making it easier for the students to accept the pattern of behaviour required. This new persona was immediately recognised and valued by the students themselves. The 'habit' did not make the monk, but surely helped"* (Gleser & Lison, 1986, p. 66).

Likewise, Carratalá et al. (2019) evaluated the implementation of a 6-month, twice-weekly judo programme in Spanish with "young adolescents at risk of social exclusion," using participant observation and interviews, and concluded that collaboration and co-operation were the primary outcomes.

Considering the previously reported benefit to neurotypically developing children and those with varying disabilities, particular attention has been given to the use of judo practice related to Autism Spectrum Disorder (ASD). An eight-week, once a week judo programme for children with ASD (*N*=25; 8-17 years old) resulted in limited changes to ASD-related behaviours from the Aberrant Behavior Checklist (ABC) but qualitative evaluation from semi-structured interviews with parents conveyed positive changes in the following themes: interactions with friends, social skills and self-esteem (Rivera et al., 2020). A longer-term study with a 6-month (1x per week for 90 minutes) intervention showed improvements in a sample of children with ASD (*n*=21; ~11 years old) for overall ASD severity along with the repetitive behaviours, social interactions, emotional responses, cognitive style subscales from the Gilliam Autism Rating Scale (GARS-3) compared to a control group (*n*=19) that did not participate in extracurricular sport (Morales et al., 2022). The addition of family members practising judo alongside children with ASD may confer further benefits by way of better attendance as well as communication and self-regulation from the Autism Behaviour Inventory - Short Form (ABI-SF) (Garcia, Perry, et al., 2024). A systematic review published in 2024 highlighted the benefits of judo practice on physical activity, social interaction, emotional wellbeing, and cognitive function for individuals with neurodevelopmental disorders (Descamps et al., 2024).

Interventions Focused on Young/ Middle-Aged Adults

Three of the four intervention studies focused on young/ middle-aged adults were categorised *'ji'* with positive outcomes related to temperament, quality of life and fear of falling. For instance, aiming to evaluate the potential for character/ personality development with exposure to judo in a university setting, Pyecha (1970) reported that first-year students completing a 16-week, twice weekly judo course (*n*=73) improved on survey responses from the Sixteen Personality Factor Questionnaire (16PF) related to being warm-hearted, easygoing and participating compared to control groups of students engaging in physical education courses. However, this difference was only found following the first 8 weeks of classes (consisting of handball and badminton activities) but not the second 8 weeks (consisting of volleyball and basketball activities).

Several modified judo programmes focused on safe falls, originally developed for older adults, have been implemented with younger age groups. Using Adapted Utilitarian Judo over the course of 4 weeks (3 x 60 minutes per week), Mesa et al. (2022) documented changes in quality of life from the SF36 and fear of falling from the Falls Efficacy Scale - International (FES-I) by a 54-year old man with a herniated disc and a recent fall resulting in several injuries. Ten weeks of the Judo-4Balance programme (50 minutes per week) examined in a wide age range of employees (*N*= 68; 18-68 years old, mean: ~45 years) from seven different work places resulted in improved fall-related self-efficacy from the Swedish version of the FES, adopted for working age adults along with several physical activity/fitness outcomes (Arkkukangas, Bååthe, Ekholm, et al., 2020). A scoping review combining data from 15 studies conducted in those 45 years and older noted consistent improvements in quality of life with extended periods of judo practice along with findings that these interventions can generally be considered safe but that more research is needed (Chan et al., 2023).

Interventions Focused on Older Adults

Of the intervention studies focused on older adults, six studies were categorised as *'ji'* with positive outcomes ranging from fall-related self-efficacy and cognitive function to motivation/ enjoyment and competence, while two studies were categorised as 'ta,' focusing primarily on socialisation. For example, the Adapted Utilitarian Judo programme developed in Spain mirrors the "traditional system of teaching and practice of judo…and study with a partner stands out as fundamental," but the techniques and progressions are modified to ensure safety and controlled transitions to the ground for older adults

Table 2. Judo Interventions focused on Children/Adolescents

Authors	Country	Participants	Age (years)	Design	Intervention	Length/ Frequency/ Session	Relevant Positive Outcomes	Orientation	Relevant Null/ Negative Outcomes
Boguszewski et al. (2013)	Poland	73 children with mental retardation (35 boys & 38 girls)	11.7 ± 2.6	Pre-post, quasi-experimental	Judo classes offered in addition to usual therapy (n=35) Control group: elected to not participate in judo classes (n=38)	6 months	Improved parent reported outcomes related to socialization, lifestyle, communication, locomotion, independent, and self-service	"ji"/self "ta"/other	school skills ↔
Carratalá et al. (2019)	Spain	"young adolescents at risk of social exclusion" (4 girls & 11 boys)	--	Pre-post, qualitative (based on 6 cases)	Sessions led by a judo instructor with an undergraduate degree in physical activity	6 months/ 2x weekly/ 60 minutes	Primary beneficial outcomes related to collaboration and cooperation	"ta"/other	
Fleisher et al. (1995)	USA	65 underserved children (44 boys & 21 girls) living in a "low-income, high-crime Latino immigrant area of Los Angeles"	8-11	Pre-post, descriptive	Judo "taught from a perspective of self-discipline and integrated into a programme of community organization, parent training, and remedial education."	1 academic year/ 2x weekly/ 2 hours	Improved academic performance (reading, spelling, and arithmetic) along with teacher ratings decreasing for "Problems" and increasing for "Competence." Parents demonstrated increased Miller Social Learning Test scores and involvement with adult education activities	"ji"/self	Parent ratings of children's behavior ↔
Garcia et al. (2024)	USA	18 parents of children with Autism Spectrum Disorder (14 boys & 4 girls)	13.2 ± 3.8	Pre-post, descriptive	Led by several qualified judo instructors & assisted by volunteers with no judo experience	14 weeks/ 1x weekly/ 45 minutes	Decreased parental stress and increased parental physical activity.	"ta"/other	
Garcia, Perry, et al. (2024)	USA	17 children with Autism Spectrum Disorder split child-only (n=8) and child + family member groups (n=9)		Pre-post, descriptive	Led by several qualified judo instructors & assisted by volunteers with no judo experience	14 weeks/ 1x weekly/ 45 minutes	Higher attendance in child + family group. Improved social communication and self-regulation for child + family group but not child only group	"ji"/self "ta"/other	
Geertz et al. (2016)	Germany	26 overweight or obese children (15 boys & 11 girls, ≥90th percentile for age-based body mass index)	10.6 ± 1.9 (range: 7-14)	Pre-post, descriptive	Three separate practice groups supervised by different professional judo coaches	1 year/ 1x weekly/ 60 minutes	Improvements in parent-identified problems related to mental health, conduct, and peers along with several physical fitness outcomes. Those who completed the intervention had lower body mass index and peer problem scores	"ji"/self	Prosocial scale ↔, 30% dropout rate
Gleser & Brown (1986)	Israel	25 visually impaired youth including those with neurological or psychological disorders	8-18	Pre-post, descriptive	Combined practice with typically developing students after 4 months of separate sessions with two qualified judo instructors	9 months/ 2x weekly/ 90 minutes	Improved well-being, self-esteem, body image, and social identity along with physical advantages	"ji"/self	
Gleser & Lison (1986)	Israel	10 emotionally disturbed adolescents without judo experience	14-18	Pre-post, qualitative	Participated in a special judo class at the beginning and later joined regular judo club classes	5 months/ 2x weekly/ 90 minutes	Reported both physical and psychological benefits	"ji"/self	
Gleser et al. (1992)	Israel	7 blind or visually impaired children with mental retardation & associated neuropsychiatric disturbances (5 boys & 2 girls)	6-12	Pre-post, descriptive	Led by qualified judo teacher with psychiatric training & assisted by volunteers with no judo experience (4 were required initially & only 1 at the conclusion of the intervention)	6 months/ 2x weekly/ 90 minutes	Improvements in psychosocial attitudes as well as physical fitness and motor skills; benefits were still evident 5-month post-practice	"ji"/self	

Kogi & Kyan (2021)	Japan	946 junior high school students without prior judo experience (499 boys & 447 girls)	--	Pre-post, descriptive	8 hours of judo practice in PE classes	--	Increased enjoyment after completing 8 hours of classes along with agreement that "judo etiquette is useful in everyday life"	"ji"/self "ta"/other	Reported anxiety prior to and after initiating judo practice but significantly decreased with intervention (>50% → ~20% of sample)
Križalkovičová et al. (2024)	Hungary, Slovakia, Croatia, and Austria	182 preschool children (116 boys & 66 girls)	4.9 (range: 4-7)	Pre-post, quasi-experimental	Purposive cluster sampling with judo (Hungary: n=101; Slovakia: n=59; Austria: n=22) and control groups (Hungary: n=58; Slovakia: n=17; Austria: n=12) separated by judo dojos and kindergartens. Only pre-test available from Croatia.	6 months/ 2x weekly/ 60 minutes	Judo students displayed enhanced neurodevelopmental skills and greater improvements over the intervention period.	"ji"/self	
Lindell-Postigo et al. (2023)	Spain	139 secondary school students (70 males & 69 females); 14% previously practiced martial arts	12.7 ± 1.1 (range: 11-16)	Pre-post, descriptive	Teachers received training on judo education and intervention implemented within the school system	12 weeks/ 2x weekly/ 50 minutes	Decreased pure relational aggression and physical self-concept	"ji"/self "ta"/other	Family self-concept ↓ and emotional self-concept ↓
Lo et al. (2019)	Hong Kong	29 secondary school students (22 males & 7 females)	12-16	Pre-post, quasi-experimental	Participants self-selected judo practice (n=14) Control group: age-matched & stratified sampling by grade (n=15)	8 weeks/ 3x weekly/ 90 minutes	Improved executive function/self-regulation (set-shifting ability) following judo practice. 100% attendance.	"ji"/self	
Ludyga et al. (2021)	Switzerland	44 children with limited recent martial arts experience (23 boys & 19 girls)	Judo: 10.3 ± 1.2; Control: 10.7 ± 1.5 (range: 7-14)	Pre-post, experimental	Supervised by trained instructors at a local dojo (n=22) waitlist control group (n=20)	3 months/ 2x weekly/ 60 minutes	Improved behavioral (decreased NoGo error rate) and neurocognitive (increased EEG/N2 amplitude during the NoGo task) response inhibition in the absence of unique changes in motor skill or cardiorespiratory fitness	"ji"/self	
Ludyga et al. (2022)	Switzerland and Germany	57 children with Attention Deficit Hyperactivity Disorder (ADHD)(41 boys & 16 girls)	Judo: 10.8 ± 1.2; Control: 10.0 ± 1.2 (range: 7-14)	Pre-post, experimental	Supervised by one or two trained instructors (n=29) waitlist control group (n=28)	3 months/ 2x weekly/ 60 minutes	Positive development in working memory and the capacity to store visuospatial information	"ji"/self	
Montero-Carretero et al. (2021)	Spain	40 boys & 39 girls, prior judo experience ??	11.13 ± 0.52	Pre-post, quasi-experimental	A-Judo Programme provided by physical education teachers with minimal judo experience (n=42) Control group: regular physical education classes (n=37)	5 weeks/ 2x weekly/ 50 minutes	Improved teachers' supportive style, basic psychological needs, intrinsic motivation, moral identity, tolerance-respect, bullying	"ji"/self	Victimization ↔, external motivation ↓
Morales et al. (2021)	Spain	11 children with Autism Spectrum Disorder (7 boys & 4 girls)	10.2 ± 2.5 (range 9-13)	Pre-post, descriptive	Two qualified judo instructors & four volunteer assistant instructors 8-week pre-intervention control period limited to PE classes & 8-week COVID-19 lockdown period	8 weeks/ 1x weekly/ 75 minutes	Significant improvements in repetitive behaviors, social interaction, social communication, emotional responses compared to baseline and the control period; same values significantly declined during the COVID-19 lockdown.	"ji"/self "ta"/other	cognitive style & maladaptive speech ↔

Morales et al. (2022)	Spain	40 children with Autism Spectrum Disorder	11.1 ± 1.7	Pre-post, quasi-experimental	Participants self-selected judo practice (n=21) Control group: no judo experience & did not participate in extracurricular sports (n=19)	6 months/ 1x weekly/ 90 minutes	Improvements in overall ASD severity along with the repetitive behaviors, social interactions, emotional responses, cognitive style subscales. Changes in motor skills were closely related to psychosocial behaviors.	"ji"/self	
Ortiz-Franco et al. (2024)	Spain	139 secondary school students (70 boys & 69 girls)	15.8 ± 1.1	Pre-post, descriptive	Classes led by physical education teacher with judo experience	12 weeks/ 2x weekly/ 60 minutes	Increased effect of emotional intelligence on controlling aggressive attitudes	"ji"/self	
Reynes & Lorant (2002)	France	55 boys	9	Pre-post, quasi-experimental	"Traditional" dojo-based judo practice (n=27) Control group: no judo practice; however, record of other athletic activities not taken (n=28)	1 year/ 2x weekly/ 90 minutes		--	Judo group displayed greater initial anger scores, and increased ratings for anger and both total and verbal aggression after one year of practice.
Reynes & Lorant (2004)	France	43 boys (9 karate students)	10	Pre-post, quasi-experimental	"Traditional" dojo-based judo practice (n=14) Control group: no judo practice; however, record of other athletic activities not taken (n=20)	2 years	Plateau in total anger with a decrease in physical aggression for judo group	"ta"/other	Higher anger scores reported compared to other groups
Rivera et al. (2020)	USA	25 children with Autism Spectrum Disorder (22 boys & 3 girls)	12.7 ± 3.0 (range 8-17)	Pre-post, descriptive	Led by several qualified judo instructors & assisted by volunteers with no judo experience	8 weeks/ 1x weekly/ 45 minutes	Semi-structured interviews with parents (n=9) conveyed positive changes in the following themes: interactions with friends, social skills, and self-esteem	"ji"/self "ta"/other	ASD-related behaviors ↔
Sterkowicz-Przybycień et al. (2014)	Poland	Parents of preschool children involved with judo (36 boys & 10 girls)	4-6	Pre-post, descriptive	Intended to improve basic motor abilities	5-24 months (average 16 months)/ 1-2x weekly/ 30-35 minutes	Improved problem-solving abilities, persuading others, and helping those weaker than themselves	"ji"/self "ta"/other	

(DelCastillo-Andrés et al., 2018). Interestingly, a belt system culminating in a "black belt of experience" has been developed and in addition to the importance placed on socialisation through group dynamics, transgenerational work involving families was encouraged. Utilising this approach and an 8-week (2x per week for 60 minutes) intervention, Toronjo-Hornillo et al. (2018) demonstrated improved fall-related self-efficacy from the FES-I in a group of pre-frail, healthy older adult women (*N*=12; age: ~72 years). In a subsequent study, older adults (*n*=19; 15 women and 4 men) completing a similar 6-week judo intervention also showed increased fall-related self-efficacies from the FES-I compared to a control group (*n*=11 women) completing a standardised physical activity regimen (Campos-Mesa et al., 2020). Relatedly, a recent review paper suggests that judo practice may yield protective effects for the age-related decline of brain function and cognition (Yamasaki, 2023).

Developed in Sweden, Judo4Balance is described as a "specific judo inspired" structured exercise programme focused on "strength, balance and learning to get up and down from the floor safely" (Arkkukangas, Bååthe, Hamilton, et al., 2020). Its feasibility was examined during once weekly sessions lasting 60 minutes across different settings (healthcare center, judo facility and workplace) for 10-16 weeks; although initially shown to improve physical performance and technical falling ability, the programme did not alter fall-related self-efficacy from the Swedish version of FES in a group of older adults (*N*=28; 60-88 years old) (Arkkukangas, Bååthe, Hamilton, et al., 2020). However, a follow-up study demonstrated improvement in the same fall-related self-efficacy scale in individuals who completed a 12-week version of the Judo4Balance programme (*n*=37; age: ~72 years), conducted in judo facilities compared to a control group (*n*=42) (Arkkukangas et al., 2022).

Another series of studies examining judo practice for novice older adults, conducted in Italy, resulted in increased enjoyment, competence, appearance and sociality using the Motives for Physical Activity Measure-Revised (MPAM-R), and intrinsic motivation scores using the Exercise Self-Regulation Questionnaire (SRQ-E) during a twice-weekly 4-month programme, but changes in fear of falling values using a visual analogue scale (VAS-FoF) were not present (Ciaccioni et al., 2021). This last finding aligned with the lack of fall-related self-efficacy using the FES-I compared to controls after a once weekly programme of the same duration (Ciaccioni et al., 2019). This research group has recently published several comprehensive reviews focused on the specific considerations and best practices for the study of judo in older adults (Ciaccioni et al., 2022, 2024; Palumbo et al., 2023).

Theoretical Works Suggesting Lifespan Benefits of Judo Practice

In addition to the empirical research described above, a number of theoretical works have also provided an important backdrop to a comprehensive understanding of the effects of judo practice on psychosocial outcomes. For instance, Blomqvist Mickelsson & Stylin (2021) suggested that martial arts were a form of moderated rough-and-tumble play that has benefits beyond those typically attributed to the generic contextual factors related to sport (i.e., coaches, peers, and philosophies). Notably, rough-and-tumble play requires consent, self-regulation and empathy between multiple participants that "makes for a dynamic negotiation where children must assess, and if necessary, act upon the other child's responses" (Mickelsson & Stylin, 2021, p. 4) through prosocial co-operation and corporeal experiences. The full benefits of judo practice cannot be achieved without a partner; therefore, most judo-related activities adequately fulfill these criteria whereby practitioners can engage safely with equal opportunity using an agreed upon ruleset to benefit from the interaction, along with an option to self-handicap to allow for appropriate equity between participants. This viewpoint also supports the use of rough-and-tumble play, inclusive of almost all aspects of judo practice, beyond the usual confines of childhood and adolescence to confer psychosocial benefits across the lifespan. Correspondingly, recent work suggests that extended experience with judo practice, and separately with judo competition, may be related to psychological resilience from the Connor-Davidson Resilience Scale (CD-RISC 10) (Garrido-Muñoz et al., 2024). These concepts may also be used to support the transgenerational practice of judo with the opportunity for socialisation and other previously discussed benefits between individuals of different age groups (Callan et al., 2024; DelCastillo-Andrés et al., 2018).

Additionally, while existing empirical data is limited, the psychosocial benefits of judo practice have been suggested across numerous occupational settings. For example, Mihalache (2018) provided a description of implications for enhanced psychosocial preparedness, including volitional, emotional and intellectual factors in Air Force officers, while Nixon (2022) described how judo practice could support the creative process for those involved with theatre/performing arts. Elements of judo practice, namely *ukemi* (受け身) or falling techniques, have been incorporated into a variety of safe fall programmes focused on workplace safety, improving activities of daily living and limiting disability (Dobosz et al., 2018); however, there is some caution that adequate consideration for these adaptations must be given for specific populations, such as agricultural workers (Blach et al., 2021). The application of judo practice during cardiac rehabilitation has also been proposed for use in clinical settings with an emphasis on controlling exercise intensity and movement patterns while providing many of the previously described psychosocial benefits for those involved with this process (Mastnak, 2017).

Summary

The literature above makes it abundantly clear that judo participation has been associated with numerous positive physical and psychosocial outcomes for people of all ages. These findings have been reported in both descriptive and intervention studies, by researchers in many different countries and for both *'ji'* (self-orientated) and *'ta'* (other-orientated) outcomes associated with the intellectual and moral domains. The cumulative results provided here may be useful to judo practitioners and organisational leaders worldwide, who no longer have to rely solely on anecdotal evidence or repetitions of the mottoes of judo. Scientifically documenting these many positive benefits should make an important contribution to the literature and to practitioners alike. In the next section, these findings are built on to propose a framework of judo practice to unify and organise the potential benefits of judo practice in the intellectual and moral domains across the lifespan.

A Proposed Framework for Lifespan Development Through Judo

In order to reinforce the potential for personal and societal benefits of judo participation, a proposed framework is presented here based on Japanese terms for practice (Matsumoto, 2004). The following definitions are utilised to loosely describe emphasis areas throughout the development process:

- ***Renshuu*** (練習) – initial emphasis with a focus on basic skill acquisition and contributions as a practice partner/dojo member
- ***Keiko*** (稽古) – additional emphasis with a focus on self-improvement and contributions to one's personal life
- ***Shugyou*** (修行) – broader emphasis with a focus on deeper mind-body connection and contributions to society

Figure 1 depicts a suggested progression from judo participation in the narrow sense through the *kyu* ranks (beginning as a white belt) with *renshuu* as the primary emphasis, into a subsequent focus on *keiko*, followed by a gradual transition to the *dan* ranks (i.e., shodan or 1st dan black belt), coinciding with *shugyou* denoting the broad sense of formal Judo practice. The transition from judo with a lower-

Table 3. Judo Interventions focused on Young/Middle-Aged Adults

Authors	Country	Participants	Age (years)	Design	Intervention	Length/ Frequency/ Session	Relevant Positive Outcomes	Orientation	Relevant Null/Negative Outcomes
Arkkukangas et al. (2020)	Sweden	68 employees from seven different work places	~45 (range: 18-68)	Pre-post, descriptive	Pre-established multicomponent Judo4Balance programme lead by 14 instructors with at least a blue belt (≥5 years of judo experience)	10 weeks/ 1x weekly/ 50 minutes	Improved fall-related self-efficacy along with several physical activity/fitness outcomes	"ji"/self	
Arkkukangas et al. (2021)	Sweden	142 employees from various workplaces representing industries with high fall incidence	~47 (range: 18-68)	Pre-post, quasi-experimental	Pre-established multicomponent Judo4Balance programme lead by 14 instructors with at least a blue belt (≥5 years of judo experience) (n=79) Waitlist control group (n=63)	10 weeks/ 1x weekly/ 50 minutes			Logistic regression showed no difference in fall-related self-efficacy between groups
Mesa et al. (2022)	Spain	One man with a herniated disc and a recent fall resulting in several injuries	54	Case-study	Adapted Utilitarian Judo focused primarily on falling practice (ukemi) and social interaction	4 weeks/ 3x weekly/ 60 minutes	Changes in quality of life and fear of falling scores	"ji"/self	
Pyecha (1970)	USA	149 first-year university students not involved with intercollegiate athletics	–	Pre-post, quasi-experimental	Two 8-week PE courses: Judo I & Judo II (n=73) Controls: First 8 weeks - students in PE courses focused on handball or badminton; Second 8 weeks - students PE courses focused on volleyball or basketball (n=76)	16 weeks/ 2x weekly	Improved on survey responses related to being warmhearted, easygoing during first 8 weeks but not the second 8 weeks	"ji"/self	

case j to the capitalised form of Judo within this model is intentional. The figure denotes an individual beginning as a casual judo practitioner with initial short-term benefits of physical fitness, skill mastery, and learning judo culture. Repeated cycles of learning and contributing to the dojo environment over time leads to the development of fundamental characteristics, such as discipline, courage and perseverance, which provide the foundation for becoming a *judoka** with the possibility of affecting others positively. Eventually, each type of practice (*renshuu, keiko, shugyou*) would be utilised with increasing self-regulation in order to support a well-rounded judoka. Most non-Japanese uses of the term *judoka* refer to anyone practising judo, including beginning judo students. Here, we break with that use by reserving the term to refer more to individuals who live their lives according to the higher principles of judo after long and sustained judo practice, which we believe is more in line with the sentiment of the original Japanese term.

* Most non-Japanese uses of the term judoka refer to anyone practising judo, including beginning judo students. Here, we break with that use by reserving the term to refer more to individuals who live their lives according to the higher principles of judo after long and sustained judo practice, which we believe is more in line with the sentiment of the original Japanese term.

We do not intend there to be hard and fast boundaries between the three terms, when some aspects of judo are learned and others are not, or at which rank what types of developments occur. Certainly even young children must develop some degree of courage, discipline and perseverance through the initial stages of judo practice; likewise, skill mastery, physical fitness and the learning of judo culture will occur through older adult years and at the highest ranks of judo. For example, judo participation across a wide range of ages has been shown to be related positively to a variety of desirable characteristics, including self-control, emotion regulation, sincerity, courage, discipline and respect, demonstrating that the positive effects of all three aspects of practice occur throughout the lifespan (Matsumoto et al., 2006). Thus, development of all facets of the physical and psychosocial benefits of judo occur throughout the progressive lifespan of one's judo practice, with relative different weights at different times of one's life. The intent of our proposed framework is to depict the idea that judo practice across the lifespan can and should encapsulate all aspects of the three pillars of development – intellectual, moral and physical.

This perspective is intended to support a 'judo for life' approach whereby the intellectual and moral pillars are given similar emphases as the physical pillar and the combined *'ji'* and *'ta'* outcomes symbolise a means of sustained practice

Table 4. Judo Interventions focused on Older Adults

Authors	Country	Participants	Age (years)	Design	Intervention	Length/ Frequency/ Session	Relevant Positive Outcomes	Orientation	Relevant Null/ Negative Outcomes
Arkkukangas et al. (2020)	Sweden	28 healthy older adults	60-88	Pre-post, descriptive	Pre-established multicomponent Judo4Balance programme lead by 6 black belt judo instructors in a local healthcare center (n=11), a judo club (n=7), and a workplace setting (n=10)	10-16 weeks/ 1x weekly/ 45-60 minutes		–	Fall-related self-efficacy ↔
Arkkukangas et al. (2022)	Sweden	79 healthy older adults	~72	Pre-post, experimental	Pre-established multicomponent Judo4Balance programme lead by 2 instructors at each of several practice locations (n=37) Control group: limited information provided (n=42)	12 weeks/ 1x weekly/ 50-60 minutes	Improved fall-related self-efficacy	"ji"/self	
Campos-Mesa et al. (2020)	Spain	20 pre-frail, healthy older adults participating in municipal physical activity programme (2x weekly for 60 minutes)	65-85	Pre-post, quasi-experimental	Adapted Utilitarian Judo focused primarily on falling practice (ukemi) and social interaction (n=19; 15 women & 4 men) Control group: (n=11 women) completing a standardized physical activity regimen	6 weeks/ 2x weekly/ 60 minutes	Improved fall-related self-efficacy	"ji"/self	
Ciaccioni et al. (2019)	Italy	30 healthy older adults without recent structured physical activity or judo practice (13 women & 17 men)	69.7 ± 4.2 (range: 64-77)	Pre-post, quasi-experimental	Comprehensive judo programme (n=16) Control group: provided no judo (n=14)	4 months/ 2x weekly/ 60 minutes			Fall-related self-efficacy ↔
Ciaccioni et al. (2021)	Italy	16 healthy older adults with prior judo experience	68.9 ± 3.7	Pre-post, descriptive	Comprehensive judo training programme lead by black belt instructor	4 months/ 2x weekly 60 minutes/	Increased enjoyment, competence, appearance, sociality, identified regulation and intrinsic motivation scores	"ji"/self "ta"/other	Fear of falling ↔
Jadczak et al. (2024)	Australia	17 healthy older adults (13 women & 4 men)	74.3 ± 6.2 (range: 66–87)	Pre-post, descriptive	Judo-based exercise programme focused on safe falling techniques lead by several experienced instructors	8 weeks/ 2x weekly/ 60 minutes			Fear of falling ↔ 1 non-serious adverse event due to a fall during judo practice resulting in bruising and followup physiotherapy.
Kujach et al. (2022)	Poland	40 healthy older adults (33 women & 7 men) involved with only basic daily activities	67.7 ± 5.2	Pre-post, experimental	Comprehensive judo programme (n=20) Control group: continued without any additional exercise (n=20)	12 weeks/ 3x weekly/ 45 minutes	Decreased response time during the Stroop "naming" interference task along with increased brain-derived neurotrophic factor (BDNF) concentration	"ji"/self	
Odaka et al. (2023)	Japan	10 healthy older adults (3 men & 7 women) involved with weekly exercise program (Enjukujuku)	75.6 ± 5.3	Pre-post, descriptive	Three-week falling practice programme with progressive increases in difficulty	3 weeks/ 1x weekly/ 20 minutes			Fear of falling ↔
Sakuyama et al. (2021)	Japan	53 older adults separated into high (n=39) and low (n=14) movement ability groups	~71 (range: 45-83)	Pre-post, descriptive	Yawarachan judo-based exercise programme involving 1-hour sessions each month at a dojo along with at least 2x weekly at-home exercises	8 months/ 2x weekly	Low-mobility group improved scores related to the social and physical function subscales as well as the physical composite score, while high-mobility group only increased in the mental composite score	"ji"/self "ta"/other	
Toronjo-Hornillo et al. (2018)	Spain	12 pre-frail, healthy older adult women	71.5 ± 8 (range 57-83)	Pre-post, descriptive	Adapted Utilitarian Judo focused primarily on falling practice (ukemi) and social interaction	8 weeks/ 2x weekly/ 60 minutes	Improved fall-related self-efficacy	"ji"/self	

coupled with societal contributions. This framework argues for the continued development and evolution of the individual through judo. Equally important to this perspective is the notion that no one reaches an endpoint in their evolution as an individual through judo, and that all judo practitioners should be on their individual developmental journey toward self-perfection regardless of age or rank. This concept is also in line with Kano's motto jiko kansei (自己完成), which can be translated as self-perfection. While encouraged due to a potentially enhanced experience, participation in organised judo competition is not a requirement to achieve these desired outcomes. Major sporting events, such as the Olympic Games, do, however, showcase the ability of judo competition to transcend individuality by highlighting the support structure needed to achieve elite status as well as the immense pride shown by representative home countries and the success of the newly implemented team format (Dubinsky, 2024). Nonetheless, leveraging the benefits of the Olympic movement to increase judo participation across the lifespan still requires the support and effort of the judo community at-large (Kokolakakis & Lera-Lopez, 2020; Pappous & Hayday, 2016).

While *randori* and kata are the most common methods of judo education emphasised in modern dojos, in order to realise the full scale of the currently proposed framework, more traditional methods, such as lecture (*kogi* or 講義) and dialogue (*mondo* or 問答) (Kanō & Bennett, 2009; Kozdraś, 2019) could be revisited. These methods should extend beyond daily practice to include lectures and discussions about current events, cultural phenomena and civic responsibility. Leveraging the expertise of both judo students and instructors may allow for enrichment activities that would not be possible otherwise. Accordingly, open discourse within the context of shared judo experiences provides connections within the dojo and between individuals that can be applied for "mutual prosperity for the self and others" and "the maximum efficient use of energy for the greater good" as intended by the core principles of judo.

Conclusion

Considering judo is already popular on a global basis and has a foundation rooted in similar ideals to the Olympic movement with an emphasis on inclusion, it has the potential to extend modern physical education, combined with the moral and intellectual pillars, to a much larger population, including those of working age, older adults and those with varying abilities and with greater benefits to self and societies. By influencing this wide spectrum of individuals and with continued emphasis on a three-pillar approach, the ideal of judo in the wide sense can be further established to improve both the personal lives of its practitioners and society as a whole. Empirically, while there is an abundance of support for *'ji'*-related outcome variables focused on personal development, we suggest that further evaluation of *'ta'*-related outcomes focused on benefits to others or for society is needed to better establish the extension of judo practice beyond the individual. Related to this suggestion, the quadrennial cycle provides the unique opportunity to reflect on and engage with the shared idealistic goals of judo practice and the Olympics while aiming to make a broader impact on our world.

References

Acebes-Sánchez, J., Blanco-García, C., Diez-Vega, I., Mon-López, D., & Rodriguez-Romo, G. (2021). Emotional intelligence in physical activity, sports and judo: A global approach. *International Journal of Environmental Research and Public Health, 18*(16), Article 16. https://doi.org/10.3390/ijerph18168695

Arkkukangas, M., Bååthe, K. S., Ekholm, A., & Tonkonogi, M. (2020). Health promotion and prevention: The impact of specifically adapted judo-inspired training program on risk factors for falls among adults. *Preventive Medicine Reports, 19*, 101126. https://doi.org/10.1016/j.pmedr.2020.101126

Arkkukangas, M., Bååthe, K. S., Ekholm, A., & Tonkonogi, M. (2021). A 10-week judo-based exercise programme improves physical functions such as balance, strength and falling techniques in working age adults. *BMC Public Health, 21*(1), 744. https://doi.org/10.1186/s12889-021-10775-z

Arkkukangas, M., Bååthe, K. S., Hamilton, J., Ekholm, A., & Tonkonogi, M. (2020). Feasibility of a novel Judo4Balance – fall preventive exercise programme targeting community-dwelling older adults. *Journal of Frailty, Sarcopenia and Falls,* 5(3), 47–52. https://doi.org/10.22540/JFSF-05-047

Arkkukangas, M., Strömqvist Bååthe, K., Ekholm, A., & Tonkonogi, M. (2022). High challenge exercise and learning safe landing strategies among community-dwelling older adults: A randomized controlled trial. *International Journal of Environmental Research and Public Health, 19*(12), Article 12. https://doi.org/10.3390/ijerph19127370

Blach, W., Dobosz, D., Gasienica-Walczak, B., Grants, J., & Litwiniuk, A. (2021). Falls are the leading cause of injuries among farmers—Limitations of practicing judo in preventing these incidents. *Applied Sciences, 11*(16), Article 16. https://doi.org/10.3390/app11167324

Blomqvist Mickelsson, T., & Stylin, P. (2021). Integrating rough-and-tumble play in martial arts: A practitioner's model. *Frontiers in Psychology, 12*. https://www.frontiersin.org/articles/10.3389/fpsyg.2021.731000

Bocioacă, L., & Marin, A. (2023). Study on the impact of adapted judo practice on individuals with ASD and Down syndrome. *Discobolul-Physical Education, Sport & Kinetotherapy Journal, 62*(2), 151–162.

Boguszewski, D., Świderska, B., Adamczyk, J. G., & Białoszewski, D. (2013). Judo as a supplementary form of therapy for children with mental retardation. *Archives of Budo Science of Martial Arts and Extreme Sports, 9*(0). http://smaes.archbudo.com/view/abstracts/issue_id/10750

Brousse, M., & Matsumoto, D. R. (1999). *Judo: A Sport and a Way of Life.* International judo federation.

Callan, M., Bird, C., Bradic, S., Mesa, M. del C. C., del Castillo Andrés, O., Doval, M. S., Dziergwa, J.-P., Feenan, J., Headland, M., & Ikumi, A. (2024). Global consensus statement: How can judo contribute to reducing the problem of injurious falls in older adults? *The Arts and Sciences of Judo (ASJ), 4*(1), 14–27.

Campos-Mesa, M. C., DelCastillo-Andrés, Ó., Toronjo-Hornillo, L., & Castañeda-Vázquez, C. (2020). The effect of Adapted Utilitarian Judo, as an educational innovation, on fear-of-falling syndrome. *Sustainability, 12*(10), Article 10. https://doi.org/10.3390/su12104096

Carratalá, V., Marco-Ahulló, A., Carratalá, I., Carratalá, H., & Bermejo, J.-L. (2019). Judo as a tool for social integration in adolescents at risk of social exclusion: A pilot study. *Journal of Human Sport and Exercise, 15*(1), 202–216. https://doi.org/10.14198/jhse.2020.151.18

Chan, U., Ayliffe, L., Visvanathan, R., Headland, M., Verma, M., & Jadczak, A. D. (2023). Judo-based exercise programs to improve health outcomes in middle-aged and older adults with no judo experience: A scoping review. *Geriatrics & Gerontology International, 23*(3), 163–178. https://doi.org/10.1111/ggi.14553

Ciaccioni, S., Capranica, L., Forte, R., Chaabene, H., Pesce, C., & Condello, G. (2019). Effects of a judo training on functional fitness, anthropometric, and psychological variables in old novice practitioners. *Journal of Aging and Physical Activity, 27*(4), 831–842. https://doi.org/10.1123/japa.2018-0341

Ciaccioni, S., Palumbo, F., Forte, R., Galea, E., Kozsla, T., Sacripanti, A., Milne, A., Lampe, N., Lampe, Š., & Jelušić, T. (2022). Educating judo coaches for older practitioners. *The Arts and Sciences of Judo, 2*(1), 63–66.

Ciaccioni, S., Perazzetti, A., Magnanini, A., Kozsla, T., Capranica, L., & Doupona, M. (2024). Intergenerational judo: Synthesising evidence- and eminence-based knowledge on judo across ages. *Sports, 12(7*), Article 7. https://doi.org/10.3390/sports12070177

Ciaccioni, S., Pesce, C., Capranica, L., & Condello, G. (2021). Effects of a judo training program on falling performance, fear of falling and exercise motivation in older novice judoka. Ido Movement for Culture. *Journal of Martial Arts Anthropology, 21*(3), 9–17. https://doi.org/10.14589/ido.21.3.2

Deci, E. L., & Ryan, R. M. (2012). Self-Determination Theory. In Van Lange, P. A. M., Kruglanski, A. W., & Higgins, E. T. (Eds.), *Handbook of Theories of Social Psychology: Volume One* (pp. 416–437). SAGE Publications Ltd. https://doi.org/10.4135/9781446249215

DelCastillo-Andrés, Ó., Toronjo-Hornillo, L., Toronjo-Urquiza, M. T., Cachón Zagalaz, J., & Campos-Mesa, M. D. C. (2018). Adapted Utilitarian Judo: The adaptation of a traditional martial art as a program for the improvement of the quality of life in older adult populations. *Societies, 8*(3), Article 3. https://doi.org/10.3390/soc8030057

Demıral, S. (2018). Judo sport regulations for children's parents in the pre-school children judo education: Study of field. *Turkish Journal of Sport and Exercise*. https://doi.org/10.15314/tsed.492061

Descamps, G., Campos, M. J., Rizzo, T., Pečnikar Oblak, V., & Massart, A. G. (2024). Benefits of judo practice for individuals with neurodevelopmental disorders: A systematic literature review. *Sports, 12*(7), Article 7. https://doi.org/10.3390/sports12070182

Dlugonski, D., Gadd, N., McKay, C., Kleis, R. R., & Hoch, J. M. (2022). Physical literacy and physical activity across the life span: A systematic review. *Translational Journal of the American College of Sports Medicine, 7*(3). https://doi.org/10.1249/TJX.0000000000000201

Dobosz, D., Barczyński, B., Kalina, A., & Kalina, R. M. (2018). The most effective and economic method of reducing death and disability associated with falls. *Archives of Budo, 14*(0). https://archbudo.com/view/abstracts/issue_id/11705

Drid, P., Franchini, E., Lopes-Silva, J. P., Fukuda, D. H., Wells, A. J., Lakicevic, N., Bianco, A., Paoli, A., Milovancev, A., Roklicer, R., & Trivic, T. (2021). Health implications of judo training. *Sustainability, 13*(20), Article 20. https://doi.org/10.3390/su132011403

Dubinsky, Y. (2024). The Olympic Games and judo diplomacy: An exploratory discussion on country image in Tokyo 2020. *Communication & Sport, 12*(1), 149–169. https://doi.org/10.1177/21674795231153663

Falatovics, A., & Szikora, K. (2023). Development of japanese martial arts in Hungarian sport culture. *The International Journal of the History of Sport, 40*(5), 436–458. https://doi.org/10.1080/09523367.2023.2207476

Fleisher, S. J., Avelar, C., Latorre, S. E., Ramirez, J., Cubillos, S., Christiansen, H., & Blaufarb, H. (1995). Evaluation of a judo/community organization program to treat predelinquent hispanic immigrant early adolescents. *Hispanic Journal of Behavioral Sciences, 17*(2), 237–248. https://doi.org/10.1177/07399863950172007

Franchini, E., Brito, C. J., Fukuda, D. H., & Artioli, G. G. (2014). The physiology of judo-specific training modalities. *Journal of Strength and Conditioning Research, 28*(5), 1474–1481. https://doi.org/10.1519/JSC.0000000000000281

Fukuda, D. H., Stout, J. R., Burris, P. M., & Fukuda, R. S. (2011). Judo for children and adolescents: Benefits of combat sports. *Strength and Conditioning Journal, 33*(6), 60–63.

Garcia, J. M., Hahs-Vaughn, D., Murray, M., Perry, C., Brazendale, K., Rice, D. J., & Fukuda, D. H. (2024). The physical and psychosocial benefits of a family judo program for parents of children with autism spectrum disorder: A pilot study. *Disability and Health Journal, 17*(3), 101631. https://doi.org/10.1016/j.dhjo.2024.101631

Garcia, J. M., Perry, C., Murray, M., Shurack, R., Brazendale, K., & Fukuda, D. H. (2024). The evaluation of a family-based judo program for youth with autism spectrum disorder. *Advances in Neurodevelopmental Disorders, 8*(3), 488–498. https://doi.org/10.1007/s41252-023-00363-0

Garrido-Muñoz, M., Blanco-García, C., Diez-Vega, I., García-Merino, S., Acebes-Sánchez, J., & Rodríguez-Romo, G. (2024). Psychological resilience, athletic experience, and competitive level of judokas: A transversal study. *Frontiers in Psychology, 15*. https://doi.org/10.3389/fpsyg.2024.1440412

Geertz, W., Dechow, A.-S., Pohl, E., Zyriax, B.-C., Ganschow, R., & Schulz, K.-H. (2016). Physical and psychological well-being in overweight children participating in a long-term intervention based on judo practice. *Advances in Physical Education, 7*(1), Article 1. https://doi.org/10.4236/ape.2017.71008

Gleser, J., & Lison, S. (1986). Judo as therapy for emotionally disturbed adolescents: A pilot study. *International Journal of Adolescent Medicine and Health, 2*(1), 63–72. https://doi.org/10.1515/IJAMH.1986.2.1.63

Gleser, J. M., & Brown, P. (1986). Modified judo for visually handicapped people. Journal of Visual *Impairment & Blindness, 80*(5), 749–750. https://doi.org/10.1177/0145482X8608000510

Gleser, J. M., Nyska, M., Porat, S., Margulies, J. Y., Mendelberg, H., & Wertman, E. (1992). Physical and psychosocial benefits of modified judo practice for blind, mentally retarded children: A pilot study. *Perceptual and Motor Skills, 74*(3), 915–925. https://doi.org/10.2466/pms.1992.74.3.915

Guedes, D. P., & Missaka, M. S. (2015). Sport participation motives of young Brazilian judo athletes. *Motriz: Revista de Educação Física, 21*, 84–91. https://doi.org/10.1590/S1980-65742015000100011

International Judo Federation. (n.d.-a). *Judo in Schools*. Retrieved December 28, 2022, from https://schools.ijf.org/

International Judo Federation. (n.d.-b). *Olympic Games Paris 2024 / IJF.org*. Retrieved December 18, 2024, from https://www.ijf.org/competition/2653

Jadczak, A. D., Verma, M., Headland, M., Tucker, G., & Visvanathan, R. (2024). A judo-based exercise program to reduce falls and frailty risk in community-dwelling older adults: A feasibility study. *The Journal of Frailty & Aging, 13*(1), 1–9. https://doi.org/10.14283/jfa.2023.17

Kanō, J., & Bennett, A. (2009). *Jigoro Kano and the Kodokan: An Innovative Response to Modernisation*. Kanō Risei, Kōdōkan Judo Institute. https://books.google.com/books?id=zQr0ZwEACAAJ

Khitaryan, D., Stepanyan, L., & Lalayan, G. (2023). Exploring age-related psychophysiological patterns in bullying behaviors: An investigation of adolescent judokas. *Journal of Physical Education and Sport, 23*(10), 2842–2852.

Kogi, Y., & Kyan, A. (2021). Psychological changes in anxiety, enjoyment, and value of learning in junior high school students learning judo. *Journal of Physical Education and Sport, 21*(4), 1676–1681. https://doi.org/10.7752/jpes.2021.04212

Kokolakakis, T., & Lera-Lopez, F. (2020). Sport promotion through sport mega-events. An analysis for types of Olympic sports in London 2012. *International Journal of Environmental Research and Public Health, 17*(17), Article 17. https://doi.org/10.3390/ijerph17176193

Kozdraś, G. (2019). Education in moral values of judo school students. *Ido Movement for Culture. Journal of Martial Arts Anthropology, 19*(1S), 50–54. https://doi.org/10.14589/ido.19.1S.8

Križalkovičová, Z., Szabó, P., Kumli, K., Štefanovský, M., Makai, A., & Szentpéteri, J. (2024). Neurodevelopmental benefits of judo training in preschool children: A multinational, mixed methods follow-up study. *Frontiers in Psychology, 15*. https://doi.org/10.3389/fpsyg.2024.1457515

Kujach, S., Chroboczek, M., Jaworska, J., Sawicka, A., Smaruj, M., Winklewski, P., & Laskowski, R. (2022). Judo training program improves brain and muscle function and elevates the peripheral BDNF concentration among the elderly. *Scientific Reports, 12*(1), Article 1. https://doi.org/10.1038/s41598-022-17719-6

Lamarre, B. W., & Nosanchuk, T. A. (1999). Judo—the gentle way: A replication of studies on martial arts and aggression. *Perceptual and Motor Skills, 88*(3), 992–996. https://doi.org/10.2466/pms.1999.88.3.992

Lindell-Postigo, D., Zurita-Ortega, F., Melguizo-Ibáñez, E., González-Valero, G., Ortiz-Franco, M., & Ubago-Jiménez, J. L. (2023). Effectiveness of a judo intervention programme on the psychosocial area in secondary school education students. *Sports, 11*(8), Article 8. https://doi.org/10.3390/sports11080140

Lo, W. L. A., Liang, Z., Li, W., Luo, S., Zou, Z., Chen, S., & Yu, Q. (2019). The effect of judo training on set-shifting in school children. *BioMed Research International, 2019*, e2572016. https://doi.org/10.1155/2019/2572016

Lockard, B. S., Dallara, M., & O'Malley, C. (2023). A short report on the impact of judo on behaviors and social skills of children with autism spectrum disorder. *Cureus, 15*(7), e41516. https://doi.org/10.7759/cureus.41516

Lotfian, S., Ziaee, V., Amini, H., & Mansournia, M.-A. (2011). An analysis of anger in adolescent girls who practice the martial arts. *International Journal of Pediatrics, 2011*, e630604. https://doi.org/10.1155/2011/630604

Lounsbery, M. A. F., McKenzie, T. L., Trost, S., & Smith, N. J. (2011). Facilitators and barriers to adopting evidence-based physical education in elementary schools. *Journal of Physical Activity and Health, 8*(s1), S17–S25. https://doi.org/10.1123/jpah.8.s1.s17

Ludyga, S., Mücke, M., Leuenberger, R., Bruggisser, F., Pühse, U., Gerber, M., Capone-Mori, A., Keutler, C., Brotzmann, M., & Weber, P. (2022). Behavioral and neurocognitive effects of judo training on working memory capacity in children with ADHD: A randomized controlled trial. *NeuroImage: Clinical, 36,* 103156. https://doi.org/10.1016/j.nicl.2022.103156

Ludyga, S., Tränkner, S., Gerber, M., & Pühse, U. (2021). Effects of judo on neurocognitive indices of response inhibition in preadolescent children: A randomized controlled trial. *Medicine and Science in Sports and Exercise, 53*(8), 1648–1655. https://doi.org/10.1249/MSS.0000000000002626

Maekawa, M., & Hasegawa, Y. (1963). Studies on Jigoro Kano–significance of his ideals of physical education and judo. *Bulletin of the Association for the Scientific Studies on Judo, Kodokan, Report II*, 1–12.

Mastnak, W. (2017). Cardio-judo in long-term cardiac rehabilitation. A feasibility study for clinical practice and heart support groups. *Journal of Combat Sports and Martial Arts, 8*(1), 37–42. https://doi.org/10.5604/01.3001.0010.4651

Matsumoto, D. (2004). Rethinking judo in Japan. Part 13: Language, culture, and judo practice. *Budo, 4*, 180–187.

Matsumoto, D., & Konno, J. (2005). The relationship between adolescents' participation in judo, quality of life, and life satisfaction. *Research Journal of Budo, 38*(1), 13–25.

Matsumoto, D., Konno, J., & Ha, H. Z. (2006). The effects of judo participation on character traits. *Research Journal of Budo, 39*(2), 17–26. https://doi.org/10.11214/budo1968.39.2_17

Matsumoto, D., Takeuchi, M., Ray, R., Nakajima, T., Iida, E., & Wakayama, H. (2001). The Relationship Between Psychological Characteristics, Physical Fitness, and Physiology in Judo Athletes. *Research Journal of Budo, 33*(3), 1–11. https://doi.org/10.11214/budo1968.33.3_1

Mesa, M., Prieto-Alegre, N., Toronjo-Hornillo, L., & Del-Castillo-Andrés, Ó. (2022). Effects of an Adapted Utilitarian Judo program on a 54-year-old adult. Case study. *Revista Iberoamericana de Ciencias de La Actividad Física y El Deporte, 11*, 1–14. https://doi.org/10.24310/riccafd.2022.v11i3.14376

Mihalache, G. (2018). Psychological Preparedness in judo and its role in the multilateral preparedness of the future officers. *Journal of Defense Resources Management (JoDRM), 9*(2), 172–179.

Montero-Carretero, C., Roldan, A., Zandonai, T., & Cervelló, E. (2021). A-judo: An innovative intervention programme to prevent bullying based on self-determination theory—a pilot study. *Sustainability, 13*(5), Article 5. https://doi.org/10.3390/su13052727

Morales, J., Fukuda, D. H., Garcia, V., Pierantozzi, E., Curto, C., Martínez-Ferrer, J. O., Gómez, A. M., Carballeira, E., & Guerra-Balic, M. (2021). Behavioural Improvements in Children with Autism Spectrum Disorder after Participation in an Adapted Judo Programme Followed by Deleterious Effects during the COVID-19 Lockdown. *International Journal of Environmental Research and Public Health, 18*(16), Article 16. https://doi.org/10.3390/ijerph18168515

Morales, J., Pierantozzi, E., Fukuda, D. H., Garcia, V., Guerra-Balic, M., Sevilla-Sánchez, M., & Carballeira, E. (2022). Improving motor skills and psychosocial behaviors in children with autism spectrum disorder through an adapted judo program. *Frontiers in Psychology, 13*. https://www.frontiersin.org/articles/10.3389/fpsyg.2022.1067310

Nixon, E. (2022). Judo as a devising practice: Yves Klein, La Mancha and Chile. *Theatre, Dance and Performance Training, 13*(3), 416–433. https://doi.org/10.1080/19443927.2022.2044897

Nolte, P. L., & Roux, C. J. (2023). Judo as a tool to reinforce value-based education in the South African Primary Schools physical education and school sport programmes. *Journal of Physical Education and Sport, 23*(1), 24–31.

Odaka, M., Kagaya, H., Harada, T., Futada, Y., Yamaishi, A., & Sasaki, M. (2023). Effect of ukemi practice in judo on fear of falling and mobility skills in healthy older adults. *Journal of Physical Therapy Science, 35*(2), 146–150. https://doi.org/10.1589/jpts.35.146

Ortiz-Franco, M., Zurita-Ortega, F., Melguizo-Ibáñez, E., González-Valero, G., Lindell-Postigo, D., & Ubago-Jiménez, J. L. (2024). Violent behaviour and emotional intelligence in physical education: The effects of an intervention programme. *European Journal of Investigation in Health, Psychology and Education, 14*(7), Article 7. https://doi.org/10.3390/ejihpe14070124

Palumbo, F., Ciaccioni, S., Guidotti, F., Forte, R., Sacripanti, A., Capranica, L., & Tessitore, A. (2023). Risks and benefits of judo training for middle-aged and older people: A systematic review. *Sports, 11*(3), Article 3. https://doi.org/10.3390/sports11030068

Pappous, A. (Sakis), & Hayday, E. J. (2016). A case study investigating the impact of the London 2012 Olympic and Paralympic Games on participation in two non-traditional English sports, Judo and Fencing. *Leisure Studies, 35*(5), 668–684. https://doi.org/10.1080/02614367.2015.1035314

Perrotta, T. (2016, July 19). How an American Took Down Judo. *Wall Street Journal*. http://www.wsj.com/articles/how-an-american-took-down-judo-1468945879

Pyecha, J. (1970). Comparative effects of judo and selected physical education activities on male university freshman personality traits. *Research Quarterly. American Association for Health, Physical Education and Recreation, 41*(3), 425–431. https://doi.org/10.1080/10671188.1970.10614993

Reynes, E., & Lorant, J. (2001). Do competitive martial arts attract aggressive children? *Perceptual and Motor Skills, 93*(2), 382–386. https://doi.org/10.2466/pms.2001.93.2.382

Reynes, E., & Lorant, J. (2002). Effect of traditional judo training on aggressiveness among young boys. *Perceptual and Motor Skills, 94*(1), 21–25. https://doi.org/10.2466/pms.2002.94.1.21

Reynes, E., & Lorant, J. (2004). Competitive martial arts and aggressiveness: A 2-yr. Longitudinal study among young boys. *Perceptual and Motor Skills, 98*(1), 103–115. https://doi.org/10.2466/pms.98.1.103-115

Rivera, P., Renziehausen, J., & Garcia, J. M. (2020). Effects of an 8-week judo program on behaviors in children with autism spectrum disorder: A mixed-methods approach. *Child Psychiatry & Human Development, 51*(5), 734–741. https://doi.org/10.1007/s10578-020-00994-7

Sakuyama, N., Kamitani, T., Ikumi, A., Kida, M., Kaneshiro, Y., & Akiyama, K. (2021). Assessment of the efficacy and safety of a Judo exercise program in improving the quality of life among elderly patients. *Journal of Rural Medicine, 16*(4), 229–235. https://doi.org/10.2185/jrm.2021-008

Sato, S. (2013). The sportification of judo: Global convergence and evolution. *Journal of Global History, 8*(2), 299–317. https://doi.org/10.1017/S1740022813000235

Solmoe, G. E. (2024). Martial arts diplomacy: Japanese judo delegations and 'martial arts missionaries' in Norway, 1945–1980. *The International Journal of the History of Sport, 41*(7), 593–615. https://doi.org/10.1080/09523367.2024.2380411

Sterkowicz-Przybycień, K., & Lech, G. (2006). The effects of judo training on children in the light of their parents' opinions. *Ido Movement for Culture. Journal of Martial Arts Anthropology, 6*, 181–187.

Szabolcs, Z., Csala, B., Szabo, A., & Köteles, F. (2021). Psychological aspects of three movement forms of Eastern origin: A comparative study of aikido, judo and yoga. *Annals of Leisure Research, 0*(0), 1–21. https://doi.org/10.1080/11745398.2020.1843507

Takahashi, M., Takahashi, R., Takahashi, J., Takahashi, A., Takahashi, P., & Takahashi, T. (2005). *Mastering Judo*. Human Kinetics. https://us.humankinetics.com/products/mastering-judo-pdf

The Olympic Movement and Kano Jigoro | JOC - Japanese Olympic Committee. (n.d.). Japanese Olympic Committee(JOC). Retrieved November 1, 2024, from https://www.joc.or.jp/english/historyjapan/kano_jigoro04.html

Toronjo-Hornillo, L., Castañeda-Vázquez, C., Campos-Mesa, M. del C., González-Campos, G., Corral-Pernía, J., Chacón-Borrego, F., & DelCastillo-Andrés, Ó. (2018). Effects of the application of a program of Adapted Utilitarian Judo (JUA) on the fear of falling syndrome (FOF) for the health sustainability of the elderly population. *International Journal of Environmental Research and Public Health, 15*(11), Article 11. https://doi.org/10.3390/ijerph15112526

Villamón, M., Brown, D., Espartero, J., & Gutiérrez, C. (2004). Reflexive modernization and the disembedding of jūdō from 1946 to the 2000 Sydney Olympics. *International Review for the Sociology of Sport, 39*(2), 139–156. https://doi.org/10.1177/1012690204043458

What are the Olympic Values? (n.d.). Retrieved November 1, 2024, from https://olympics.com/ioc/faq/olympism-and-the-olympic-movement/what-are-the-olympic-values

Yamasaki, T. (2023). Benefits of judo training for brain functions related to physical and cognitive performance in older adults. *Encyclopedia, 3*(3), Article 3. https://doi.org/10.3390/encyclopedia3030071

Ziaee, V., Loftian, S., Amini, H., Mansournia, M.-A., & Memari, A.-H. (2012). *Anger in adolescent boy athletes: A comparison among judo, karate, swimming and non athletes. 22*(1), 9–14.

Article history
Received : 9 September, 2024
Accepted : 19 December, 2024


INTERNATIONAL JUDO FEDERATION
IJF
ACADEMY