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Shime-waza and Unconsciousness

International Research

By Yuji Yamamoto*¹, Ryota Fujiya*¹, Nobuhiro Kamiya^{1,2,#}, Takamasa Anai^{1,2}, Shinzo Tokuda^{1,2}, Shinji Hosokawa^{1,2}

Abstract: *The purpose of this study is to clarify the attitudes and awareness of shime-waza for judoka around the world. The results of the questionnaire on shime-waza were compared between Japanese judoka and non-Japanese judoka and data obtained was analysed statistically using Pearson's chi-square test. When compared with non-Japanese judoka, Japanese judoka appeared to have slightly more experience of unconsciousness by shime-waza (Japanese 73.8%, non-Japanese 58.7%, $p < 0.05$, AR: adjusted residual 2.3). Japanese judoka, however, showed much more fear against shime-waza (Japanese 62.3%, non-Japanese 22.1%, $p < 0.001$, AR 6.4) and being unconscious following shime-waza (Japanese 72.3%, non-Japanese 29.8%, $p < 0.001$, AR 6.7). In addition, Japanese judoka were more keen to abolish shime-waza than non-Japanese judoka (Japanese 20.8%, non-Japanese 4.9%, $p < 0.001$, AR 3.7). Interestingly, most non-Japanese judoka recognised shime-waza as a traditional technique (Japanese 85.4%, non-Japanese 95.1%, $p < 0.05$, AR 2.6). Thus, non-Japanese judoka more mildly agreed with the use of shime-waza starting from junior high school around age 12 (Japanese 63.1%, non-Japanese 82.0%, $p < 0.05$, AR 3.3). Overall, non-Japanese judoka had a more positive image of shime-waza and unconsciousness by shime-waza when compared with Japanese judoka. It is possible that the value of shime-waza and its martial art nature, which Jigoro Kano retained in the 1880's as one of the judo techniques, may be more inherited by the modern world in other countries than Japan.*

Keywords: *shime-waza; fainting; martial arts; fear; awareness; tradition*

Jigoro Kano systematised judo techniques theoretically in the 1880's (Watson 2000), in which *shime-waza* (i.e. judo choke techniques) were retained. Biological responses to *shime-waza* have been investigated in some older studies (Ikai and Ishiko et al, 1958; Ikai and Yamakawa et al, 1958; Suzuki, 1958; Ogawa et al, 1963) and others (Reay et al, 1982; Raschka et al, 1996; Rau et al, 1998; Haga et al, 2016; Kato et al, 2017). However, the safety of *shime-waza* including unconsciousness, is still controversial because fatalities are very low in judo (Koiwai, 1987) and sport-related chokes in the combat sports community are understood as safe and effective ways to control opponents, with 94.3% agreement from 4307 self-reported data (Stellpflug and Schindler et al, 2020). It is also suggested that the mechanisms to cause unconsciousness could be complicated (Stellpflug and Menton et al, 2020; Nimura et al, 2022), presumably due to differences in the *shime-waza* technique and the location of peak pressure on the neck.

Currently, in many countries, *shime-waza* techniques have been started from ages 12 to 14, however, in Japan, they have been prohibited for junior high school students around ages 12 to 15 since 2022. As mentioned

above, the studies of *shime-waza* have mainly focused on physical and biological aspects but the biological impact of *shime-waza* and other safety issues remain controversial. However, judoka attitudes and their awareness of *shime-waza* have not been reported elsewhere in the world. It is interesting to investigate how thoughts about *shime-waza* have been inherited and altered from Japan to other countries. The purpose of this study was to clarify the attitudes about and awareness of *shime-waza* in judoka and distinguish differences by country, from an international perspective.

METHOD

This study was approved by the IRB committee at Tenri University. The questionnaires used in this study were originally generated with 19 items in five different languages (Japanese, English, French, Korean, and Indonesian). The questionnaires were surveyed on paper or via Google Forms in the period from May 2022 to April 2023. No personal information to identify *judoka* was collected. In total, 252 *judoka* aged 23 to 63 years were recruited in this study, consisting of 130 Japanese *judoka* and 122 non-Japanese *judoka* (France 69, Korea 25, Indonesia 11, UK 8, Egypt 4, Australia 3, and Romania 2). The re-

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sults of the questionnaire responses regarding *shime-waza* on a four-point scale were analysed statistically by Pearson's Chi-squared test in two groups by combining the former and the latter two points using SPSS (ver. 29). P-values under 0.05 were considered to be significant. The obtained p-values were also confirmed by Fisher's exact test. In residual analysis, adjusted residual larger than 1.96 or smaller than -1.96 was considered to be significant.

RESULTS

Background Data

The age distribution of participants at the time the questionnaires were used is shown in Figure 1. The average age was similar between Japanese judoka and non-Ja-

pinese judoka (Japan: 37.5 years old, Other: 37.3 years old). The gender composition of participants was similar between Japanese judoka and non-Japanese judoka without statistical difference by sex, as shown in Figure 2. The competitive level of participants was similar between Japanese judoka and non-Japanese judoka without statistical difference, by highest rank, as shown in Figure 3. The average age to begin using *shime-waza* was 2 years earlier in Japanese judoka than in non-Japanese judoka (Japan: 12.2 years old, Other: 14.2 years old), as shown in Figure 4. Note that the population of Japanese judoka in this study was aged over 23 and they were able to begin using *shime-waza* from junior high school age, according to the rules.

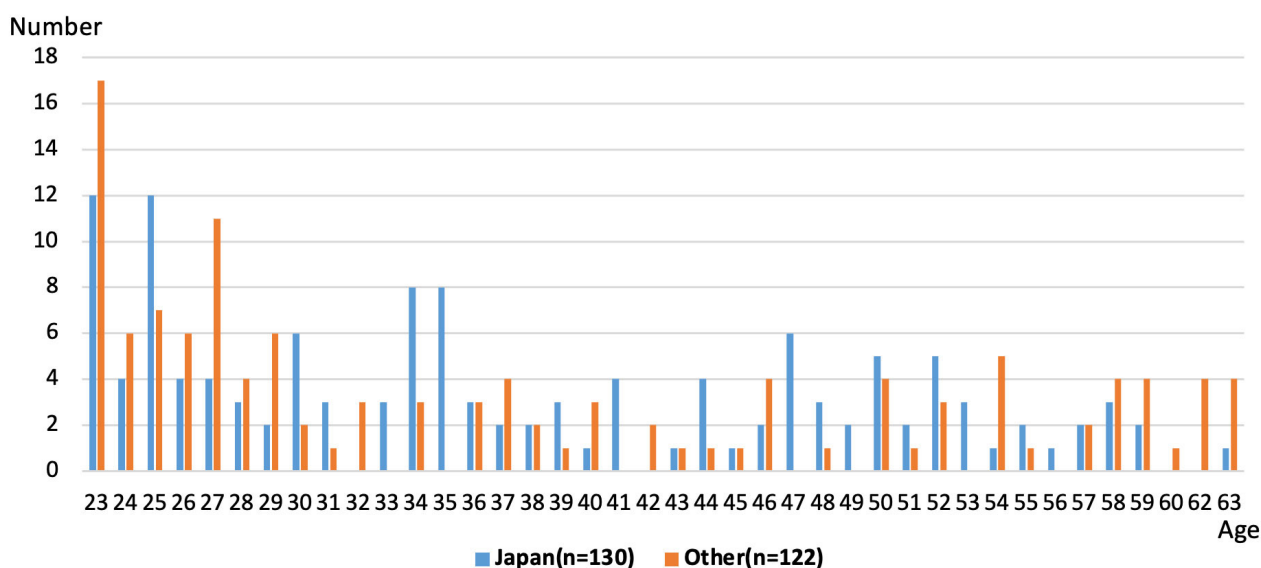


Figure 1. The age distribution of participants

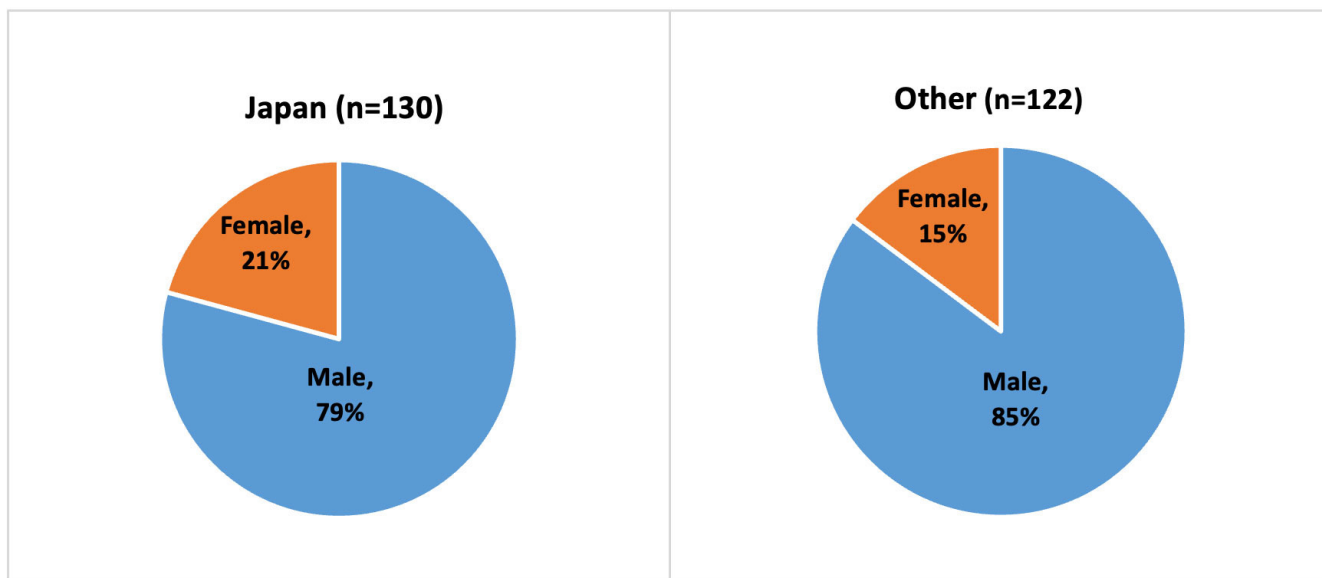


Figure 2. The gender composition of participants



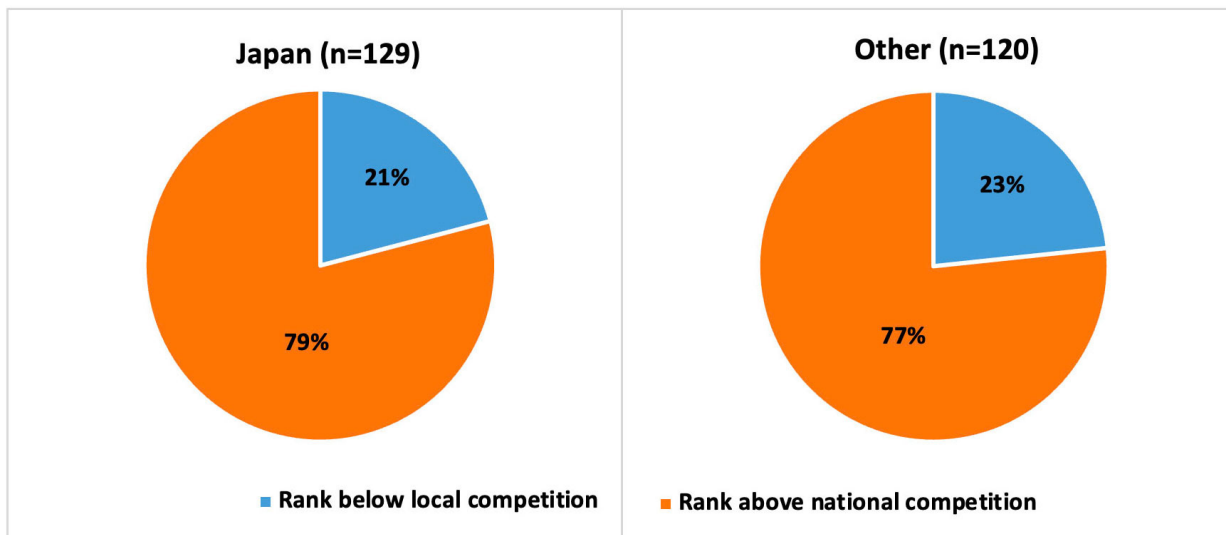


Figure 3. The competition level of participants

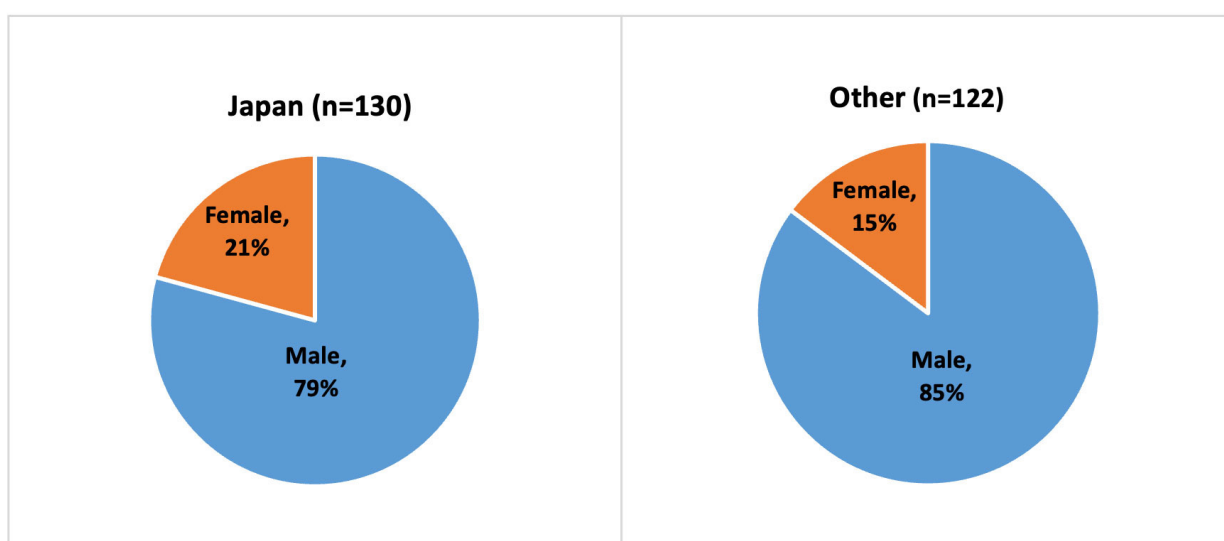


Figure 4. Age of participants when first using *shime-waza*

Shime-waza

Japanese *judoka* appeared to have more experience of being unconscious following *shime-waza* than non-Japanese *judoka*, with a significant difference (Japan: 73.8%, Other: 58.7%, $p < 0.05$, AR: adjusted residual 2.3), as shown in Figure 5.

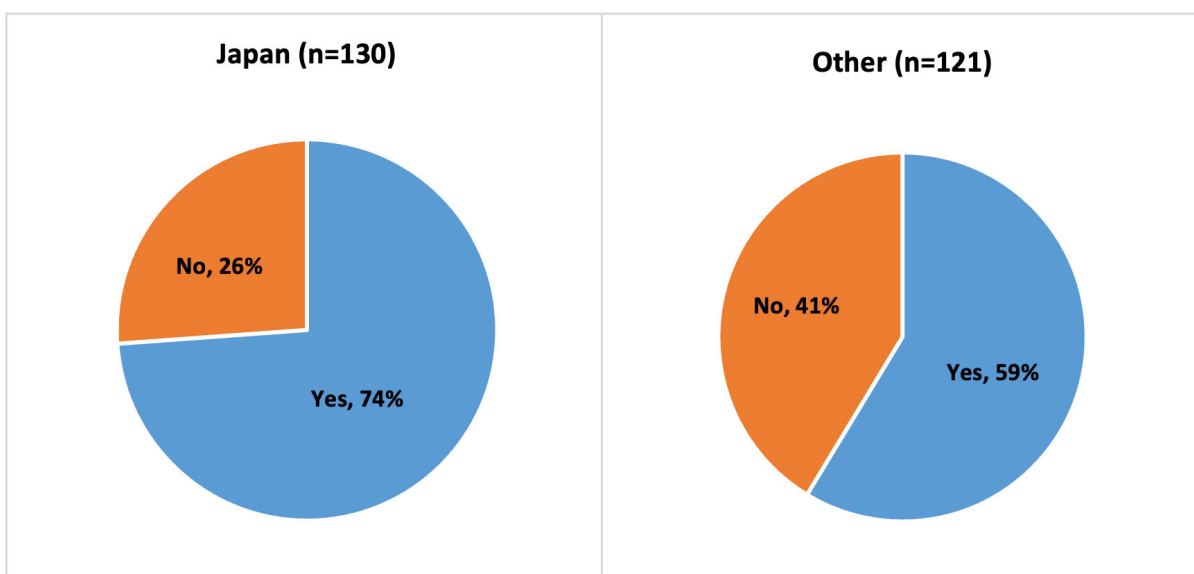


Figure 5. The participants' experience of unconsciousness by *shime-waza*

Japanese *judoka* felt significantly more fear when considering *shime-waza* than non-Japanese *judoka* (Japan: 62.3%, Other: 22.1%, $p < 0.001$, AR 6.4), as shown in Figure 6. Similarly, Japanese *judoka* showed significantly more fear of being rendered unconscious by *shime-waza* than non-Japanese *judoka* (Japan: 72.3%, Other: 29.8%, $p < 0.001$, AR 6.7), as shown in Figure 7. In addition, Japanese *judoka* showed more prompt decisions to submit from pain due to *shime-waza* (Japan: 63.8%, Other: 30.0%, $p < 0.001$, AR 5.4), as shown in Figure 8.

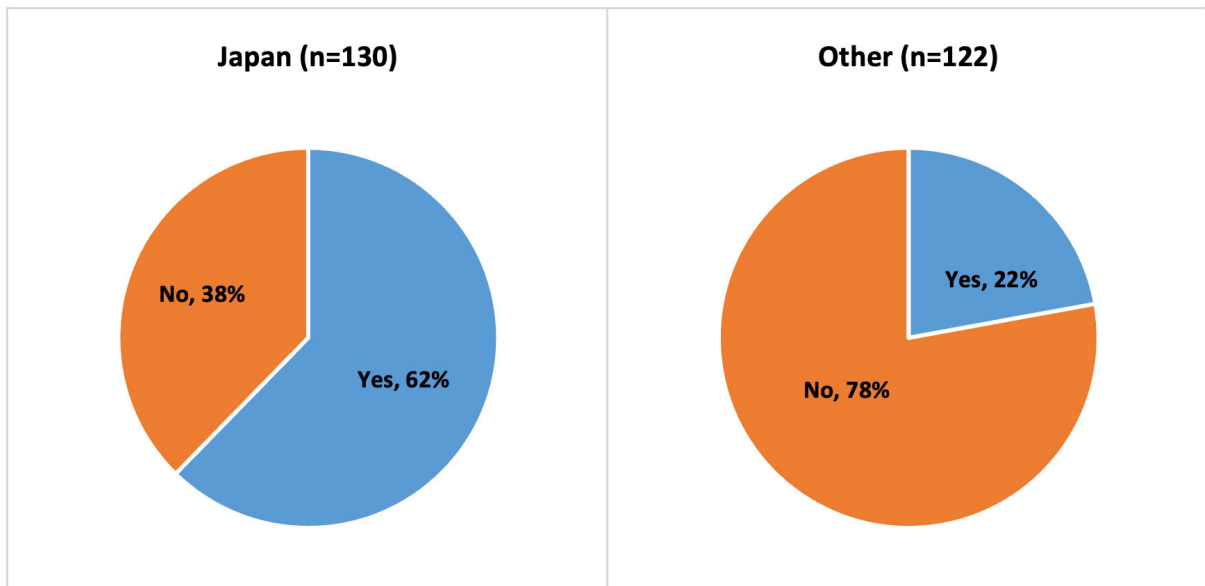


Figure 6. Fear of *shime-waza*

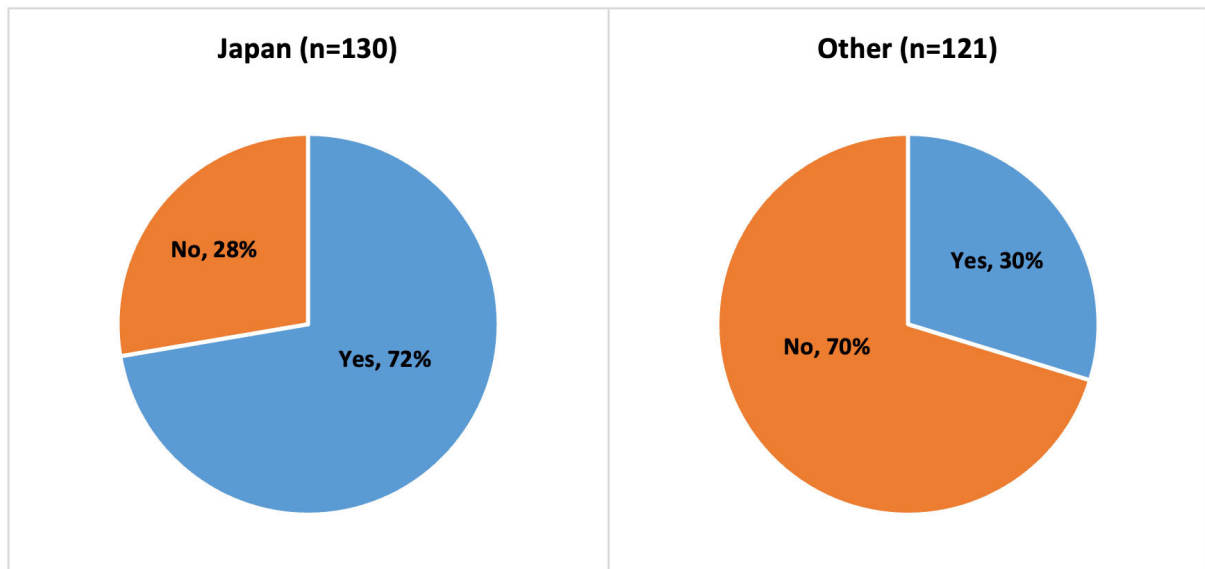


Figure 7. Fear of unconsciousness from *shime-waza*

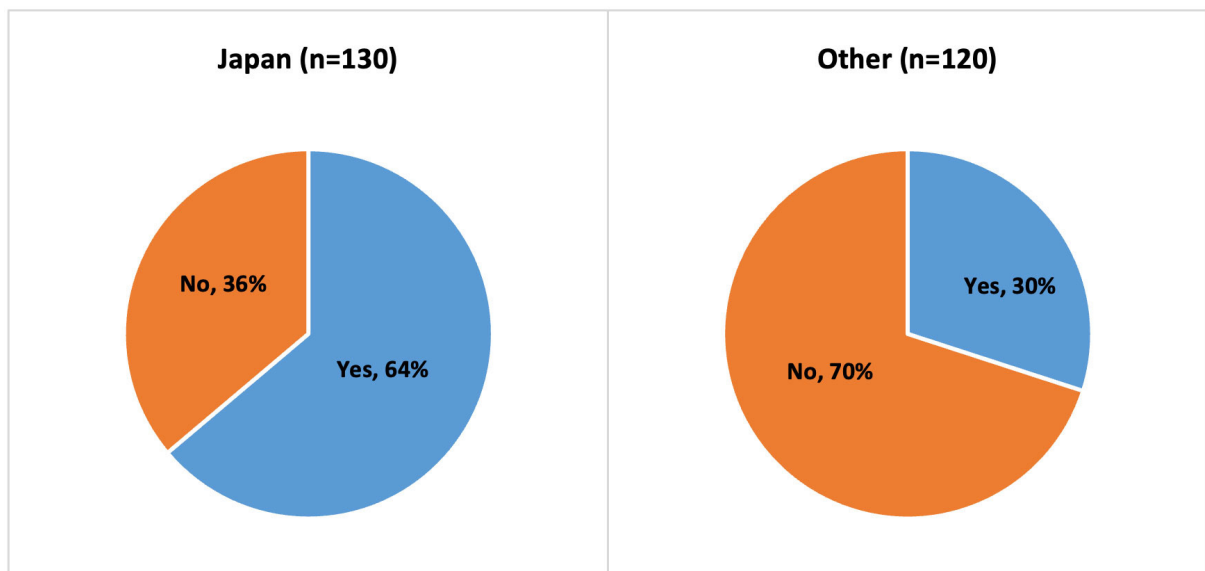


Figure 8. The promptness of the decision to submit due to pain from *shime-waza*



Japanese *judoka* more significantly recognised that they learned how to take care of unconscious opponents following *shime-waza* than non-Japanese *judoka* (Japan: 85.4%, Other: 69.4%, $p < 0.01$, AR 3.0) and that they were confident in their coaches to treat unconscious *judoka* following *shime-waza* (Japan: 79.2%, Other: 67.2%, $p < 0.05$, AR 2.2), as shown in Figure 9 and Figure 10, respectively.

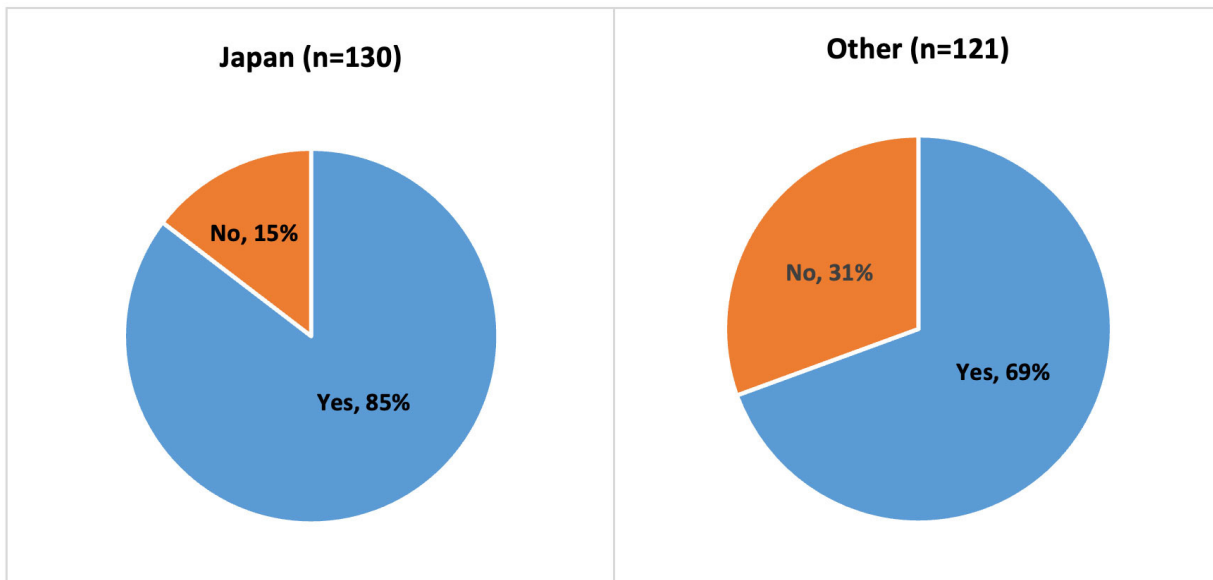


Figure 9. Experience of learning how to take care of unconscious opponents following *shime-waza*

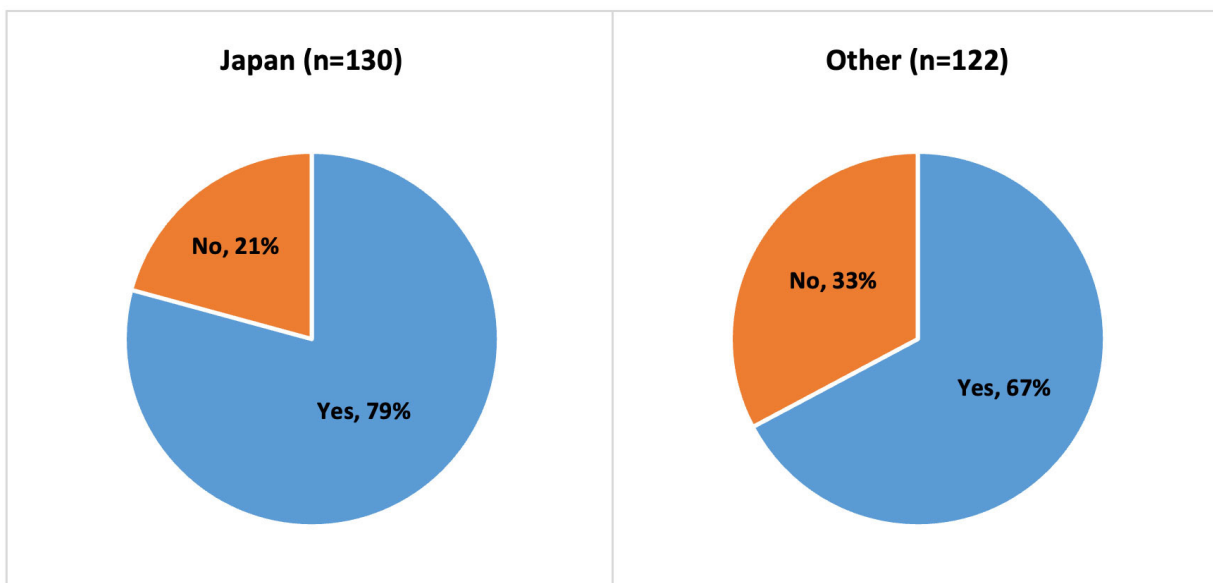


Figure 10. Confidence in coaches' treatment of unconscious *judoka*, following *shime-waza*

Compared to non-Japanese *judoka*, Japanese *judoka* appeared to have a nicer judo environment (i.e. learning the care of unconscious opponents, confidence in coaches' treatment of unconscious *judoka*). However, more Japanese *judoka* agreed with abolishing the use of *shime-waza* (Japan: 20.8%, Other: 4.9%, $p < 0.001$, AR 3.7), as shown in Figure 11.

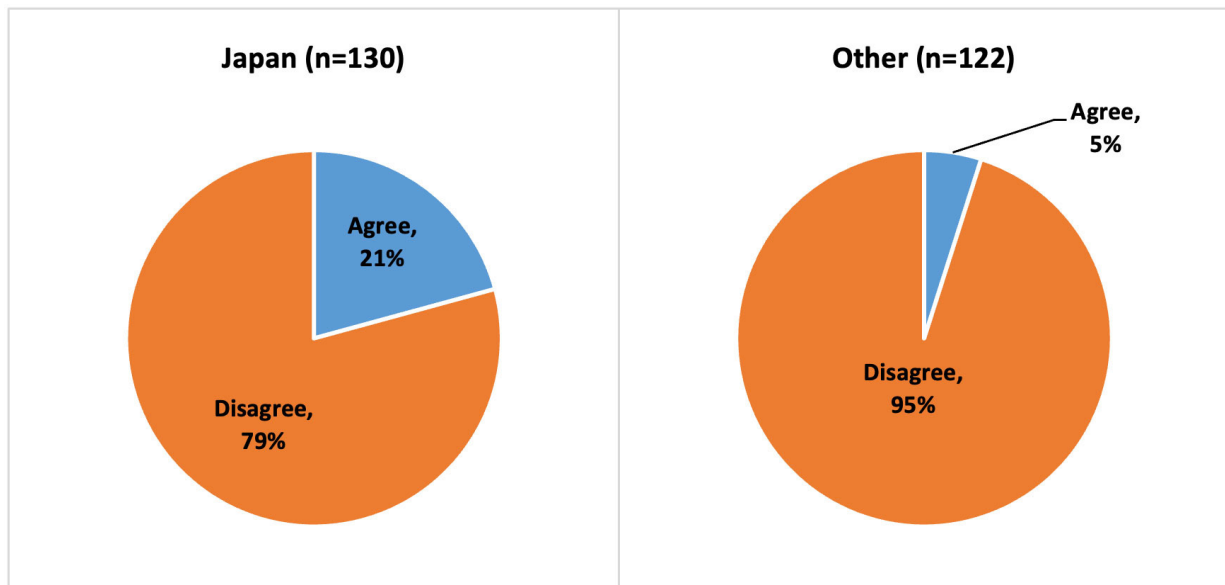


Figure 11. Abolish the use of *shime-waza*

Non-Japanese judoka had a greater tendency to recognise *shime-waza* as traditional techniques than Japanese judoka (Japan: 85.4%, Other: 95.1%, $p < 0.05$, AR -2.6), as shown in Figure 12.

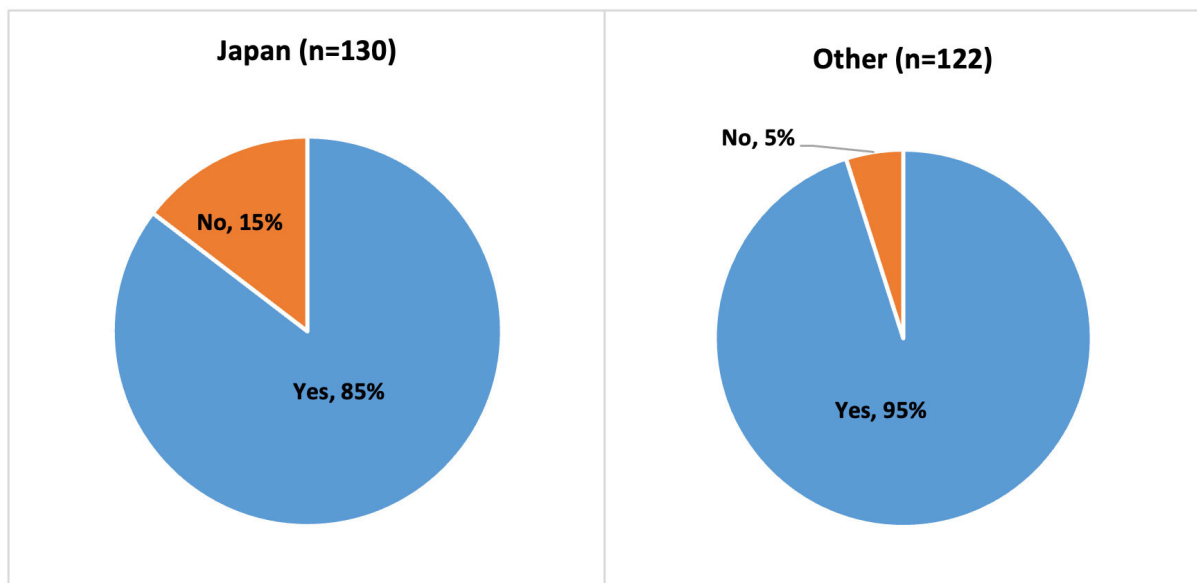


Figure 12. Recognition of *shime-waza* as traditional judo techniques

Compared with Japanese *judoka*, non-Japanese *judoka* were more confident of being instructed correctly by their coaches on how to apply *shime-waza* (Japan: 66.9%, Other: 82.0%, $p < 0.01$, AR -2.7) and how to escape from an opponent's *shime-waza* (Japan: 66.2%, Other: 80.3%, $p < 0.05$, AR -2.5), as shown in Figure 13 and Figure 14, respectively.

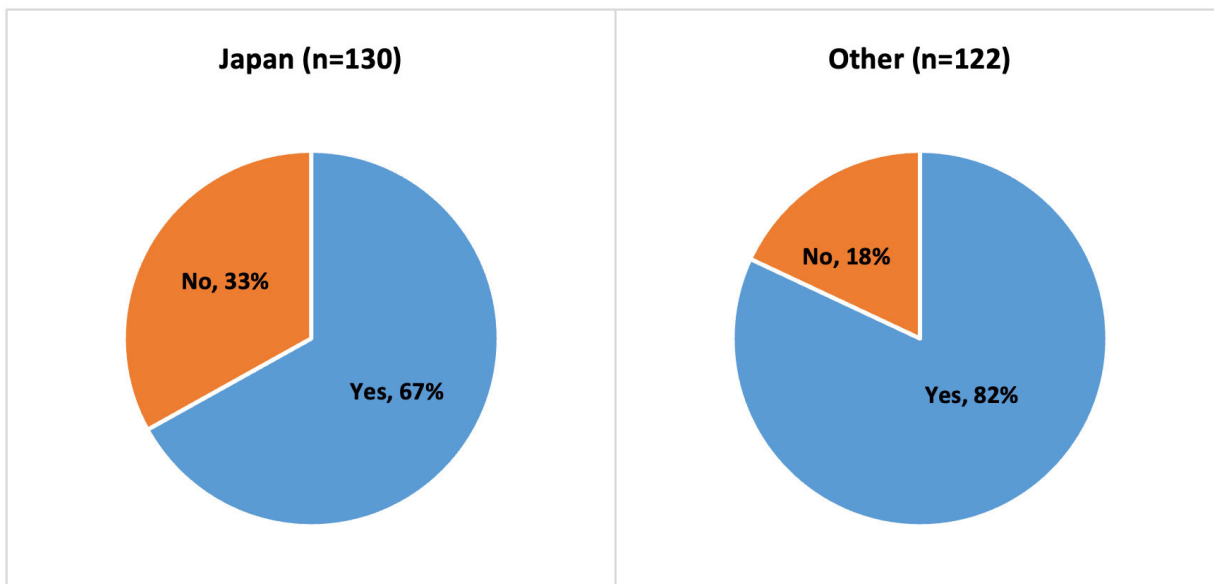


Figure 13. Confidence in proper instruction of applying *shime-waza*

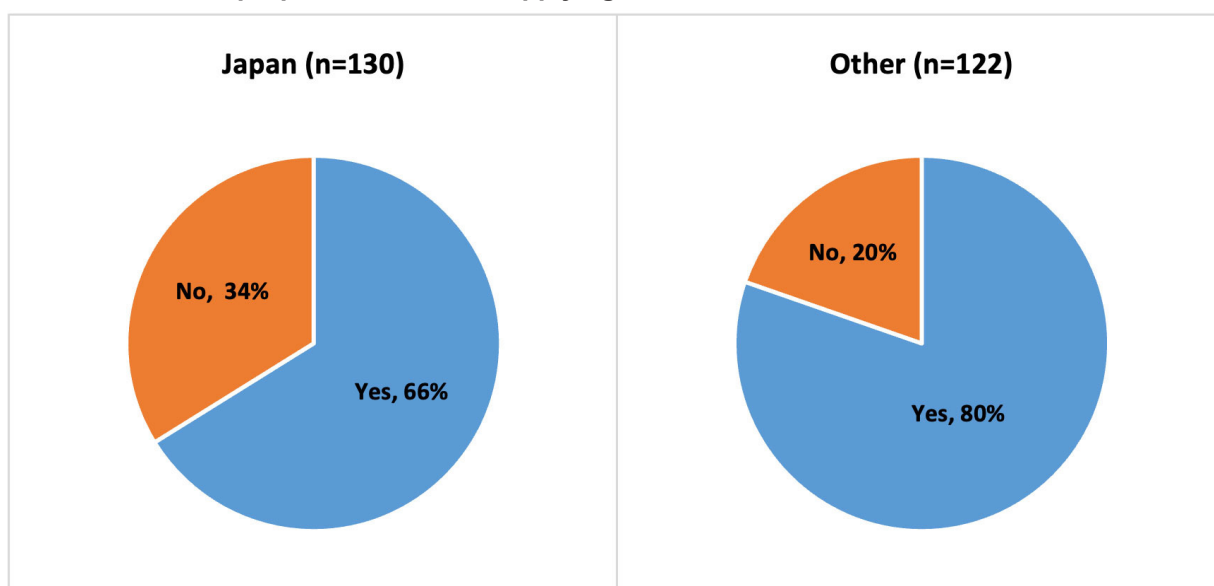


Figure 14. Confidence in proper instruction of the escape from *shime-waza*

Non-Japanese *judoka* were more accepting of the use of *shime-waza* starting from junior high school age (Japan: 63.1%, Other: 82.0%, $p < 0.05$, AR 3.3), as shown in Figure 15. The result is consistent with the aforementioned data in Figure 11, showing the positive feeling of non-Japanese *judoka* towards *shime-waza*.

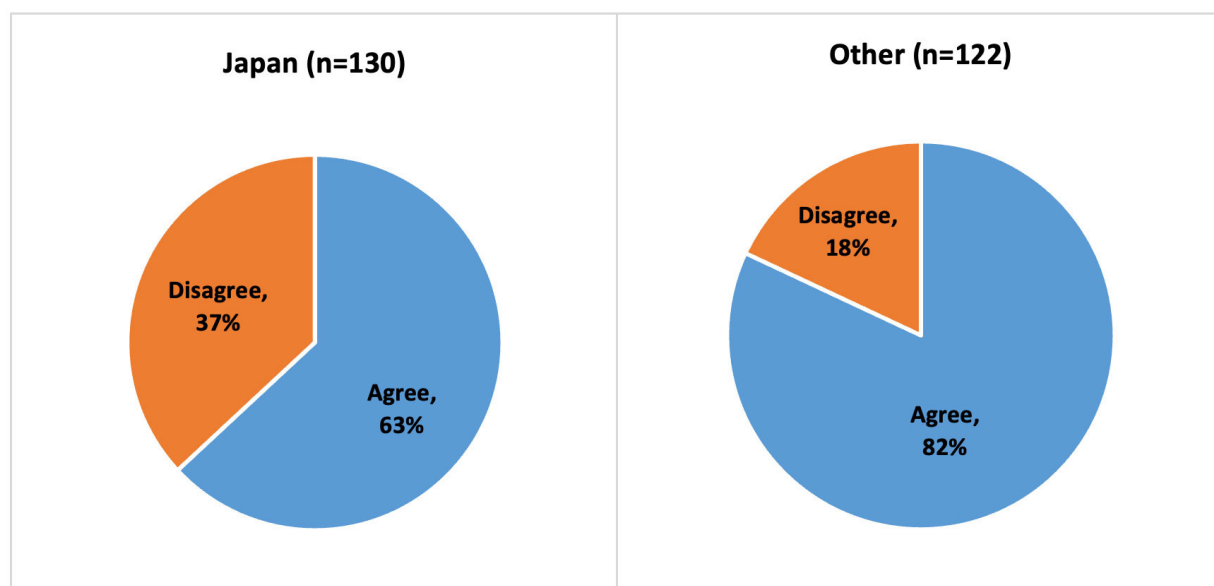


Figure 15. Use of *shime-waza* from junior high school age



DISCUSSION

In the 1880's, *Jigoro Kano* reorganised several streams of Japanese traditional *jujutsu* and theoretically systematised judo techniques into three different categories called *ate-mi-waza*, *katame-waza*, and *nage-waza* (Kodokan Judo, 1964; Watson, 2000). *Ate-mi-waza* included dangerous judo techniques and thus were prohibited from use in *randori* (i.e. free practice in judo) and competition but were retained in *kata* to ensure judo's unique 'bujutsu aspect' (i.e. martial arts). *Shime-waza* were categorised in *katame-waza* together with *kansetsu-waza* and *osaekomi-waza*. Thus, *Kano* may have recognised *shime-waza* as safe at that time. Since 2022, however, the All Japan Judo Federation (AJJF) prohibited the use of *shime-waza* in competition for junior high school students, from ages 12 to 15 in Japan. The main reason cited was the fragility of the neck in adolescent judoka while their skeletons and brains are under development. The AJJF prohibited *sankaku-jime* for junior high school students in 2010, due to a concern about neck injuries.

Jigoro Kano described *shime-waza* thus, "You use your hands, arms or legs on the opponent's collar or lapels to apply pressure to his neck or throat." (Kodokan Judo, 1964; Ohlenkamp, 1995). *Shime-waza* therefore normally puts significant pressure on the carotid artery and trachea, resulting in unconsciousness occasionally. It was recently reported that unconsciousness following *shime-waza* occurred at higher incidences per match in younger judoka when compared with senior judoka (i.e. cadet 18.9%, junior 14.6%, and senior 4.3 %) (Sasaki et al, 2022). Another study showed that one in seven (14%) post-unconsciousness judoka at junior high school age displayed a variety of symptoms after the recovery from the unconsciousness by *shime-waza* including wandering, numbness of the limbs, dizziness, and nausea (Ikumi et al, 2021). It is of note that while those symptoms usually disappeared within 5 minutes after the onset of unconsciousness, one case lasted more than one hour and another lasted more than 24 hours (Ikumi et al, 2021).

There is a tendency for judoka to feel the most serious unconsciousness before a black belt holder and the memory of unconsciousness could last a couple of years (Kamiya et al, 2023). Thus, the fear of unconsciousness can be a time-dependent occurrence. In the current study, it is interesting that even in non-Japanese judoka, 20% to 30% have a fear of receiving *shime-waza* and being unconscious due to *shime-waza*, respectively (Figure 6, Figure 7). It is possible that experiencing symptoms after being unconscious due to *shime-waza* could lead to fear. In addition, the absence of responsive coaches at the time of being unconscious can lead to a negative experience of *shime-waza* in conjunction with fear (Kamiya et al, 2023). It is noted that there is no case of being transferred to hospital after receiving *shime-waza* in the period 2005-2022 on 157 top EU competitions, with a total of 39415 competitors (Smolders, 2021), suggesting that *shime-waza* are safe techniques. There may be a complicated correlation

between the reality of safety and the potential for fear after becoming unconscious due to *shime-waza*.

In this study, the data from Japanese judoka and non-Japanese judoka was comparable because age distribution (Figure 1), gender composition (Figure 2), and competition level (Figure 3) were all statistically similar. In addition, in the judo training, *shime-waza* was practiced with similar frequency between the two groups (Japan: 61%, Other: 67%). This means that *shime-waza* is similarly recognised by Japanese and non-Japanese judoka. The experience of being unconscious due to *shime-waza* was 59% in non-Japanese and 74% in Japanese (Figure 5). In addition, the experience of rendering opponents unconscious with *shime-waza* was 78% in Japanese and 68% in non-Japanese, without significance (data not shown). These results were consistent with our previous data with about 60% in collegiate judoka (Kamiya et al, 2023) and other reports with below 70% (Matsunaga et al, 2021). While the incidence of unconsciousness in Japanese judoka was mildly but significantly higher than in non-Japanese judoka, the fear of *shime-waza* (Figure 6) and the fear of unconsciousness following *shime-waza* (Figure 7) were both much more dramatically elevated in Japanese judoka when compared with those in non-Japanese judoka, with a significant difference: 2- to 3-fold. It is possible that the earlier experience of *shime-waza* in Japanese judoka, by an average of two years, can increase the fear; the average age for the first contact with *shime-waza* was 12.2 in Japanese judoka and 14.2 in non-Japanese judoka (Figure 4). It is also considered that the adolescent judoka, aged about 12 to 13, are skeletally immature and could be rendered unconscious easily by *shime-waza*, leading to negative input in the memory of their developing brain. This means that the prohibition of *shime-waza* by the AJJF since 2022 could work to reduce fear. Future research is desired to address this investigation.

In contrast, non-Japanese judoka showed a mildly lower incidence of unconsciousness by *shime-waza* (Figure 5) and a much lower degree of fear against *shime-waza* (Figure 6) as well as against unconsciousness (Figure 7). Moreover, non-Japanese judoka were understood to be more optimistic than Japanese judoka regarding *shime-waza*, illustrated by fewer submission actions, by half (Figure 8), and mildly less consideration of safety management by themselves (Figure 9) and by their coaches (Figure 10). Japanese and non-Japanese judoka similarly appreciated the attractiveness of *shime-waza* in judo, about 80% (data not shown). However, non-Japanese judoka recognised *shime-waza* as traditional judo techniques more seriously than Japanese judoka (Figure 12). This is possibly because non-Japanese judoka may respect martial arts and pay attention to the traditions and educational values of judo more seriously (Brousse, 2021). Indeed, non-Japanese judoka were confident in the instruction of applying and escaping from *shime-waza* (Figure 13, Figure 14), possibly leading to less fear as stated earlier. (Figure 5, Figure 6). Thereby, non-Japanese ju-

doka more strongly disagreed with abolishing *shime-waza* (Figure 11) and agreed with the use of *shime-waza* from junior high school age (Figure 15). Non-Japanese *judoka* realised that the use of *shime-waza* in competitions was reduced significantly these days compared to Japanese *judoka* (data not shown). This means that the frequency of *shime-waza* as a winning technique can be reduced for non-Japanese *judoka*. Overall, non-Japanese *judoka* appear to be more positive about using *shime-waza* than Japanese *judoka* while non-Japanese *judoka* are also slightly more optimistic about their safety management.

Limitations of this study

There are some limitations in this study. First, obtained data were compared between Japanese *judoka* and non-Japanese *judoka*. In the non-Japanese *judoka*, there were 7 countries. While data from the 7 countries was combined, due to small sample sizes, there may be some differences by country. Second, while the gender composition of Japanese *judoka* was similar to that of non-Japanese *judoka*, the gender difference in the attitudes to and awareness of *shime-waza* was not investigated due to the sample size limitation in female *judoka*. Third, while Japanese *judoka* appeared to decide to submit promptly when in pain from *shime-waza* (Figure 8), 44% of them worried about getting told off by their coaches (data not shown). There is a history of *shime-waza* being used as corporal punishment in Japan, which was not considered when interpreting the data. Last, it is interesting to compare the data between the *judoka* with experience of unconsciousness due to *shime-waza* and those without experience of unconsciousness. An extended study is desired to investigate the comparison.

CONCLUSION

The techniques of judo were systematised theoretically by *Jigoro Kano*, who retained the safe techniques of *jujutsu*. This study focused on the attitudes to and awareness of *shime-waza* and compared Japanese *judoka* to non-Japanese *judoka* in adults from ages 23 to 63 years. Japanese *judoka* had more experience of being unconscious following *shime-waza* and more fear of *shime-waza* as well as the resulting unconsciousness. In contrast, non-Japanese *judoka* had less fear of *shime-waza* as well as unconsciousness, more confidence in the instruction of *shime-waza*, more recognition of *shime-waza* as traditional judo, and more agreement to use *shime-waza*. Taken together, it is likely that non-Japanese *judoka* are more positive about using *shime-waza* than Japanese *judoka*.

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Global Consensus Statement

How Can Judo Contribute to Reducing the Problem of Injurious Falls in Older Adults?

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Abstract: *The Global Consensus Statement on judo-based interventions for older adults addresses the potential of judo techniques, particularly ukemi (safe falling techniques), in minimising the risk and impact of falls among the elderly. Falls represent a significant health challenge for the ageing population, contributing to injuries and high healthcare costs. The statement outlines best practice and recommendations for implementing judo-based fall prevention programmes globally. These programmes leverage judo's multi-faceted approach, incorporating strength, balance, co-ordination, and safe landing skills to reduce the severity of falls and minimise the fear of falling. Research indicates that older adults can learn and retain these motor skills, enhancing their ability to fall safely and reduce injury risks. The consensus also highlights the importance of collaboration between judo federations, healthcare providers and community organisations to scale these interventions effectively. By promoting judo-based exercise programmes, the consensus aims to improve physical, psychological and social wellbeing among older adults, ultimately enhancing their independence and quality of life.*

Keywords: *older adults; fall prevention; judo; ukemi; safe landing; exercise programmes*

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The Global Expert Group on safe falling for the elderly through judo comprises organisations involved in the teaching of and research into safe falling for older adults, through judo. It was formed with the aim of co-ordinating and supporting safe falling through judo activity across the world.

At the International Consensus Conference on Safe Falling for the Elderly Through Judo, held in Japan in November 2023, it was agreed that the Global Expert Group delivering safe falling for the elderly through judo across the world, would create a consensus statement on ways to support and encourage the worldwide rollout of these solutions. This statement outlines the interventions and approaches that the group recommends to national judo federations and other deliverers by detailing the consensus of best practice activities that the Global Expert Group members have developed.

The intended audience for this statement includes local commissioning and strategic leads within countries and national federations which concern themselves with safer falling challenges among older adults that could be impacted upon by the teaching of basic judo falling techniques known as *ukemi*. This consensus statement aims to compile knowledge and evidence of how judo can contribute to reducing injurious falls and benefit the health of older adults.

Following publication, the Global Expert Group and the International Judo Federation (IJF) Academy intend to initiate a programme of work to educate coaches and other professionals around the delivery of programmes for older people based on the guidance provided in this document.

Introduction to the Management of Fall Risk Factors and Safer Falling

The worldwide population is ageing with an increase in geriatric syndromes and physical function decline, leading to a higher risk of falling and fall-related injuries in older people (Christensen, 2009). The World Health Organisation (WHO) lists accidental falls as the second major cause of injuries leading to death and a high cost of medical care (World Health Organisation, 2021). Preventing falls and fall-related injuries in older adults is therefore a major health challenge and it is increasingly important to develop strategies to better manage the rising number of falls but also reduce fall-related injuries.

Geriatric syndromes such as frailty and sarcopenia, as well as physical function decline including limited mobility, impaired balance and gait, postural hypotension, reduced muscle strength and cognitive decline have been associated with an increased risk of falling in older adults (Panel on Prevention of Falls in Older Persons, 2011). These risk factors can be managed with multi-component exercise interventions, which have been shown to improve physical function in older adults (Jadczak, 2018) thus benefitting the fall prevention campaign.

However, one in four older adults still experience a fall each year and 30% require medical attention as a result (Queensland Government, 2022). Data from the United States of America shows that each year about 3 million older adults are treated in emergency departments for a fall injury (Centre for Disease Control and Prevention, 2024) highlighting the tremendous consequences falls for older people.

While multi-component exercise interventions have shown to be beneficial in preventing falls and managing risk factors (Jadczak et al., 2018), there is still a major gap when searching for strategies to reduce harm from falling and fall-related injuries. One innovative strategy is to use the sport of judo to teach older adults how to land safely in case they do fall. Judo is a multi-component exercise intervention that includes balance, posture, strength and flexibility (Kano, 1986). In addition, judo uses specific safe landing techniques, *ukemi*, which can be utilised to teach older adults how to land safely (Kano, 1986). If older adults can learn to land safely, it could be implied that they can prevent injury and fractures, avoid hospital admission and reduce other negative health consequences.

A recent scoping review revealed that judo-based exercise interventions are safe and feasible for older adults and have the potential to impact positively on physical function, muscle strength, gait, quality of life, fear of falling and flexibility (Chan et al., 2023). It has been suggested that teaching judo-specific *ukemi* techniques might be a favourable strategy for reducing falls and consequential injuries in adults with no previous experience in judo (Dobosz, 2018).

Definition of Judo

Judo, originally referred to as '*Nihonden Kodokan Judo*,' literally meaning 'Kodokan Judo of Japanese origin,' is a modern Japanese martial art, founded by Jigoro Kano in 1882 (Hoare, 2009). According to Kano, "Kodokan literally means 'a school for studying the way,' 'the way' being the concept of life itself." (Kano, 1932).

Consisting of two characters, '*jū*,' translates as 'gentle' and '*dō*' translates as 'the way.' *Jūdō* thus means 'the way of gentleness' or 'the way of softness and flexibility.' (Brousse & Matsumoto, 1999; Kawamura & Daigo, 2000).

Judo is a method of physical, intellectual and moral education, which was originally developed for self-defence and evolved into a competition sport after being included in the Olympic Games for the first time in 1964 (IJF, 2024a). Since then, judo has gained international popularity not only as a competitive sport but also as a martial way for young and old with educational value. As of February 2024, 205 national judo federations are affiliated members of the International Judo Federation, with an estimated 40 million practitioners worldwide (IJF, 2024b).

The techniques of judo are derived from traditional jujutsu

and include throwing techniques (*nage-waza*), grappling techniques (*katame-waza*) and striking techniques (*ate-mi-waza*) (Murata, 2009). Throws and groundwork techniques, including holds, chokes and joint locks targeting the elbow, are used in free practice or *randori*, and competition, while the practice of striking techniques is limited to *kata*, a method of formal practice consisting of prearranged patterns of attack and defence (Murata, 2009).

Before judo practitioners master and apply various techniques while engaging in direct contact with each other, they learn how to fall safely. Therefore, *ukemi*, or safe break-falling can be considered the most essential skill of judo. Before learning to throw, judoka must master the basics of safe falling. *Ukemi* is a life skill which can prevent injuries in daily life and has the potential to contribute to fall prevention not only for the young but especially for older individuals (Chan et al., 2023; Dziergwa, 2022).

The health-oriented practice of judo has the potential to improve overall strength (Burns & Callan, 2017), co-ordination, posture and balance in practitioners (Arkkukangas et al., 2021). In addition to the physical aspect, training with a partner also requires mutual co-operation and trust in each other and therefore improves social skills (Bradic, 2023).

Since its inception in 1882, judo has spread from a small room at Eishoji temple in Tokyo to all nations of the world over a period of more than 140 years (Hoare, 2009). Over more than a century, millions of judo practitioners have been thrown by their partners with force and have applied the principles of *ukemi* within their daily practice.

The philosophy of judo is based on two core principles: the principles of 'maximum efficient use of energy' and 'mutual prosperity for oneself and others' (Uozumi, 2010). 'Maximum efficient use of energy' (*seiryoku zen-yo*) is a technical principle referring to the most efficient use of mind and body in judo practice, which can also be applied to all daily activities (Bennett, 2009). 'Mutual prosperity for oneself and others' (*jita kyoei*) is an altruistic concept applying the principle of 'maximum efficient use of energy' to all aspects of daily life (Bennett, 2009), ultimately aiming to contribute to society through individual commitment to self-perfection (Todo, 2020).

According to judo's founder, Jigoro Kano, judo training based on the principle of maximum efficiency aids the "Improvement of the human body, making it strong, healthy and useful, and so constitutes physical education. It can also be applied to the improvement of intellectual and moral power, and in this way constitutes mental and moral education." (Kano, 1932). Based on these universal core values, judo is adaptable to the needs of each individual and thus can be practised by everyone, regardless of age, gender or physical attributes.

Safe Falls – Technical Approaches in Judo

Teaching Knowledge of How to Fall (*ukemi*)

There is a range of coaching methodologies used by judo teachers experienced in working with older populations. Most of these approaches involve very small progressions to develop an understanding of the techniques, known as micro-progressions. This is supported by Callan (2023) who outlined a 14-stage approach to the teaching of *mae-mawari-ukemi*.

Arkkukangas et al., (2021, 2022) suggest that progressions can be thought of in three main blocks:

1. Practising basic falling techniques such as falling backwards and sideways from a sitting or kneeling position, and strength exercises, body awareness, basic balance and mobility training, including getting up and down from the floor.
2. Continuing with falling techniques, increasing load in strength exercises, challenging balance and co-ordination, greater range of movements and possibly power in strength exercises.
3. Continuing with advanced falling techniques (for example, from a standing position), challenging balance and strength exercises and ability to develop power in strength exercises.

The importance of teaching basics to begin with is emphasised by Sakuyama (2021), who suggested that it is important to begin with easy movements in order to retain motivation. These include *ukemi*, cradle motion, backward and sideways, and *uchite* (motion of the hand hitting the mat). Other experts focus on specific exercises to assimilate safe and protected ways of falling (Campos-Mesa et al., 2020).

Another teaching approach which is applied is repetition training; in judo this is known as *uchi-komi* (Ishikawa & Draeger, 2011). Here, the participant repeats new movement patterns and techniques in order to embed the learning. This approach is used for: breakfalls (*ukemi*), training of unbalancing (*kuzushi*) and training with turning of the body (*tai-sabaki*) (Borba-Pinheiro et al., 2016). The motor learning model of Fitts and Posner (1967) and the notion of motor visualisation is also used by some teachers (Dziergwa, 2022).

The technical points of teaching safer falling emphasise three main aspects (McDonald & Callan, 2023). Firstly, maintaining alignment and ensuring that the head does not contact the floor helps to ensure the correct technique is adopted from a safety perspective. Secondly, distributing the force of the impact by making a large surface area contact the ground, practically applies the principles of mechanics to minimise the pressure on a single point of

impact. Finally, reducing the velocity of the fall is achieved by teaching the participants to use rolling to dissipate the force over a longer time.

Standing Up

The importance of being able to rise from the floor independently, to avoid any harm associated with lying for long periods is widely accepted (Montero-Odasso et al., 2022).

Evidence has shown that judo sessions helped older participants to learn techniques to become more confident to stand up safely from the floor (Arkkukangas, Bååthe, Hamilton, Ekholm & Tonkonogi, 2020; Toronjo-Hornillo et al., 2018). Toronjo-Hornillo et al., (2018) also suggest including a warm-up and cool down during the session, along with mobility, balance, posture and strength training, as this can help the older people to feel more confident when practising breakfalls, ultimately reducing their fear of falling. They advocate that within classes, rising from the ground should be taught alongside *yoko-ukemi* (lateral falls) and *ushiro-ukemi* (backward falls).

Burton et al., (2023) found that the two main methods for teaching rising from the floor are 'backward chaining' (Montero-Odasso et al., 2022), and the 'conventional method' (Reece & Simpson, 1996) and recommended that older adults practise the skill of rising from the floor, such as during judo sessions, with Skelton et al., (2005) having shown that it is possible to regain this skill.

Equipment and Safety Considerations

A range of equipment is used by existing safer falling through judo programmes. Supervision by an experienced coach is of great importance to ensure the technique is correct and therefore injury is avoided. As participants build confidence they can complete some basic exercises at home. Some, such as the Nijmegen Falls Prevention Programme and Judo Flanders Carefree Falling, make use of thick safety mats, some using additional equipment such as hoops, balls and chairs. Safety mats also allow people who cannot bend down low enough to practise the safe falling exercises to improve the technique. Most of the programmes deliver the sessions on standard-density judo mats. The scoping review by Chan et al. (2023) found eleven studies that used judo mats to conduct both judo-specific and judo-based interventions in middle-aged, older and mixed-age participants. Some sessions, such as the Quebec Fall Prevention and Control Program (Seguin, 2021) do not use any judo mats, instead, delivering the sessions on an indoor sports hall floor.

Participants, often beginners, wear a variety of clothing such as loose-fitting exercise clothes, usually with no hard items such as belts or buckles. Long sleeves and trousers can also be worn to protect skin. As the participants make progress, they often choose to wear *judogi* (judo suit).

For footwear, most judo sessions encourage bare feet on the mat but some older adults prefer to wear socks or even indoor, soft, training shoes. The aim of the judo teacher is to reduce any barriers to participation, as the participants may already be nervous about taking part.

Specific Training Recommendations

Judo practitioners have utilised a range of different training approaches when delivering their sessions. Individual differences and needs are of great importance when working with older adults. The physicality of the sessions should be adapted to suit the individual if they have any health issues or injuries. British Judo's 'Finding your Feet' course uses a PARQ+ form as a pre-exercise screening tool.

Longer programmes have more benefits concerning fear of falling as the skills learned become more autonomous and the participants build confidence. A weekly 45-minute session over 4 weeks showed a 16% decrease in fear of falling when compared with a control group (Callan et al., 2023).

Reducing Impact Force, the Application of Mechanics

Pressure is Force divided by Area. The pressure of an impact is measured in the S.I. unit pascal (Pa). One pascal is the pressure exerted by a force of magnitude one newton perpendicularly upon an area of one square metre (Page & Vigoureux, 1974).

$$1 \text{ Pa} = 1 \text{ N} / \text{m}^2$$

Where N is a Newton, m is a metre.

A Newton is the S.I. unit of force. One Newton is the force that would give a mass of one kilogram an acceleration of one metre per second per second, and so where 'kg' is a kilogram, 's' is a second.

$$1 \text{ N} = 1 \text{ kg} \cdot \text{m} / \text{s}^2$$

So, an increase in the mass (kg) of the body would increase the pressure (Pa) of the fall. Therefore, a heavier person will exert more pressure than a lighter person for the same fall.

Another way to increase the pressure is to reduce the area (m²) that contacts with the ground, such as landing just on the proximal area of the hand (upper limb fall reflex) or just on a single hip joint. Conversely, landing on a larger surface area, such as during a *yoko-ukemi*, will increase the denominator in the equation and thus result in reduced pressure from the fall. This is one of the mechanical reasons that judo practitioners are able to fall without injury; they land on a large surface area. Groen et al., (2010) showed significant improvements in hip impact force using a 1.2 m × 1.2 m force plate covered by judo mats in older participants after a weekly judo-based intervention over 5 weeks.

Callan (2023b) found that around 14% of the body surface area is in contact with the ground after a *yoko-ukemi*. This is equivalent to someone lying on their side. Rajaei et al., (2018) found that the pressure on the proximal area of the hand for a fall using the upper limb fall reflex was 277 kilopascals (kPa), whereas Callan (2023b) identified the pressure of a *yoko-ukemi* to be less than 3 kPa.

The acceleration of the fall is also a factor. A fall that is slowing down (decelerating) will decrease the landing force and therefore decrease the pressure. In judo breakfalls, deceleration is achieved during the rolling action, for example in *mae-mawari-ukemi*. After fall training, hip impact force was reduced by a mean of 8% (Groen et al., 2010).

Reducing Injury and Harm From Falls

By participating in judo-based exercises, older people may become fitter and stronger, therefore reducing frailty. The 'Clinical Frailty Scale' (Church et al., 2020) is a useful indicator of frailty and the likelihood of falling, so reduced frailty through judo training means that participants will be less likely to experience a fall. If judo participants do fall, they will be more able to apply a breakfall correctly and therefore reduce the pressure of the fall and the severity of any potential injuries.

Acknowledging individual differences and needs is of great importance when working with older adults. The physicality of the sessions should be adapted to suit the individual, if they have any health issues or injuries. British Judo's 'Finding your Feet' course uses a PARQ+ form as a pre-exercise screening tool.

There are many obvious positive health benefits for participants when learning to fall safely. However, there is currently a lack of research data on injuries to participants. This is an area in which further research is needed.

The chronic disease Osteoporosis leads to bone fragility and is associated with fracture risks and consequent issues of mobility. Borba-Pinheiro et al., (2016) demonstrated the favourable effects of adapted judo programmes on bone mineral density (BMD) and quality of life (QoL) for postmenopausal women in pharmacological treatment and a low socioeconomic level. They concluded that combat sports based on throws and grips and immobilisation of the opponent's body, such as judo, are likely to be optimal in achieving positive training effects for postmenopausal women.

Systematic reviews have reported that older adults who have taken part in resistance training, endurance training, multi-component training and balance training show improvements in balance ranging from 16% to 24% and have a lower incidence of falls ranging between 22% and 58% when compared with control groups (Valdés-Badilla et al., 2022).

Position of Body (Shizentai) and Breaking Balance (Kuzushi)

In judo, participants are taught to stand in *shizentai* position. The Kodokan Judo Institute define *shizentai* as natural posture, in which the body is standing normally (Kawamura & Daigo, 2000). Tomiki (1956) explains that it "Is the posture of a person standing quietly with his head and upper body kept upright, arms hanging without constraint and legs not so firm and widely apart." He explains that with this posture, the body keeps stability and does not fall and that additionally the limbs are kept soft so that they can shift to any action at any moment.

In *shizentai*, the balance of the standing person is maintained because the centre of mass of the body is over the feet. Masud and Morris (2001) define a fall as, "A fall results when the vertical line which passes through the centre of mass of the human body comes to lie beyond the support base and correction does not take place in time."

So, we can see that a fall is defined as the absence of *shizentai*. Tencer (2005) explains further that "a fall occurs when the centre of gravity of the trunk moves outside the base of support provided by the feet against the floor." We can think of a fall as being initiated by a loss of balance.

The action of breaking your opponent's balance in judo is known as *kuzushi*. Bountakis (2023) explains that judo teachers make an advanced study of the application of *kuzushi* in eight or 14 directions (Kudo, 1967). During judo sessions, older adults are taught the principles of *kuzushi*, to better understand the feeling of when their balance is broken and how to adjust back to a *shizentai* position or to initiate *ukemi* to help them fall safely.

Coach Education

As judo experts, qualified judo coaches already understand *ukemi* and *kuzushi* and can teach these principles to their students. Most judo participants are children and therefore coaches have built a wealth of experience teaching younger people. Several programmes around the world have developed coach education initiatives to prepare coaches to work with older adults.

The EdJCO (Educational needs for coaching Judo in Older Adults) programme (Palumbo, 2023) based across several European countries, developed recommendations for addressing coaches' educational needs through the implementation of an educational programme targeting judo practice in late adulthood. It achieved this through promoting evidence-based knowledge of judo training for older judo practitioners. They urged coaches to develop specific competencies and skills for addressing the special needs of older practitioners.

The Netherlands research team built on their experience delivering the Nijmegen Falls Prevention Program (Weerdesteyn et al., 2006) to create ZekerBewegen (move with

confidence) in partnership with the Dutch Judo Federation. ZekerBewegen judo instructors are trained to deliver a nine-week course to older adults that involves 20% balance and mobility and 80% *ukemi* practice. In 2023 there were 175 ZekerBewegen instructors operating across the Netherlands.

In the UK, the British Judo Association have developed a Coach Education qualification called Finding your Feet (McDonald, & Callan, 2023). The programme is based on the exercises found in the *Yawara-chan Taiso* project (Kamitani, 2018; Callan et al., 2022). A series of ten coach education sessions were delivered during 2024 which qualified around 120 coaches to work with older adults in their communities.

Psychological Benefits

Exercise has long been known to improve mental health by reducing anxiety, depression and negative mood and by improving self-esteem and cognitive function (Sharma, 2006). In particular, multi-component exercise like judo has been demonstrated to improve quality of life (QoL) in a number of studies, including in the elderly (Chan, 2023. Sakuyama, 2021).

Judo has a strong ethical base anchored by the principles of mutual benefit (*jita kyozei*) and maximum efficiency (*seiryoku zen-yo*) (Kano, 1986), supported by an eight-point moral code: respect, honesty, self-control, friendship, courtesy, honour, courage and modesty (IJF, 2021). Originating in Japan, judo is also influenced by the concept of *Omoiyari* or consideration, altruistic caring for others. These philosophies make the judo dojo a safe, inviting and friendly space for older adults, particularly those with limited involvement in physical activity or sport. Judo coaches usually extend an inclusive, customised exercise programme aimed at achieving the best possible outcomes for all participants.

Some projects also seek to understand the benefits of intergenerational training and therefore adhere to these programmes long-term. By having older adults participate in these programmes at a local judo club, children and grandchildren can also become part of the judo community, instilling these skills from a younger age as well as growing the judo community. The European Union has supported the JOY (Judo connecting Older and Younger Generations) project which helps to raise awareness of intergenerational judo and its positive psychological and social benefits.

One of the negative aspects of ageing is an increased fear of falling (Parry, 2013). Consequences include avoidance of activity, social isolation, increasing frailty and a risk of further falls independently of physical impairment, which can lead to a downward spiral in both physical and

mental capacity. However, judo programmes for novice older adults have been shown to reduce the fear of falling (Callan et al., 2022; Campos-Mesa, 2020) and improve motivation for exercise (Ciaccioni, 2021).

Most people experience an age-related decline in cognitive function as a normal part of the ageing process but exercise at a moderately high level of physical activity can help maintain healthy brain function (Xu, 2023). Judo can be particularly helpful for developing and maintaining cognitive function through the use of *kata* and other challenging co-ordination activities such as *uchi-komi* as these require the use of left and right limbs in an asymmetric manner. It is well known that learning new skills can provide cognitive benefits for older adults (Wu, 2023). Judo can offer an exciting new set of skills using different muscles in everyday life, thus requiring more mental engagement and opportunity for cognitive development and maintenance.

Loneliness and social isolation have also been observed as part of the ageing process, as one loses a life partner and/or friends and this translates into a reduction of physical contact, with its attendant benefits (National Academies of Sciences, Engineering, and Medicine, 2020). Judo is one of the few forms of exercise where people work in pairs, either with the instructor or with each other. This incidental and positive physical contact can benefit older adults in terms of offering a sense of wellbeing and contentment.

The increase in confidence seen from an eight-week judo-based exercise programme (Jadczak et al., 2024) can be summed up by a former study participant (female, 80 years old, personal communication) reporting, "For me there have been some unexpected and surprising gains which may not all have shown up in the study results: I have lost my fear of falling and landing badly, feel generally in control and able to cope if I am not. I now seem to have 'time' midfall to consider my options and choose my landing method(s). If I do fall, I mostly feel in control and even more importantly do not go into shock and disorientation on landing. I have recovered some previously frequently used means of fall prevention that I had lost e.g., rapid stepping to regain balance. I have vastly increased my stability and the number of falls has reduced accordingly. I am generally in control of how and where I land and confidently, I have a range of ways to do so to mitigate consequences. My balance is still far from perfect but is now adequate for daily life and I continue to make gains."

Thus, judo-based exercise programmes for teaching safe falling *ukemi* skills have the potential to positively impact older adults' mental health and psychological wellbeing.

Physical Benefits

In this section, we summarise the reported physical effects of judo-based interventions. We consider controlled and uncontrolled studies involving interventions that are judo-specific, as well as interventions that include a judo-based component - mainly *ukemi* practice - in addition to exercises focusing on balance, strength and agility. Note that due to the mixed content of these interventions, reported effects cannot readily be attributed to any specific exercise component.

Most studies used performance-based tests to evaluate the physical effects of their intervention. The tests used for evaluation varied considerably - in keeping with the heterogeneous content of the interventions - but generally demonstrated beneficial physical effects. Following the Judo4Balance and Dynamic Balance for Life programmes, the participants achieved better scores on the Short Physical Performance Battery (SPPB; Arkkukangas et al., 2020; 2022; Jadczyk et al., 2024). When looking at specific domains of physical performance, improvements in mobility, as measured with the Timed-Up-and-Go test (TUG), were reported following the latter, as well as three other interventions (Jadczyk et al., 2024; Odaka et al., 2023; Weerdesteyn et al., 2009; Campos-Mesa et al., 2023). Increased lower-limb muscle strength was observed following two judo-specific interventions (32 and 36 training sessions; Ciaccioni et al., 2019; Kujach et al., 2022); one of these studies additionally reported improvements in flexibility (Ciaccioni et al., 2019). Two studies observed gains in gait speed and associated step variables (Weerdesteyn et al., 2009; Ciaccioni et al., 2020), whereas gait speed did not change in one study that evaluated three 15-minute sessions of *ukemi* practice added to habitual weekly exercise classes (Odaka et al., 2023). Furthermore, gait adaptability (i.e. obstacle avoidance) was found to improve following the Nijmegen Falls Prevention Program (NFPP) (Weerdesteyn et al., 2006).

Three interventions yielded beneficial effects on balance, as measured with e.g. Mini-BESTest or Berg Balance Scale (Arkkukangas et al., 2022; Jadczyk et al., 2024; Weerdesteyn et al., 2009). Inconsistent results were reported regarding postural control outcomes, as evaluated by force-plate recordings of centre-of-pressure (CoP) excursions while standing quietly; one study observed reduced CoP excursions post intervention (Kujach et al., 2022), whereas another showed no change (Weerdesteyn et al., 2006).

In three studies from the same group, the effects of the NFPP were evaluated regarding falls and fall-related injuries in daily life. These studies demonstrated a significant 32-46% reduction in the number of falls in daily life in a one-year period following intervention (Weerdesteyn et al., 2006; 2009; Smulders et al., 2010). Major fall-related injuries were less common in the intervention group when compared with the control group (3% vs 10% of all falls) but this difference did not reach significance (Smulders et al., 2010).

Additionally, three studies used the physical functions/mobility domain subscores of validated quality-of-life questionnaires to evaluate intervention effects. Mixed results were reported. One study found improvements in the SF36-physical functions domain following a nine-month judo-specific intervention (Sakuyama et al., 2021), whereas non-significant improvements in this SF36 subscore were reported following a combined pilates and judo-based programme (Campos-Mesa et al., 2023). EuroQoL-5D-Mobility scores did not change following the Judo4Balance programme (Arkkukangas et al., 2022).

Social Benefits

Judo, as a holistic intervention for older adults, transcends the individual to address the social dimension (Maekawa & Hasegawa, 1963). Grounded in the principles of *seiryoku zenyo* and *jita kyoei* by Jigoro Kano, this physical-sporting practice challenges ageism, empowers this population, and offers utility in daily life (Ayalón et al., 2019; Hand & Ihara, 2024). All these concepts are fundamental to improving the health and quality of life of older adults and are approached with a long-term progression vision.

This proposal of judo for older adults directly responds to the demand and concern expressed by the World Health Organisation (WHO, 2021), regarding the issue of ageism. According to this organisation, this form of discrimination leads to deteriorating health, social isolation, increased premature mortality, and represents a significant cost to global economies. In line with this approach, entities such as the Office of the United Nations High Commissioner for Human Rights (OHCHR), the United Nations Department of Economic and Social Affairs (UNDESA), and the United Nations Population Fund (UNFPA), urge the adoption of urgent measures to implement effective strategies against age discrimination.

Firstly, facing the challenge of ageism, judo fosters an inclusive environment for a population with increasing life expectancy, becoming a platform for social inclusion that helps break stereotypes, prejudices and social discrimination related to age (Ayalón et al., 2019; Hand, & Ihara, 2024). With this activity, the older adult becomes the owner of their own ageing process and through group classes, judo as physical activity promotes personal interaction, the formation of emotional bonds, and the development of social skills (Ruiz & Casimiro, 2018). In this regard, various studies indicate that practising physical activity and sports such as judo is a powerful antidote against ageism by impacting the physical and psychosocial wellbeing of older adults positively (Oliveira et al., 2024; Sparks, Meisner, & Young, 2013).

Secondly, judo not only counteracts the social limitations associated with ageism but also promotes real empowerment among older adults. The sport directly affects two key factors to enable the empowerment of the older adult: physical wellbeing and personal autonomy (Aminu et al., 2024; Campos-Mesa et al., 2023; Ruiz & Casimiro,

2018; Yamasaki, 2023). By better understanding their bodies and motor skill limitations through judo practice, older adults can exercise more effectively and purposefully to maintain their health and wellbeing. By practising it, older adults not only improve their strength, endurance, balance or cognitive capacity but also redefine their perceptions of ageing, allowing them to foster real personal autonomy (Iso-Markku et al., 2024; Yamasaki, 2023). This translates into greater independence in daily life, mobility, social contact, and an overall improvement in physical and psychological wellbeing (Altermann et al., 2014; Tanaka & Seals, 2003). Likewise, it is noteworthy here that judo affects issues directly correlated with dependency and ostracism (Aminu, Torrance, Grant, & Kydd, 2024), such as the fear of falling. This variable has been shown to be positively modifiable through judo practice and more specifically through its *ukemi* (Campos-Mesa et al., 2023; Callan, 2019; Odaka et al., 2023), allowing the older adult to continue with a social lifestyle by maintaining personal autonomy.

Thirdly, judo as a physical activity focused on older adults can meet the daily functional needs of this population and become a utilitarian physical activity for improving their health and quality of life. Therefore, it must be useful for maintaining or improving motor patterns that the older adult needs to use on a daily basis (sitting/standing, dressing, going up and down stairs, etc.). This viewpoint is addressed by authors such as DelCastillo-Andrés, Toronjo-Hornillo, Toronjo-Urquiza, Cachón Zagalaz, & Campos-Mesa (2018), who propose an adapted utilitarian judo based on Kodokan Judo, the main objective of which is to maintain and develop specific motor skills adapted to integrate norms and habits of life to contribute to the wellbeing of the older adult, providing autonomy in personal, domestic and social contexts. The result is a holistic, utilitarian, adapted, physical activity to meet the physical, psychological and social needs that older adults recognise daily.

Judo presents a utilitarian aspect in terms of working physical condition in a multifunctional way, allowing focusing on grips, balance re-education, displacements, fine and general motor skills, maintenance of joint mobility, etc., but it can also respond to one of the main challenges facing society today, which is directly related to all the parameters mentioned above, by proactively responding to unintentional falls. The application of judo's falling techniques, based on reducing the magnitude of impact on the body (Pocecco et al., 2013), contributing to reducing the risk of injury or its severity, can be a very promising tool for reducing the fragility of older adults, as demonstrated by programmes such as Judo4blance, Dynamic Balance for Life, Yawara-chan taiso, Finding Your Feet, Fall Prevention and Control Programme, Judo Flanders Care-free Falling for the Elderly, Judo KENKO Taiso, All Japan Judo Federation Fall Prevention Project, Educating Judo Coaches for Older Practitioners (EDJCO), Adapted Utili-

tarian Judo, or ZekerBewegen Senior Fall Prevention Programme, among others. On the other hand, it also helps in the development of functional mobility skills on the ground and the transition to safe positions after suffering a fall.

Finally, we can point out the transformative power of judo and its impact on long-term progression by promoting mental wellbeing, instilling a sense of achievement, self-confidence, and resistance to age-related stereotypes at different stages of life. Keeping the mind and body active through physical and cognitive stimulation, such as memorising and executing judo techniques, helps preserve physical and brain function and reduces the risk of age-related cognitive decline (Altermann et al., 2014).

In conclusion, judo offers a multifaceted approach to addressing ageism, empowering older adults, promoting the utilitarianism of daily life, and fostering long-term progression. As society seeks holistic solutions to improve the wellbeing of its ageing population, the integration of judo proves to be a valuable and transformative avenue.

Evidence-Based Programmes

The available judo-based training programmes for older persons developed over the last fifteen years are usually complex in their nature, including the key features of proven effective fall prevention training such as balance, co-ordination, strength and power training. Furthermore, judo-based exercise programmes often offer training methods for safe falling and landing strategies called *ukemi* which can reduce both the impact force of landing and the fear of falling which are known risk factors for falls. (Groen et al, 2020, Arkkukangas et. al, 2020).

Multifactorial judo-based exercise programmes including training strength, power, balance, co-ordination and falling techniques can be effective tools both for mitigating the risk of falling and decreasing the risk of injury should an accidental fall occur. The exercises should be dynamic and there should be an increased progression of exercise loads. Programmes should be followed continuously with an interval of a minimum of at least one training session per week for a minimum of six weeks to offer significant effects.

Group training, which is the most common training method among judo-based programmes, seems to be more effective at achieving both fidelity and increased load progression of fall prevention programmes. The element of playful exercises and games in pairs gives an extra incentive for many participants to attend judo-based programmes.

There is great potential for the larger 'fall prevention community' outside the 'judo family' to add the dimension of playful exercises in pairs and *ukemi* to evidence-based fall prevention exercise programmes lacking this component.

Can Older Individuals Learn *Ukemi* (safe falling and landing skills)?

Several studies show that older novice individuals can learn and retain the motor skills of judo and judo-inspired breakfall techniques. Recent research shows that these motor skills of falling and landing in different directions can be learned by older individuals in a relatively short programme ranging from 6 to 12 weeks, with one to two 60-minute sessions weekly. (Groen et al, 2010 Arkkukangas et.al, 2022). Programmes such as the Judo Flanders Project have a 60-minute taught session each week and recommend practice at home for another 60 minutes as all the exercises can be done within the home and are repeatable.

More research is needed in the field of long-term retention of the breakfall motor skills among older individuals, however some studies (as well as anecdotal evidence) show that the motor skills of *ukemi*, once automated, can be retained over a longer period, from months to years. (Arkkukangas et. al, 2022).

“Landing strategies have a significant effect on reducing impact load during a fall and might be effective to reduce the impact load of falling.” (Moon et al., 2019). However, one limitation is that most studies have been made on self-induced falls in a younger target group. More research is needed of an older target group experiencing unintentional falls. Recent studies show that judo-like falls can indeed reduce the risk of injury to the head and external extremities for an older target group. (Robinovitch et al, 2022, Moon et al 2017, Moon et al. 2019). Biomechanical research shows that the impact severity of falls can be reduced by applying several injury prevention strategies which can be trained and automated. One such area is the impact force on the hip which is often injured among older people when falling. (Groen et. al 2010)

The most important elements of *ukemi* (safe falling and landing strategies) mentioned in several scientific studies are:

1. Protecting the head by tucking it in with the chin toward the chest.
2. Reducing the height of falling by lowering the centre of gravity such as bending the knees.
3. Avoidance of bracing the fall with upper limbs.
4. Reducing the impact force in landing by rolling and/or spreading impact on a larger body area.

Assessment of Falling Competence Among Older Individuals

To date, there are two main methods for assessing *ukemi* skills in a systematic way.

1. Video Assessment – Scale 1 – 10.

Two blind (having not seen the participants before) judo experts assess a video recording of the fall performed and give points for correct *ukemi* movements. The scale is then made from bad breakfall (1-3) to fair (4-6) and to good breakfall (7-10).

2. Strömqvist Bååthe Falling Competence Test (SBFC) – Written protocol

Scale 0–4 for each fall (backwards, sideways and forward). Total max score: 12 points.

The falling competence measured in the Strömqvist Bååthe (SBFC) Test (Arkkukangas et al., 2022) is the sum of the motor skills that can support injury-free, safe falling and landing strategies. Furthermore, it gives an indication of the efficacy of performing a self-induced fall from a low height gradually progressing to making a fall from standing since the participants are asked at each step if they would like to continue the testing. For each step, there is a list of injury-related movements which can be identified, such as bracing falling with the hand, not holding up the head, failure to roll, etc. If any harmful manoeuvres are identified, the test is stopped at this step. The SBFC – Test is a safe and easily reproducible test made up of three parts measuring different breakfall skills (forward, backward and sideways). The test can be used for one, two or all three of the breakfalls depending on which *ukemi* have been taught in the selected exercise programme. The SBFC - Test has been used over 500 times with multiple test leaders and without any major adverse effects. The test protocol is free to use if reference to the test name is made and a notification/registration to the e-mail indicated on the form.

SBFC - Test Procedure:

Falling backwards: The participant is asked to lie on their back on the mat, lift their head up from the mat and stand up again. If unsuccessful, the test is stopped and the score given is 0. If successful, the person scores 1 point. The next step is to sit up on the mat, on the buttocks, and fall backwards. If successful, the person scores 2 points. The subsequent step is to fall backwards safely from a squatting position (3 points) and the final step is to fall safely from a standing position, which results in a maximum score of 4 points if performed correctly.

Falling forward: A similar progression is made as for the forward breakfall strategies: The participant is asked to lie on their stomach. If unsuccessful the test is stopped

and the score is 0. If successful they score 1 point. The next step is falling from the knees (2 points), squatting (3 points), and falling from a standing position (forward rolling *mae-mawari-ukemi* or 'cat breakfall') without any harmful manoeuvres (4 points).

Falling sideways: This test was built using the same methodology as the previous two; Lying down and rolling to one side and standing up scores 1 point, falling from sitting on the buttocks to the side scores 2 points, falling to the side from the knees or squatting scores 3 points and finally, falling sideways from a standing position without any harmful manoeuvres scores the maximum of 4 points.

Future Areas of Research

Although there is convincing and well-established evidence from research that adequate fall-prevention exercise training reduces the risk of falling (Sherrington et al. 2019), the use of safe falling and landing strategies (*ukemi*) for reducing the severity and risk of injury from unintentional falls remains understudied.

More research is needed to study the long-term effects of learning *ukemi* and the development of validated tools for evaluation of the effectiveness of the different *ukemi* skills and falling competence for different target groups. Using standardised and validated new measurement tools such as video analysis and the Strömquist Bååthe Test could add new insights into the commonalities and different effects of various programmes.

Further research is needed in the field of assessing the most effective teaching methods for older adults in judo-inspired/based programmes in general and *ukemi* skills in particular. Evaluation of falling competence among participants and the long-term effects of *ukemi* training on fall incidence, injuries, injury types and recovery times would also be of great interest for an older target group.

Action and implementation research on already established proven effective and scalable judo-based exercise programmes in co-operation with other stakeholders such as international agencies, national judo federations, governments, health care providers and municipalities would be a great step to cascade the skills from the judo community into wider society. Multi-country research on some of the already established programmes could be of interest to gain greater numbers of participants in the studies.

CONCLUSION

This global consensus statement on how judo can contribute to reducing the problem of injurious falls in older adults has been developed by the Global Expert Group on safe falling for the elderly through judo. It has outlined the technical approaches taken and presented evidence of the physical, psychological and social benefits for older adults learning to fall safely utilising judo techniques.

The evidence is clear that judo falling techniques can provide a range of positive outcomes, reducing injurious falls and benefiting the health of older adults.

We hope that national federations will work with local organisations to facilitate access to judo *ukemi* practice within communities based on the guidance provided in this consensus statement.

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Students Gender' Differences in Attitudes about Judo

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Abstract: *Research for the development of policies aimed at better understanding of judo and gender equality through its practice is very significant, especially when it comes to higher education. The aim of this research is to analyse possible differences in attitudes between male and female students, towards judo. A sample of (n=287) male students and (n=64) female students from the first year of the Faculty of Sport and Physical Education, who attended and completed the mandatory judo course, participated in an anonymous and voluntary survey conducted during the first week and after passing an exam, from academic years 2013/2014 to 2022/2023. The survey consisted of 22 statements. Respondents rated the statements on a Likert scale from 1 to 5. The Cronbach's alpha coefficient indicated high reliability and internal consistency of the scale, with .901 for male students and .904 for female students. Results of the Mann-Whitney U test showed a statistically significant difference in the initial survey regarding the statement "Judo should be promoted more for educational purposes through the media" ($p \leq 0.05$). In the final survey, differences were observed across six variables: Judo is not a more dangerous activity than other martial sports ($p \leq 0.05$); Judo is an activity that teaches self-control and respect for others ($p \leq 0.05$); Judo is an activity that encourages setting new goals ($p \leq 0.05$); Judo requires discipline and dedication ($p \leq 0.05$); Skills acquired in judo are important in every day life ($p \leq 0.05$); Judo should be promoted more ($p \leq 0.05$). This research provides a foundation for further considerations in developing educational programmes and policies aimed at gender equality in sport, including judo. It emphasises the creation of an inclusive environment where all students have equal opportunities and support for the development of their skills and interests.*

Keywords: *female; male; opinion; combat sports; curriculum; higher education*

Researching and analysing potential differences in attitudes towards judo, between male and female students who have not had contact with this sport, can create an opportunity for a better understanding of the nature of these attitudes and adapting the curriculum to students, in order to better meet their needs and interests in this sport. Differences between them may arise from social norms and gender-specific expectations from the students.

In addition to the fundamental judo education provided by the International Judo Federation (IJF) Academy and Judo in Schools, judo education is delivered at various universities around the world. Judo is included as a subject in the academic curriculum, contributing to its dissemination and integration into educational programmes globally. Jigoro Kano Shihan's idea that judo should become an integral part of educational systems worldwide has long been realised.

One such university is the University of Sarajevo (Bosnia and Herzegovina), where students at the Faculty of Sport and Physical Education are educated in the subject of judo. This subject is positioned as a mandatory course in the first year of study (5 ECTS) within the first cycle of studies (240 ECTS). Students are trained to become physi-

cal and health education teachers in elementary and high schools. The objective of the course is to acquire various knowledge, skills and competencies related to judo as a martial art and sport, with an emphasis on the principles of judo, its ethics and the application of acquired theoretical and practical knowledge in everyday life.

Theoretical instruction comprises the following thematic units: Philosophy of Judo; Martial Arts Systems; Historical Development of Judo; Principles of Judo; Ethical Principles of Judo; Classification of Techniques in Judo; Characteristics of Judo Sport; Structural Analysis of Judo; Methods of Learning Judo Techniques; Teaching Methodology of Judo Techniques; Age Characteristics and Various Approaches to Working with Children and Youth; Success Factors in Judo and Talent Identification; Application of Judo Sport in Working with Individuals with Physical Disabilities; Judo as Self-Defence; Judo Games and Rules of Judo Sport.

Practical instruction consists of the following thematic units: greetings (*Ritsurei and Zarei*), belt tying, postures (*shizentai and jigotai*), movements (*ayumi-ashi, tsugi-ashi, ugoki-kata, tai-sabaki: mae-sabaki, ushiro-sabaki, mae-mawari-sabaki, ushiro-mawari-sabaki*), and grips (*kumi-kata: aiyotsu and kenka-yotsu*), falls (*ushiro-ukemi,*

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yoko-ukemi, uuten-ukemi, mae-ukemi, mae-mawari-ukemi), principles of judo, methodology of basic entry in judo, *uki-goshi, koshi-guruma, and kesa-gatame, seoinage, ippon-seoi-nage, and kata-gatame, o-uchi-gari, ko-uchi-gari, and yoko-shiho-gatame, o-soto-gari, and kami-shiho-gatame, uchi-mata, and tate-shiho-gatame, harai-goshi, and juji-gatame, tomoe-nage, and ude-garami, morote-gari, and hadaka-jime, de-ashi-harai, and okuri-eri-jime, judo games, and randori* (Kawamura & Daigo, 2000).

Judo, as a dynamic sport, combines ethical, intellectual and physical components, allowing each individual, based on their performances, to achieve success both on and off the tatami, thereby fulfilling the goal of judo to "become a quality member of society" (Kano, 1986). However, despite judo providing the same technical and theoretical foundations for all students, there are indications of differences in attitudes and interests between male and female students. This assumption stems from the fact that interests, motivations and perceptions of sports are often influenced by social norms and gender-specific expectations. In this educational process, feedback from students is crucial and one way to obtain feedback is through their attitudes towards the process of acquiring knowledge, skills and competencies in the subject of judo. This is because students are not passive or neutral observers of the teaching process but continuous evaluators of what they see and hear during classes. To understand the essence of these attitudes, it is necessary to provide a few definitions. Attitude is a predisposition to respond positively or negatively to a particular object, person, institution or situation based on experience (Ajzen, 2005). Allport (1968) defines attitudes as mental and neural states of readiness, organised through experience, which have a direct and dynamic impact on an individual's reactions to all objects and situations to which they relate. Hogg and Vaughan (2005) define attitudes as relatively established structures of cognitive and emotional processes and behaviours related to an object, involving specific processes and behaviours.

Alternatively, attitudes can be relatively enduring convictions, feelings and behaviours towards socially significant objects, events or symbols. Silverman & Subramaniam (1999) suggest that an individual's attitude develops from their personal belief system, which forms in youth. When these belief systems persist, they eventually influence the person's attitude. Rikard and Banville (2006) stated that attitudes stem from beliefs individuals hold about themselves and things, shaping behaviours in various ways and determining one's engagement in daily activities.

Differences in attitudes reflect the diversity of opinions and feelings individuals have towards a wide range of issues, such as the importance of physical education (PE) (Silverman, 2017). Eagly and Chaiken (1998) define attitude as a psychological tendency expressed by evaluating an object with a certain degree of approval or disapproval. Attitudes can be considered a unique form of individual

adaptation to the environment, serving as guides to navigate an insufficiently known and complex reality, acting as standards for our judgments and conclusions and serving as driving forces for our actions. However, under the pressure of reality, due to new knowledge, experiences and environmental influences, we do change our attitudes, offering greater or lesser resistance in the process (Albarracin, Johnson, & Zanna, 2005). Students' attitudes towards physical education shape their everyday decisions, feelings and behaviours and typically draw upon their affective and cognitive dimensions (Subramaniam & Silverman, 2002; Subramaniam & Silverman, 2007). There are aspects related to the teacher and the curriculum within the dimensions of affective and cognitive attitudes. Students who feel comfortable with their teachers and appreciate the physical education curriculum will express positive attitudes towards physical education, while students who feel uncomfortable with their teachers and dislike the physical education curriculum will express unfavourable attitudes towards physical education (Hagger, Chatzisarantis, & Biddle, 2002).

Previous research on students' attitudes towards physical education, including judo as a part of physical education, has been the subject of investigation by physical education pedagogues. Notably, the following researchers stand out in this field. Students' attitudes are important constructs that deserve the attention of teachers, researchers and policy makers in academia (Subramaniam & Silverman, 2007). Students' attitudes towards physical education can provide valuable insights into what they think and feel about their physical education (Graham, 1995). Fengjuan, Chen, & Baker (2014) investigated students' attitudes towards the experience of physical education (physical fitness, self-actualisation and social development, physical education curriculum, physical education teachers, and the teaching of physical education) at four Chinese universities. Students held moderately positive attitudes towards physical education and their attitudes were significantly positively moderately correlated with their current participation, weakly correlated with their intended lifelong participation in physical activities outside of school, and significantly positively moderately correlated with their academic achievement in physical education. Busch, Bosnar, Sertić, and Prot (1999) analysed attitudes towards martial arts in a sample of 39 female teachers and 31 male teachers in two elementary schools in Zagreb. The results showed that female teachers had significantly fewer positive attitudes towards martial arts compared to male teachers, aligning with gender stereotypes.

Biletić et al. (2008) conducted research to determine the attitudes and, consequently, the interests in physical education and health education classes among fifth to eighth-grade students. The data obtained indicates that both male and female students have a positive attitude towards physical and health education in elementary school (59.5% have a highly positive attitude towards physical education). There are no statistically significant differences between the attitudes of female and male stu-

dents. The research results showed that 6.2% of students dislike martial arts, 13.7% do not like them, 14.0% are indifferent, 19.6% like them, and 46.6% adore martial arts. This study can provide valuable insights into how gender may influence the perception of and approach to certain sports, including judo, and offer guidance for adapting educational programmes to better meet the needs and interests of students of both genders. The aim of this research is to explore and analyse possible differences in attitudes towards judo between male and female students.

METHODS

The sample consisted of male students ($n=287$) with an age of 19.20 ± 1.13 and female students ($n=64$) with an age of 19.04 ± 0.79 , all in their first year at the Faculty of Sport and Physical Education, University of Sarajevo. These students were enrolled in and completed the mandatory judo course from the academic years 2013/2014 to 2022/2023. Attitude was measured using the Attitude Towards Combat Sports Scale (SBS1) by authors (Bosnar, Sertić, and Prot, 1996; Bosnar, Sertić, and Prot, 1999), based on 22 items assessing attitudes towards judo.

During each first semester from the academic year 2013/2014 to academic year 2022/2023, attitudes towards judo were surveyed among male and female students. The survey was conducted at two time points. The first was during the first working week of the semester, when students were informed that the survey was anonymous and voluntary. They were assured they could withdraw from participating at any time and were informed that the survey would be repeated after completing the exam. Students were also briefed that the survey was conducted solely for scientific research purposes and would not be used for profit. The second was after the exam. Students were reminded of the survey details as in the first week of classes. It is important to note that students who had practised judo or taken a judo class in the sports gymnasium were instructed not to participate in the survey. Therefore, only students who had not practised judo accessed the survey, anonymously. The survey took ten minutes to complete and students provided ratings to the offered statements based on a Likert scale ranging from 1 to 5, where: rating 1 – strongly disagree, rating 2 – disagree, rating 3 – neither agree nor disagree, rating 4 – agree, rating 5 – strongly agree. Approval for the implementation of this research was granted by the scientific council of the Faculty of Sport and Physical Education, University of Sarajevo, number: 01-145/15.

To assess the reliability of the measurement scale, i.e., the measurement instrument of Attitudes Towards Judo (SBS), calculations were performed using Cronbach's alpha coefficient (DeVellis, 2003). The results indicate very good reliability and internal consistency for both male students (.901) and female students (.904).

Before conducting the statistical analysis, all negatively formulated variables were reversed. The assessment of the normality of variable distributions was checked using the Kolmogorov-Smirnov test and it was determined that the variables were not normally distributed.

To determine differences between male and female students in their attitudes towards judo, the Mann-Whitney U test (Field, 2005) was used. The Mann-Whitney U test is a non-parametric test used in studies to determine differences in attitudes between different groups of respondents based on conducted surveys in cases where the data is not normally distributed. The collected data was analysed using the statistical package SPSS 22.0, at a significance level of 95 %.

RESULTS

In the initial survey, the Mann-Whitney U test results (Table 1) indicated differences between male and female students in their attitudes towards judo in the variable "Judo should be promoted more for educational purposes through the media" ($Md=4.0$, $n=351$, $U=7780.0$, $z=-1.989$, $p=.047$). In the final survey, the Mann-Whitney U test results showed differences between male and female students in their attitudes towards judo in the following variables: "Judo is not a more dangerous activity than other martial arts" ($Md=4.0$, $n=351$, $U=5924.5$, $z=-2.105$, $p=.035$); "Judo is an activity that teaches people self-control and respect for others" ($Md=4.0$, $n=351$, $U=5686.0$, $z=-2.567$, $p=.010$); "Judo is an activity that encourages us to always set new goals for ourselves" ($Md=4.0$, $n=351$, $U=5821.5$, $z=-2.301$, $p=.021$); "Judo requires discipline and dedication" ($Md=5.0$, $n=351$, $U=5960.0$, $z=-2.187$, $p=.029$); "Skills acquired in judo are important in everyday life" ($Md=4.0$, $n=351$, $U=5571.5$, $z=-2.720$, $p=.007$); "Judo should be more popularised" ($Md=4.0$, $n=351$, $U=5861.0$, $z=.125$, $p=.027$).

DISCUSSION

The aim of this research was to explore and analyse possible differences in attitudes towards judo between male and female students. The results obtained demonstrated that the defined objective was fully achieved. The value of the obtained results lies in the fact that they were gathered from students who had no prior contact with judo and it can be affirmed that the 15-week course had an impact on the differences in perception of judo between male and female students.

One of the main findings of this research is that there are certain differences in the attitudes and interests of male and female students towards the judo course, indicating the need for adjustments in the curriculum to ensure equal access and interest for all students, regardless of gender. The study by Šafarić et al. (2005) revealed that the relationships among gender, professional interests and

Table 1. Initial and final measurement in attitudes towards judo

ATTITUDES TOWARDS JUDO	First survey			Second survey		
	U	Z	Sig.	U	Z	Sig.
I would never practise judo	9048.0	-.191	.848	6987.5	-.212	.832
I don't understand people who enjoy mutual combat	9076.5	-.159	.874	7009.5	-.179	.858
Judo is exclusively beneficial for human physical development	8011.5	-1.650	.099	6158.0	-1.648	.099
Judo promotes aggression	9123.5	-.090	.928	6400.0	-1.325	.185
It is satisfying to overcome an opponent using one's own intelligence and skill	8683.0	-.784	.433	6859.5	-.469	.639
Judo is not a more dangerous activity than other martial arts	9010.5	-.249	.804	5924.5	-2.105	.035*
Judo should be banned because it encourages violence among people	8823.0	-.664	.506	6684.5	-.911	.362
Judo is conducive to the development of many mental functions	8686.5	-.721	.471	6087.0	-1.847	.065
It is enjoyable to watch the application of judo in real-life situations	8428.5	-1.057	.291	6089.0	-1.763	.078
Judo should be introduced into the mandatory educational curriculum in the subject of physical and health education	8117.5	-1.493	.136	6440.0	-1.155	.248
Judo is an activity that teaches people self-control and respect for others	8974.5	-.304	.761	5686.0	-2.567	.010*
I wouldn't allow my child to train in judo	8308.5	-1.298	.194	6969.0	-.259	.796
Judo is an activity that encourages us to always set new goals for ourselves	8671.0	-.737	.461	5821.5	-2.301	.021*
Judo requires discipline and dedication	8792.5	-.603	.547	5960.0	-2.187	.029*
Skills acquired in judo are important in everyday life	8760.0	-.607	.544	5571.5	-2.720	.007*
Judo makes us more tolerant	9054.5	-.186	.853	7012.0	-.174	.862
Judo doesn't attract me because there is always a risk of injury to myself or someone else	8631.0	-.782	.434	6756.0	-.616	.538
Through judo training, we become more resilient to stress	8078.0	-1.581	.114	6888.0	-.391	.696
Combativeness is a noble trait of people	8957.5	-.346	.729	6778.5	-.616	.538
Judo is extremely violent, and as such, it is an undesirable activity	8951.0	-.359	.720	6091.5	-1.907	.056
Judo should be promoted more for educational purposes through the media	7780.0	-1.989	.047*	6231.0	-1.534	.125
Judo should be more popularised	8170.5	-1.443	.149	5861.0	.125	.027*

knowledge of sports are complicated. The results of this research are consistent with earlier studies addressing gender differences at various education levels (Bosnar, Sertić, & Prot, 1999), where it was found that female students have significantly less positive attitudes towards martial arts compared to male students, from fifth to eighth grade of elementary school. Rogowska and Kuśnierz (2013) note that 53% of women perceive brutality as a dominant characteristic of martial arts skills and combat sports, serving as a predictor of a negative attitude towards

them. Research conducted by Prot, Bosnar, and Sertić (1999) showed that students highly rated variables related to their attitudes toward watching a good fight on TV or live, indicating a greater interest in external observation rather than actively engaging in martial arts. Examining attitudes towards martial arts (Prot, Bosnar, & Štimac, 2002) among students from the Faculty of Kinesiology, students of theology, elementary school teachers, and taekwondo coaches, the conclusion was drawn that theology students had the lowest values in attitudes towards

martial arts, while taekwondo coaches had the highest, yet all surveyed groups held a positive attitude towards martial arts. Rogowska and Kuśnierz (2013), analysing attitudes (cognitive, emotional and behavioural components) towards martial arts and combat skills in individuals not practising martial arts, identified factors influencing these attitudes. They concluded that the gender and age of respondents do not significantly impact attitudes towards martial arts and combat skills. Additionally, individuals intending to engage in martial arts and combat skills in the future exhibit significantly higher levels of knowledge on the topic (cognitive component of attitude) and generally express a more favourable attitude. Similar research was conducted by Kapo et al. (2023), who investigated the influence of the K-1 combat sport academic module on first-year university students' views, awareness and knowledge. Statistically significant changes ($p < 0.05$) in students' attitudes in the final measurement occurred in 17 variables, while such a change occurred in 7 variables among female students. The study thus confirmed that the K-1 combat sport academic course has many positive effects on both male and female students, reflected in changes in opinions, high ratings by teachers for their work, as well as an increase in students' achievements expressed through course grades. The only variable in the initial measurement that makes a difference between male and female students is "Judo should be promoted more for the purpose of education through the media," where female students show a greater inclination towards this type of promotion. It is likely that they believe judo embodies deeply rooted ethical values such as respect, discipline, self-control and fair play. Promoting judo through the media allows a broader audience to become acquainted with these values and apply them in everyday life. The promotion of judo through the media could have a positive impact on the upbringing and education of young people. Furthermore, judo promotion can contribute to raising awareness, inspiration and motivation regarding the importance of regular physical activity and its benefits for health and self-confidence. Promoting judo through the media provides an opportunity for better understanding not only of Japanese culture, traditions and values but also of all other cultures in which judo is practised. Research indicates that all martial arts, including judo, have a positive influence on a person's character and cultivate positive moral behaviour patterns (Twemlow et al., 2008; Hunlei, 2008).

In the final measurement, there are differences between male and female students in six variables. Female students are more likely than male students to believe that "Judo is not a more dangerous activity than other martial sports," indicating that the safety of practising judo compared to other combat sports depends on various factors. These include practitioners' experience, adherence to rules, proper technique, appropriate protective equipment, the development of ethical capacities, and the quality of instructors. It highlights the need to pay special attention to safety aspects of practising judo. Throughout

the educational process, they have realised that judo is based on technique rather than strength and aggressiveness. They learn how to correctly execute throwing, holding and leverage techniques to control both the opponent and themselves, while respecting the principles of judo. Emphasising correct technique reduces the risk of injuries as they learn how to fall correctly and protect themselves during the execution of techniques. A significant portion of the training is devoted to learning proper falling techniques, teaching the body to absorb falls and reduce the risk of injuries. Therefore, highly educated coaches and physical education professors play a crucial role in maintaining the highest level of safety during instruction. In this context, Okazaki (2016) investigated the perception of judo athletes from a Japanese university and other non-judo students. It was found that injuries can occur in both inexperienced individuals and experienced judo practitioners. Preventive programmes must be implemented to reduce the risk of injuries in these martial arts. The belief that "Judo is an activity that teaches self-control and respect for others" divides female and male students, with female students exhibiting a more pronounced ethical stance toward judo. Judo is a martial art that involves strict rules and discipline, emphasising the development of self-control to adhere to these rules. It involves controlling one's intelligence and body to execute techniques with precision and control in a high quality learning environment while fully respecting one's partner. One of the key philosophies of judo is '*Jita-Kyoei*,' meaning 'benefit for oneself and others.' Judo students learn to respect their opponents and help them develop. Respecting others is an integral part of judo ethics, encouraging students to show respect to everyone, regardless of their strength, ability or style. Through this aspect of judo, students learn how to treat others with respect and empathy. Dishonest or violent actions that could harm a partner are not allowed in any way. This approach promotes the development of moral values such as honesty, fairness and respect for others, fostering teamwork and collaboration. Through collective work and training, students develop a sense of unity and understand the importance of working in a team. This aspect of judo can contribute to the development of communication skills, collaboration and appreciation for others' contributions, aiming at maximum efficiency with the minimum use of energy—a process that takes time. Rogowska and Kuśnierz (2013) argue that knowledge of specific fighting styles is significantly correlated with a favourable attitude towards martial arts and combat skills.

Female students exhibit a more pronounced attitude compared to male students regarding "Judo as an activity that encourages us to constantly set new goals." They recognise judo as a lifelong learning process, acknowledging that regardless of experience level, there is always room for improvement. Judo motivates them to face new challenges, explore new paths and develop their skills. Setting new goals is an individual decision and through the instructional process, students can be motivated to establish new objectives, such as promoting health, self-defence or simply enjoying the learning or training process.

Judo utilises a system of different belts that signify an individual's progress and achievements. Each new belt represents a new level of knowledge, encouraging individuals to continuously work on their development and set new goals to advance to the next level. This process of continuous learning motivates them to set new goals in life, fostering their ethical, intellectual and physical development, aiming to become high quality, valuable members of the community, striving to be better than their yesterday selves (Kano, 1986; Bečić, 2020).

Investigating the interdependence between knowledge and attitudes of Polish high school students from the southern part of Poland (Cynarski, Kuśnierz, & Witkowski, 2012), with a focus on the aspect of perceived value and danger in martial arts, reached the following results: a) The assessment of the impact of martial arts practice is independent of the gender of the respondents, b) The assessment of the impact of martial arts practice is independent of the age of the respondents, c) Attitudes toward martial arts depend proportionally on the knowledge of the respondents and d) The assessment of martial values depends on the level of knowledge of the respondents (in martial arts). The results also indicated an insufficient level of knowledge about martial arts as an area of physical culture among high school students. During instruction, female students tended to have a more pronounced opinion that "Judo requires discipline and dedication." They understand that judo has strict rules that must be respected during learning and, as a result, they must learn to adhere to behavioural rules in the training space, towards instructors and with training partners. This necessitates respect, discipline and commitment to maintaining safety throughout the learning process, ensuring consistency and progress in skills. All that is learned can be applied in everyday life. Judo is an extremely technical sport that demands precise execution of various throwing techniques (disturbing balance, contact and throwing), holds and locks. For these techniques to be executed successfully, practitioners must be disciplined and dedicated to continuous improvement and the repetition of skills. This requires mental and physical endurance, concentration, emotional control and commitment. The level of discipline and dedication can vary among judo students and often depends on the motivation of practitioners. Without sufficient motivation, maintaining discipline can be challenging.

In teaching, instructors play a crucial role. Through their approach and the diverse application of various teaching methods and methodologies, they can motivate students to work, illustrating why judo is the 'gentle way.' Lampe (2021) and Jagiełło, & Dornowski (2011) suggest that well-educated future teachers, familiar with the common values of martial arts, will incorporate them actively into the physical education curriculum.

Female students, when compared with male students, have a clearly expressed attitude that "Skills acquired in judo are important in everyday life." During their studies, they have realised that judo fosters the development of

self-control and discipline, where students learn to control their bodies, emotions and reactions. These skills are valuable in everyday situations, such as facing challenges, managing stress or maintaining concentration at work or school.

Judo emphasises respect for other individuals, their abilities and differences. While practising with partners of different ages, genders and abilities, students develop tolerance and an appreciation for others. These skills are crucial in interpersonal relationships, teamwork and building positive connections with others. Judo contributes to the development of self-confidence and this can be applied in various aspects of life, such as public speaking, decision-making or overcoming fear. Judo teaches techniques for stress management and conflict resolution, guiding practitioners in how to remain calm and composed under pressure, control situations and find optimal solutions in everyday situations, including negotiations, problem-solving or dealing with uncomfortable circumstances.

Yano et al. (2007) investigated the effects of judo instruction on the social status, aggressiveness and satisfaction of students. Following a 15-week structured programme, the study revealed that judo instruction increases social status without altering students' levels of aggressiveness. Students expressed greater satisfaction with judo instruction compared with other sports disciplines. The conclusion drawn was that the judo instruction programme mentioned is suitable for students' leisure activities. Judo develops physical qualities that can enhance overall quality of life, increase energy levels and improve health. Additionally, judo trains mental strength, including concentration, perseverance and mental resilience, which proves beneficial in facing the challenges of everyday life. Skills acquired in judo can be applicable in various situations, although not necessarily always automatically. Their application depends on the context, personal preferences and situational demands.

Bjelošević, Jalaska, Perić (2015) analysed attitudes towards martial arts in a group of people that can be characterised as representative of the Croatian population. The results showed that respondents had a positive opinion about martial arts, including judo. The findings suggest that respondents do not harbour the prejudice that individuals involved in martial arts are inherently violent. On average, respondents are supportive of their children participating in martial arts. They highly appreciate the skills utilised in martial arts and view them as beneficial activities in everyday life. Female students are more assertive in the belief that "Judo should be more popularised." After experiencing a 15-week judo programme, they consider judo an excellent way to promote physical activity, develop motor skills, especially in younger age groups, and contribute to intellectual and ethical aspects of life. Values such as respect, discipline, self-control and fair play are emphasised and understanding and applying these values in daily life can contribute to the character and moral development of young people.

Judo aids in building confidence, self-defence and conflict resolution skills, providing an opportunity for individuals to acquire these abilities and empower themselves, particularly in the context of safety and self-defence. Comparing attitudes towards self-defence, with judo being part of self-defence, among female students at the Faculty of Kinesiology who had taken the subject (Sertić, Segedi, & Vučak, 2009), results indicate that there are no statistically significant differences among them, and thus, no differences in attitudes towards self-defence were found among female students in different years of study. It was also found that the respondents value the knowledge acquired during the classes highly, considering self-defence a skill that is crucial for women today.

Judo can have a positive impact on mental health, raising awareness of how this sport can help reduce stress, improve self-confidence, develop mental strength, and promote overall wellbeing. However, judo has characteristics and demands that may not appeal to everyone. In the process of popularising judo, the needs and interests of the target audience should be taken into account, offering tailored programmes and approaches. The popularisation of martial arts and sports must be combined with spreading reliable knowledge on the topic, dispelling stereotypes about the brutality of these sports and arts (Rogowska, & Kuśnierz, 2013).

Prot and Radić (2010) found significant differences between female and male students in their attitudes towards martial arts. There are notable variations in attitudes towards martial arts among students at the Faculty of Kinesiology and these differences are a consequence of the varying attitudes towards martial arts in the population, indicating the presence of gender stereotypes towards martial arts. The identified differences are attributed, in part, to variations in the general attitude towards sports and predominantly to the existence of stereotypes about martial arts. It is not possible to generalise the attitudes of all students, as they are based on individual sociocultural influences, preferences, education, interests, and experiences. Differences may vary depending on culture, social norms and personal beliefs.

One perception among students regarding judo is that it involves physical contact and aggression, which can elicit different reactions among both male and female students. Research by Daniels & Thornton (1990; 1992) challenges the notion that individuals who enjoy martial arts are exceptionally aggressive. Jagiełło and Dornowski (2011) conducted a study titled "Martial arts in the opinions of students at the Faculty of Physical Education" and found that 95% of students emphasised the positive values of martial arts and the necessity for there to be involvement in the process of physical education for children and the youth. The vast majority of respondents (95%) believe that elements of martial arts should be applied. Entertaining forms of combat and partner-based exercises proved particularly attractive in the opinions of the participants.

Respondents also highlighted the high pedagogical level of instruction (98%), emphasising that this process should be led by well-educated teachers actively involved in the implementation of curricula.

Kuśnierz, Cynarski, & Gorner (2017) investigated the attitudes of students and adults towards martial arts and sports, as well as the values of training. The results indicate that uninvolved individuals perceive these activities positively but have disagreements about the impact of training on spiritual growth and aggressiveness. The focus of the untrained is on physical fitness, self-discipline and a healthy lifestyle. Attitudes towards combat sports vary among students, with some attracted to the excitement and technical skill, while others express discomfort due to the perceived violent nature of them. Gender stereotypes influence identification with the sport, with male students often identifying more with combat activities. Environmental encouragement can impact participation, with greater social support for male students in judo. Individual interests play a crucial role in attitudes towards combat sports, with some preferring the sport for philosophical or athletic reasons, while others show less interest in activities like judo.

In the end, encouragement and support from the environment can influence attitudes towards martial arts, so that students may receive more social support for participating in judo, while female students may not be equally encouraged or may not have equal opportunities to participate. Individual interests and preferences also play a significant role in attitudes towards martial arts, including judo. Some students, both male and female, may simply be more interested in sports, either as active participants or spectators, due to its philosophy, self-defence techniques or the sporting aspect, while others may not show great interest in sports activities, including judo, due to other sporting preferences.

CONCLUSIONS

Research on differences in attitudes between male and female students towards judo provides a foundation for further reflection, the development of educational programmes, and policies aimed at gender equality in sports, including judo. The intention is to create an inclusive environment where all students have equal opportunities and support for the development of their skills and interests through practising judo. In the process of learning judo, the subject teacher plays a significant role, as they are responsible for planning an optimal learning environment to encourage the development of positive attitudes towards judo among students. This research emphasises the importance of inclusivity and understanding the diverse needs and interests of male and female students in judo education. Adapting educational programmes, including different styles and approaches to learning, can contribute to increased engagement and satisfaction for all students. The results indicate the need to promote gender equality

in the context of judo. Ensuring equal opportunities, support and resources for all male and female students can contribute to creating an inclusive environment without stereotypes and prejudices about judo. Thirdly, there is a need for active initiatives within the school system aimed at fostering a general positive attitude towards martial arts, including judo.

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Judo

An Educational Tool for Society

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Abstract: *The key to a better society is education. Judo is not only a martial art and an Olympic sport but also an educational tool, because of its values. We believe that youngsters who practised judo for a while at some point in their lives, will benefit from it and have an advantage as long as they live. Therefore, we researched this topic. We used quantitative research by creating a survey with closed questions. Each question aimed to elicit whether the child/teenager respected the values from the moral code of judo in a daily life situation. There were two groups: group A – 16 children/teenagers aged 10-16 years, practising judo for at least 5 years and group B – group A's desk-mates from school, who were practising another sport or no sport at all. Following the test, group A had a significantly higher score, demonstrating the validity of the hypothesis.*

Keywords: *education; judo; judo values*

The International Judo Federation (IJF) runs global programmes contributing to a better society, using judo as a means and not as an outcome aim, such as Judo for Children, Judo for Peace, educational tours, the IJF Academy, World Judo Day, Judo for the World, Judo for Paralympic judo, the IJF Military and Police Commission, and competitions dedicated to high performance athletes: grand prix, grand slams, world championships and World Judo Masters etc. (Brousse, Messner, 2015).

In addition to the fundamental judo education provided Every person can find their place in judo, as a practitioner, referee, coach or only as a fan. Once a person practises judo for a certain period, the moral code is also applied in everyday life (Deliu, 2013). Judo was created in 1882 by Jigoro Kano Shihan, especially to educate the Japanese youth. In order to prove that judo supports education, we conducted this research (Deliu, 2008).

RESEARCH METHOD

We formulated the hypothesis that children who practise judo for at least 5 years, absorb the values of judo, improving their overall education and becoming more sociable than the other children who grow up in the same environment (same classroom and same level of education, from school's point of view) and practise other sports or no sports at all. To test the hypothesis, a survey consisting of 12 questions was used, each question with three possible answers. Correct answers were given 5 points, partially correct answers earned 3 points, and wrong answers were 0 points. Each question showed if the child/teenager was respecting the values from moral code of judo in a daily life situation. The survey was distributed to both groups by email.

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Table 1. Scores given for each question

Number of the question	Score answer 1	Score answer 2	Score answer 3
1	5	3	0
2	3	5	0
3	0	5	3
4	0	5	3
5	0	5	3
6	0	5	3
7	0	5	3
8	3	0	5
9	5	3	0
10	0	3	5
11	5	3	0
12	5	3	0

RESULTS

We had two groups: group A – 16 children/teenagers aged 10-16 years, practising judo for at least 5 years, and group B - their desk-mates from school, who were practising another sport or no sport at all. Following the test, group A had a significantly higher score, demonstrating the validity of the hypothesis.

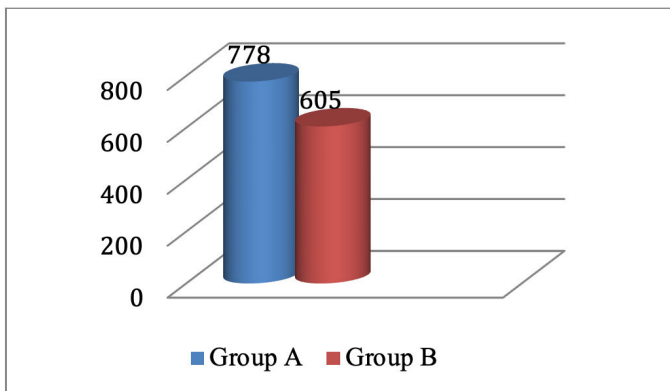
Test Student 't' was used to make the calculations that showed $t = 5.22$ for a probability of 99.9 % value which confirms the hypothesis. The ideal maximum score would have been 12 questions x 5points x 16 children = 960 points. Group A scored 778 points compared with group B's 605 points.

Table 2. Group A's Answers (judoka)

Nr crt	Questions		1	2	3	4	5	6	7	8	9	10	11	12	Total score
	Initials judoka														
1	P.A.		5	3	5	3	5	5	5	5	3	0	3	5	47
2	I.O.		5	5	3	5	3	3	3	0	3	3	5	5	43
3	C. E.		5	3	5	0	5	3	5	3	3	3	3	5	43
4	A.A.		5	3	5	3	5	5	5	5	3	5	5	5	54
5	V.L.		5	3	5	0	5	5	5	5	5	5	5	5	53
6	D.M.		5	3	5	0	5	3	5	3	3	3	0	5	40
7	S.E.		5	3	5	3	5	5	0	5	5	5	5	5	51
8	C.S.		5	3	5	3	5	5	5	5	3	3	5	5	52
9	M.M.		5	5	5	0	5	5	0	5	5	3	3	5	46
10	S.R.		5	3	5	0	5	5	5	5	5	5	3	5	51
11	B.C.		5	3	5	3	5	5	5	5	5	5	3	5	54
12	M.S.A.		5	0	5	3	5	5	5	5	3	5	5	5	51
13	L.C.		3	5	5	3	5	5	0	5	0	5	3	5	44
14	C.Ş.		3	5	5	0	5	5	0	3	5	3	3	5	42
15	M.W.		5	3	5	3	5	5	0	5	5	5	5	5	51
16	M.D		5	3	5	3	5	5	5	5	5	5	5	5	56
	TOTAL		76	53	78	32	78	74	53	69	61	63	61	80	778

Table 3. Group B's Answers (non-judoka)

Nr crt	Questions		1	2	3	4	5	6	7	8	9	10	11	12	Total score
	Initials Group B														
1	R.D.		5	5	5	5	5	0	5	3	3	0	0	5	41
2	V.N.		3	5	5	3	5	5	0	5	0	5	3	5	44
3	O.N.		3	0	5	3	5	5	0	5	0	3	3	5	37
4	P.M.		3	5	0	3	5	5	0	5	0	3	3	5	37
5	U.A.		0	3	5	0	5	5	0	5	3	5	5	5	41
6	G.M.		3	5	5	0	5	5	0	5	3	0	3	5	39
7	M.C.R.		5	5	5	5	5	5	5	5	0	3	3	5	51
8	M.B.		0	5	0	5	0	0	5	5	3	3	3	5	34
9	S.D.		3	5	0	3	5	5	0	5	0	5	3	5	39
10	S.A		0	5	5	0	0	5	0	5	5	3	3	5	36
11	S.F.		5	5	5	0	5	0	0	3	5	3	3	5	39
12	R.I.		0	3	5	0	5	3	5	3	3	3	0	5	35
13	B.V.		0	0	5	3	5	5	0	3	5	0	3	5	34
14	P.C.		0	3	0	0	0	0	3	0	3	3	3	5	20
15	N.M.		3	3	5	0	5	3	5	3	3	3	3	5	41
16	G.D.		3	0	5	0	5	5	0	3	5	3	3	5	37
	TOTAL														605



Graph 1. Results of Group A and Group B

The scores of the subjects practising judo (group A) were significantly higher than those of their desk-mates (group B). The research validates the hypothesis as correct, with a probability of 99.9%, ($t = 5.22$ and $n = 16$).

Some great judo champions have given interviews on this subject, saying the following:

Teddy Riner (Olympic champion, 11-time world champion) said, "Judo is an educational sport and this is probably why my parents sent me to the dojo for the first time, to channel my energy. From a physical point of view, all qualities are required to practise it. In terms of the social side, judo benefits from a moral code and to understand it better, we can go through several roles: athlete, referee, coach. When you arrive on the tatami, the first thing you do is bow to your opponent, which requires immediate mutual respect. Judo enables everyone to grow with respect to each other. Without respect, there is no possibility to evaluate anyone, and if my partner progresses, then I progress too."

Alina Dumitru (Olympic champion 3-time European champion) summed up judo, from her point of view, in just a few words, "Judo means a way of life: discipline, respect and education. This sport made my way of life and gave me a life lesson."

CONCLUSION

In conclusion, it could be said that judo is among the most educational sports in the Olympic programme. Its principles and values are meant to educate children and the youth, developing a range of personal skills and abilities at the same time, which contribute to the development of the young athletes.

Recommendations: Using basic principles of judo, including *ju*, *seiryoku zenyo*, *jita kyoei*, as well as the moral code, during children's judo lessons, through to the cadet level, in order to have a better society. Using this complex form of human improvement is the basis of judo's philosophy.

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APPENDIX 1. The questionnaire

1. You are in a trip in the mountains. On your way, you meet someone coming from the opposite way. What do you do?
 - You say "hello"
 - If they say hello, you answer them
 - You keep walking
2. At school, you play football in a team. The ball is at you and you have the chance to shoot. What do you do?
 - You give it to someone else
 - You shoot
 - You dribble
3. You received as an award your favorite chocolate at school. What do you do?
 - You eat it alone
 - You share it with your deskmate
 - You keep it
4. You open a bottle of water after a hard physical education class. One of your mates asks you for a sip of water. What do you do in this case?
 - You drink first, then you give him/her the bottle
 - You give him/her, kindly asking not to touch the bottle
 - You don't give him/her because you are afraid of germs
5. During the break time, one of your mates falls and gets hurt. What do you do?
 - You laugh
 - You go and help him/her
 - You don't do anything, someone will help him/her for sure
6. You go with your mates at the fair. What would you rather do?
 - Eat popcorn, sweets etc, and watch the others how are trying all the machines
 - Go and try the motagne-rousse or the 'horror house'
 - Go and try with your desk mate the machines less dangerous
7. You are having the thesis and you know the answer to the most difficult problem. Do you tell it also to your classmates even if you know the consequences in case you get caught?
 - yes
 - no
 - maybe
8. Your main teacher asks ideas for the activities during the 'different week' of the year. What do you do?
 - you are waiting for the others proposals
 - you let the teacher to choose
 - you get implied and you really want to help the main teacher with this
9. You are on a trip with the classmates. After the declaration of sleeping time, one of your mates tells you to sneak out to buy sweets. What do you do?
 - I explain him the necessity of following the rules
 - I refuse
 - I tell the teacher
10. You were to an international camp/ competition with your school. There you interacted with several persons. How many people do you still keep in touch constantly (by phone/email/ Facebook or other social network)
 - none
 - between 3-5
 - more than 5
11. Which was your place at the end of the last year in your classroom?
 - 1, 2 or 3
 - Mention
 - No place between the first positions
12. Which was your mark at 'behaviour' subject?
 - 10
 - 9
 - 8 or less

Basic Judo *Kata* Programme For Children

By Slavisa Bradic

Abstract: *Since the founding of the Kodokan, judo kata and randori have been integral forms of judo training, alongside kogi and mondo (Jigoro Kano, 2005). With the development of judo as a sport, the form of practising through kata is less and less popular and has remained in its form as a part of tradition, cultural heritage, exam components for Dan grades or, more recently, as a kata competition (Jones & Hanon, 2010).*

The original intention of practising judo kata is the educational value intended primarily for beginners (Watson, 2000). Regardless of this information, it is not realistic to presume that something will change significantly if we do not adjust the practice routines methodically to be interesting and, of course, efficient through analysis of the needs of modern judo. This project was created in such a way as to force the complete learning of judo techniques and principles, its content also including parts of judo kata. The project methodology, in a very simple way, creates a platform of knowledge from which later guidance is naturally upgraded according to the affinity of the trainee or trainer. The most important issue is that this adapted teaching methodology preserves the originality of techniques and principles for future generations.

The aforementioned methodology is based on the Children's Kata Festival project within the European Judo Union and the findings have been implemented in this programme.

Keywords: *judo; basic techniques; kata; children*

Kata in its original form, from judo's founder Jigoro Kano, is a method to help learn basic techniques and principles (Kodokan Judo Institute, 2009). Through the development of judo in the world, the focus of learning and practising judo is directed towards combat in the form of training *randori* and *shiai*. At the beginning of the organisation of the first *kata* competition, interest in this form is again returned to judo practitioners, but performing *kata* in the form of competition begins to direct practitioners towards performance, aiming at creating results and aesthetics. This leads to the loss of the original purpose of judo *kata*. With competitive performances each of the trainees is exclusively *tori* or *uke* and so the educational level is drastically degraded. By utilising a methodical way of working with children and young people, it is possible to simply teach basic judo technique and principles and later direct this knowledge towards the affinity of the exerciser towards the exercise of combat and the competitive part or someone else such as the recreational, self-defence or *kata* segment (Callan et al., 2021).

According to the Kodokan there are the following ways of learning (J. Kano, 2005): (1) *kata* (formal techniques), (2) *randori* (free practice), (3) *kogi* (lecture) and *mondo* (dialogue).

The practical parts of the exercise are *kata* and *randori*. In this methodology, a programme of learning and acquiring judo knowledge is elaborated, which can be used as the introduction of judo practice for children.

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This programme contains the following groups:

1. Educations methods of learning *kata*,
2. *Kata* demonstrations,
3. Educations methods of learning techniques,
4. Different kinds of technique demonstrations,
5. Educational methods of learning judo values,
6. Education methods of psychological, intellectual and moral development.



Schema 1: Showcase the possibilities of judo development in basic judo methodology

GOALS

The central goal is to create a high-quality, comprehensive method of teaching that contains all the original basic judo techniques and principles. From such a methodical mode, a platform is created that is common for later routing. This retains the learning of basic judo techniques

and principles as a starting point while the upgrade takes place through intermediate stages before *kata* training and before *randori* training.

Main goals of *kata* for children are:

1. Popularisation of judo *kata* in children's populations,
2. Giving children opportunities to learn the basics of judo,
3. Development of values through *kata* for children,
4. Presenting judo to children in an interesting way,
5. Presentation and development of all segments of judo that are not aimed only at competition.

METHODOLOGY

The method uses a natural approach to learning new motor elements that are methodically processed to be presented as logical and fun. The work programme is focused on the principles of asymmetry and building up movements that contain the main parts of judo techniques. The principles that are taught contain the basic movements of judo technical elements that are used equally in the principles of *randori* training and the principles of *kata* training.

It is important to note that the goal is to adopt the basic content of the programme, as forms of exercise such as demonstration of technique, *randori* or *kata* are separated from it in a very simple way. This programme introduces the practitioner, after mastering a set of basic techniques and principles, to two intermediate levels.

One intermediate level is before starting *randori* and is a form of technique demonstration practice. The second intermediate level is an adapted form of demonstration *kata*. The key value of this method is knowing the value of a good base and the possibility of different directions after that.



Scheme 2: Technical elements in which the methodology of the programme can be illustrated

Basic judo - kumikata – shisei-shintai

In this judo learning group, the principle of gradually increasing the volume from basic static or without a partner to the level of dynamics and partner involvement is followed. The principle is to begin with the acquisition of simple knowledge in a logically connected way.

How to hold the hand	3+2 fingers	Strong fist
<i>Tsurite</i>	Flexibility	Block
<i>Hikite</i>	Flexibility	Block
<i>Mai</i>	Keeping the distance	Keeping a closer distance
<i>Ai-yotsu</i>	Moving with your hands to feel	
<i>Kenka-yotsu</i>	Movement without resistance	Moving with resistance with changing <i>kumikata</i>
<i>Tai-sabaki</i>	<i>Mae-sabaki/ Ushiro-sabaki/ Mae-mawari-sabaki/Ushiro-mawari-sabaki</i>	Practise with a partner
<i>Shintai</i>	<i>Ayumi-ashi</i>	<i>Tsugi-ashi</i>
<i>Ayumi-ashi</i>	Free back and forth	<i>Tori</i> has the initiative
<i>Tsugi-ashi</i>	Forward-back-side-circular	<i>Happo-no-kuzushi</i>

Basic judo - Ukemi

<i>Mae-ukemi</i>	1-2-3 phases	<i>Uke</i> pushes from behind
<i>Ushiro-ukemi</i>	1-2-3 phases	<i>Morote-gari</i> exercise
<i>Yoko-ukemi</i>	1-2-3 phases	Handshake - <i>O-soto-otoshi</i> Handshake - <i>Uki-otoshi</i>
<i>Mae-mawari-ukemi</i>	1-2-3 phases	<i>Tomoe-nage</i> 1-2-3-4 phases

Basic judo - Nage-waza, 1st level

The selected throws at this level were chosen based on the principle of connection with the method of learning to fall and assist *uke*. Some throws such as *Kuchiki-daoshi* belong to a group of lesser-known techniques but the principle of execution is connected to the reverse direction by catching the leg, like *Kata-guruma*.

<i>O-soto-otoshi</i>	<i>Uke</i> pulls backwards	1-2 phases
<i>Uki-otoshi</i>	<i>Tori</i> pulls backwards	1-2 phases
<i>O-uchi-gari / Ko-uchi-gari</i>	<i>Uke</i> pulls backwards	1-2 phases
<i>Seoi-nage</i>	<i>Uke</i> catches a high grip	1-2 phases
<i>Kochiki-daoshi</i>	<i>Uke</i> pulls backwards	1-2 phases
<i>Kata-guruma</i>	<i>Tori</i> pulls backwards	1-2 phases

Basic judo - *Nage-no-kata*, 1st set

Based on previously learned knowledge, it is easy to extract *Te-waza* from *Nage-no-kata*. Learning is now simpler because it contains a smaller number of techniques out of the entire database. By placing techniques in each order and form, the first outlines of the *kata* are created.

Te-waza : *Uki-otoshi* / *Seoi-nage* / *Kata-guruma*

First: very slow movement, controlling *uke* when performing *ukemi* (custom *ukemi*).

Next: after that is normal movement, controlling *uke* when practising *ukemi* (slowed down *ukemi*).

Last: normal movement and normal *ukemi*.

Basic judo - *Nage-waza*, 2nd level

The second level of basic techniques includes an upgrade to the first with movement links and *kumikata*.

Also, some techniques connect with the foot (*O-soto-gari*) or *kumikata* (*Ko-uchi-gari* / *Tsuri-komi-goshi*).

<i>O-goshi</i>	<i>Uke</i> catches a big grip from above	1-2 phases
<i>Uki-goshi</i>	<i>Tori</i> catches a big grip from above	1-2 phases
<i>O-soto-gari</i>	<i>Uke</i> pulls backwards	1-2 phases
<i>Harai-goshi</i>	<i>Tori</i> pulls backwards	1-2 phases
<i>Ko-uchi-gari</i>	<i>Uke</i> pulls backwards	1-2 phases
<i>Tsuri-komi-goshi</i>	<i>Tori</i> pulls backwards	1-2 phases

Nage-no-kata, 2nd set

From the previous group it is now easy to extract the *Koshi-waza* techniques that make up *Koshi-waza* in *Nage-no-kata*.

Koshi-waza: *Uki-goshi* / *Harai-goshi* / *Tsuri-komi goshi*

First: very slow movement, controlling *uke* when performing *ukemi* (slowly *ukemi*).

Next: normal movement, controlling *uke* when practising *ukemi* (slowly *ukemi*).

Last: normal movement and normal *ukemi*.

Nage-waza, 3rd level

<i>De-ashi-harai</i>	<i>Uke</i> pulls backwards	1-2 phases
<i>Okuri-ashi-harai</i>	<i>Uke</i> moves and runs to the side	1-2 phases
<i>Hiza-guruma</i>	<i>Uke</i> pushes forward	1-2 phases
<i>Sasae-tsuri-komi-ashi</i>	<i>Tori</i> pulls backwards	1-2 phases
<i>Ashi-guruma</i>	<i>Tori</i> pulls <i>Hikite</i> to the side	1-2 phases
<i>Tsuri-koUchi-mata</i>	<i>Tori</i> pulls <i>Tsurite</i> to the side	1-2 phases

Nage-no-kata, 3rd set

Ashi-waza is included in the third level of basic judo. One of the main principles is the adoption of the right throwing moment, which is achieved through movement and harmony between *tori* and *uke*.

Ashi-waza : *Okuri-ashi-harai* / *Sasae-tsuri-komi-ashi* / *Uchi-mata*

First: very slow movement, controlling *uke* when performing *ukemi* (slowed down *ukemi*).

Next: normal movement, controlling *uke* when practising *ukemi* (slowed down *ukemi*).

Last: normal movement and normal *ukemi*.

Nage-no-kata, 3 sets

By combining all previously learned sets of *Nage-no-kata*, the development of displaying *kata* techniques to the right and left, technical precision and mental focus begins.

First is very slow movement and control *uke* when doing *ukemi* (custom *ukemi*), after that is normal movement and control *uke* when performing *ukemi* (custom *ukemi*), and the last phases is with normal movement and normal *ukemi*.

Nage-no-kata for children under 12

This adapted *Nage-no-kata* is intended for children up to 12 years old and does not include the last techniques in the series (*Kata-guruma* / *Tsuri-komi-goshi* / *Uchi-mata*)

Uki-otoshi-Seoi-nage / *Uki-goshi-Harai-goshi* / *Ukuri-ashi-harai* / *Sasae-tsuri-komi-ashi*

Nage-no-kata for children under 14

This *Nage-no-kata* is intended for children up to 14 years old and includes 3 complete sets.

Uki-otoshi, *Seoi-nage*, *Kata-guruma*, *Uki-goshi*, *Harai-goshi*, *Tsuri-komi-goshi*, *Okuri-ashi-harai*, *Sasae-tsuri-komi-ashi*, *Uchi-mata*

Nage-no-kata U12

Evaluation sheet

Name of the contestants (tori, uke)	
Club of the contestants	

Technical element	excellent (3 points)	good (2 points)	passed (1 point)	big mistake (0)	forgotten technique (-50%)
Opening ceremony					
Uki-otoshi					
Seoi-nage					
Uki-goshi					
Harai-goshi					
Okuri-ashi-harai					
Sasae-tsuri-komi-ashi					
Closing ceremony					
Summary - point					
Maximum point (info)	24	16	8		

Total point

Qualification

Jukutatsu 28-33 points Seijuku 23-28 points Shutoku 18-23 points



Judge's name	
Judge's signature	

Nage-no-kata U14

Evaluation sheet

Name of the contestants (tori, uke)	
Club of the contestants	

Technical element	excellent (3 points)	good (2 points)	passed (1 point)	big mistake (0)	forgotten technique (-50%)
Opening ceremony					
Uki-otoshi					
Seoi-nage					
Kata-guruma					
Uki-goshi					
Harai-goshi					
Tsuri-komi-goshi					
Okuri-ashi-harai					
Sasae-tsuri-komi-ashi					
Uchi-mata					

Scheme 3: Example of evaluation list of techniques in *Nage-no-kata*

Basic judo - *Katame-waza*

In basic judo *Katame-waza*, the focus is on learning and adopting the principles of *Osae-komi-waza* in the same order as in *Katame-no-kata* but in such a way that *tori* performs all techniques to the right and left.

***Osae-komi-waza*, 1st level** – demonstrate techniques in the given order (*tori* moves in a standing position)

<i>Kesa-gatame</i>	Tori walks in <i>Tachi-waza</i>	Uke is without reaction	Right
<i>Kata-gatame</i>	Tori walks in <i>Tachi-waza</i>	Uke is without reaction	Right
<i>Kami-shi-ho-gatame</i>	Tori walks in <i>Tachi-waza</i>	Uke is without reaction	Right
<i>Yoko-shi-ho-gatame</i>	Tori walks in <i>Tachi-waza</i>	Uke is without reaction	Right
<i>Kuzure-kami-shiho-gatame</i>	Tori walks in <i>Tachi-waza</i>	Uke is without reaction	Right

<i>Kesa-gatame</i>	Tori walks in <i>Tachi-waza</i>	Uke is without reaction	Left
<i>Kata-gatame</i>	Tori walks in <i>Tachi-waza</i>	Uke is without reaction	Left
<i>Kami-shi-ho-gatame</i>	Tori walks in <i>Tachi-waza</i>	Uke is without reaction	Left
<i>Yoko-shi-ho-gatame</i>	Tori walks in <i>Tachi-waza</i>	Uke is without reaction	Left
<i>Kuzure-kami-shiho-gatame</i>	Tori walks in <i>Tachi-waza</i>	Uke is without reaction	Left

Upgrade

Learning to escape from each *Osae-komi-waza* with complete technique; *tori* reacts to block each escape.

***Osae-komi-waza* 2nd level** - (*tori* moves as is expected in *Katame-no-kata*)

At level 2, *uke* learns the principles of one example of an escapes from each *Osae-komi-waza* and *tori* learns a way to hold *Osae-komi* and cancel *uke*'s escape attempt. *Tori* performs all techniques to the right and left in the same order as in *Katame-no-kata*.

<i>Kesa-gatame</i>	<i>Uke</i> tries 1 escape	<i>Tori</i> reacts to the escape attempt	Right
<i>Kata-gatame</i>	<i>Uke</i> tries 1 escape	<i>Tori</i> reacts to the escape attempt	Right
<i>Kami-shiho-gatame</i>	<i>Uke</i> tries 1 escape	<i>Tori</i> reacts to the escape attempt	Right
<i>Yoko-shiho-gatame</i>	<i>Uke</i> tries 1 escape	<i>Tori</i> reacts to the escape attempt	Right
<i>Kuzure-kami-shiho-gatame</i>	<i>Uke</i> tries 1 escape	<i>Tori</i> reacts to the escape attempt	Right
<i>Kesa-gatame</i>	<i>Uke</i> tries 1 escape	<i>Tori</i> reacts to the escape attempt	Left
<i>Kata-gatame</i>	<i>Uke</i> tries 1 escape	<i>Tori</i> reacts to the escape attempt	Left
<i>Kami-shiho-gatame</i>	<i>Uke</i> tries 1 escape	<i>Tori</i> reacts to the escape attempt	Left
<i>Yoko-shiho-gatame</i>	<i>Uke</i> tries 1 escape	<i>Tori</i> reacts to the escape attempt	Left
<i>Kuzure-kami-shiho-gatame</i>	<i>Uke</i> tries 1 escape	<i>Tori</i> reacts to the escape attempt	Left

Upgrade

Uke learns to connect escapes after *tori* reacts, stopping *uke*'s first attempt.

Osae-komi-waza 3rd level

At level 3, *uke* learns the principles of connecting escapes from *Osae-komi-waza* and *tori* learns a way to hold *Osae-komi* and nullify *uke*'s escape attempts. *Tori* performs all techniques to the right and left in the same order as in *Katame-no-kata*.

<i>Kesa-gatame</i>	<i>Uke</i> connects 1 st escape to 2 nd	<i>Tori</i> reacts to both escape attempts	Right
<i>Kata-gatame</i>	<i>Uke</i> connects 1 st escape to 2 nd	<i>Tori</i> reacts to both escape attempts	Right
<i>Kami-shiho-gatame</i>	<i>Uke</i> connects 1 st escape to 2 nd	<i>Tori</i> reacts to both escape attempts	Right
<i>Yoko-shiho-gatame</i>	<i>Uke</i> connects 1 st escape to 2 nd	<i>Tori</i> reacts to both escape attempts	Right

<i>Kuzure-kami-shiho-gatame</i>	<i>Uke</i> connects 1 st escape to 2 nd	<i>Tori</i> reacts to both escape attempts	Right
<i>Kesa-gatame</i>	<i>Uke</i> connects 1 st escape to 2 nd	<i>Tori</i> reacts to both escape attempts	Left
<i>Kata-gatame</i>	<i>Uke</i> connects 1 st escape to 2 nd	<i>Tori</i> reacts to both escape attempts	Left
<i>Kami-shiho-gatame</i>	<i>Uke</i> connects 1 st escape to 2 nd	<i>Tori</i> reacts to both escape attempts	Left
<i>Yoko-shiho-gatame</i>	<i>Uke</i> connects 1 st escape to 2 nd	<i>Tori</i> reacts to both escape attempts	Left
<i>Kuzure-kami-shiho-gatame</i>	<i>Uke</i> connects 1 st escape to 2 nd	<i>Tori</i> reacts to both escape attempts	Left

Katame-no-kata (1G - first group)

From the previously learned knowledge, it becomes simple to instruct *tori* and *uke* to perform techniques only on the right side as in *Katame-no-kata*. At the 1st level, *uke* tries to perform one escape; at the 2nd level, *uke* tries to perform 3 escapes.

The difference from the traditional training of *Katame-no-kata* is that this programme facilitates a complete learning and understanding of the principles of hold and escape and symmetrical learning on the right and left sides.

Structure of Katame-no-kata for children under 12:

Kesa-gatame with 1 escape, *Kata-gatame* with 1 escape, *Kami-shiho-gatame* with 1 escape, *Yoko-shiho-gatame* with 1 escape, *Kuzure-kami-shiho-gatame* with 1 escape.

Structure of Katame-no-kata for children under 14:

Kesa-gatame with 2 escape, *Kata-gatame* with 2 escape, *Kami-shiho-gatame* with 2 escape, *Yoko-shiho-gatame* with 2 escape, *Kuzure-kami-shiho-gatame* with 2 escape.

Kata demonstration system

The goal of demonstrating kata in this programme is not to win medals but solely to develop oneself and manifest one's potential. Each performance is evaluated with three levels depending on the quality of the performance. All kata are judged exclusively in such a way that everyone must present themselves as *tori* and *uke*.

The goal of performing kata in this program is not to win medals, but exclusively to develop and manifest one's own potential. Each performance is evaluated with three levels depending on the quality of the performance. All kata are judged exclusively in such a way that everyone must present themselves as *tori* and *uke*.



Katame-no-kata U12

Evaluation sheet

Name of the contestants (tori, uke)	
Club of the contestants	

Technical element	excellent (3 points)	good (2 points)	passed (1 point)	big mistake (0)	forgo techn (-50)
Opening ceremony					
<i>Kesa-gatame (1 escape)</i>					
<i>Kata-gatame (1 escape)</i>					
<i>Kami-shiho-gatame (1 escape)</i>					
<i>Yoko-shiho-gatame (1 escape)</i>					
<i>Kuzure-kami-shiho-gatame (1 escape)</i>					
Closing ceremony					
Summary - point					
Maximum – point-info)	21	14	7		

Total point

Qualification

Jukutatsu 18-21 points

Seijuku 14-17 points

Shutoku 11-13 points



Judge's name	
Judge's signature	

Katame-no-kata U14

Evaluation sheet

Name of the contestants (tori, uke)	
Club of the contestants	

Technical element	excellent (3 points)	good (2 points)	passed (1 point)	big mistake (0)	forgo techn (-50)
Opening ceremony					
<i>Kesa-gatame (2 escapes)</i>					
<i>Kata-gatame 2 escapes)</i>					
<i>Kami-shiho-gatame (2 escapes)</i>					
<i>Yoko-shiho-gatame (2 escapes)</i>					
<i>Kuzure-kami-shiho-gatame (2 escapes)</i>					
Closing ceremony					
Summary - point					
Maximum – point-info)	21	14	7		

Total point

Qualification

Jukutatsu 18-21 points

Seijuku 14-17 points

Shutoku 11-13 points



Judge's name	
Judge's signature	

Scheme 4: Example of evaluation list of techniques in *Katame-no-kata*

In the educational process of working with coaches or referees, the following parameters are processed:

1. Age group *kata* demonstrations,
2. Methodology for evaluating judges or coaches using a simple method,
3. Evaluation methodology according to the level of *kata* demonstration, in 3 different levels.

Kata demonstrations

Kata demonstration is the final part in which all learned knowledge is demonstrated in front of the audience. It is important to note that in the initial stages, a *kata* demonstration can also be conducted with only a few learned techniques. After learning all parts of a given floor level, the demonstration is evaluated according to the criteria listed below.

Shutoku - minimum level:

1. Order of the techniques,
2. 60% – 70% of the techniques correct (*waza, kumikata, tai-sabaki, ukemi*),
3. Minimum of 70% correct distance and position of the techniques.

Seijuku - middle level:

1. Order of the techniques,
2. 70% – 80% of the techniques correct (*waza, kumikata, tai-sabaki, ukemi*),
3. Minimum 80% correct distance and position of the techniques.

Jukutatsu – mastery level:

1. Order of the techniques,
2. 80% – 100% of the techniques correct (*waza, kumikata, tai-sabaki, ukemi*),
3. Minimum 90% correct distance and position of the techniques.

Educational methods of learning techniques

Educational methods of learning techniques are an intermediate level between learning basic techniques and principles. It introduces practitioners to and prepares them for the way of practicing *randori*. It is demonstrated alternately as *tori* and *uke*, and mastery of technique and principles is evaluated.

Demonstrations of *Nage-waza* for children under 14

Alternate demonstrating as *tori* and *uke*, for 30 seconds each: throwing techniques with the aim of presenting as beautiful, different and high-quality presentation as possible.



Demonstrations of *Nage-waza* & *Katame-waza* for children under 14

Alternate demonstrating as *tori* and *uke*, for 45 seconds each: throwing and holding techniques with the aim of presenting as beautiful, different and high-quality presentation as possible.

Demonstration of different techniques Demonstrations of *Nage-waza*, children under 14

The following is assessed:

1. Quality of throwing,
2. Variety of techniques,
3. Complexity of movement,
4. Creativity.

Demonstrations of *Nage-waza* and *Katame-waza*, children under 14

The following is assessed:

1. Quality of throwing and holding techniques,
2. Variety of techniques,
3. Complexity of movements,
4. Creativity.

Technique demonstrations as follows:

1. Two couples perform in front of 3 judges who announce the winner with flags at the end of the performance,
2. The winning pair continues into the next round while the losing pair has a repassage.

Educational method of learning judo values

Through the educational method of learning judo values during training, the importance of knowing and mastering judo values is particularly emphasised. In addition to learning judo theory in various methodically adapted ways, attention is also paid to the adoption of ethical behaviour during training and within relationships with partners, coaches, dojo, parents, etc.

The chapters covered by the project are:

1. Learning judo moral codes,
2. Workshops aimed at writing and drawing moral codes,
3. Different forms of quizzes with the topic of the judo moral code.

CONCLUSION

The Basic Judo Through '*Kata* for Children' programme is a methodically adapted judo learning system with great possibilities. In several countries where the programme has been presented, the feedback has been positive.

The first part of the project is intended for trainers in the theoretical and practical parts with a demonstration of the methodology of learning basic techniques and principles of judo. The second part of the project consists of a seminar where the same trainers work with a group of children and transfer their learned knowledge, in a practical way, to the children.

The third part of the project consists of a demonstration of the knowledge acquired by the children, in front of the coach, parents and an audience. The effect on the coach's self-confidence in learning areas in which they had limited or negative previous experience, such as *kata*, was significantly higher.

Children's pride and self-confidence when demonstrating creates a sense of security and improves motivation for further development. This project must be proven through other planned seminars. The different experiences of different cultures and mentalities of participants will influence the formulation, development and efficiency of the project in the future. As such, the project can be a model for upgrading other forms of exercise and interests of judo practitioners or a social community because the possibilities of a well-created judo base are great.

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Empowering a Judo Athlete with an Intellectual Developmental Disorder to Become a Judo Teacher

By Gaston Descamps, Tina Pestotnik, Maria João Carvalheiro Campos, Alain Guy Marie Massart

Abstract: *This case study explores the empowerment of an athlete with an intellectual developmental disorder (IDD) to become a judo teacher. The study involved the journey of a female judo competitor with an IDD to become a judo teacher over a sports season in a judo club in Ljubljana, Slovenia. The study comprised three major components: programme development, mentoring and creating a pedagogical and didactic tool. At the end of the project, a qualitative interview was conducted to understand the participant's teaching experiences, challenges encountered, enjoyment and satisfaction gained, and aspirations for the future.*

The participant's reflections indicate a positive and rewarding teaching experience facilitated by the supportive environment and mentorship provided. She overcame initial challenges, developed essential teaching skills and expressed a desire to continue as a judo teacher and to introduce judo to peers with IDD and young children in general.

Empowering individuals with an IDD to become sports teachers is a promising way to promote inclusion, self-confidence, personal and professional development and competency. The study highlights the importance of supportive environments, tailored training programmes and mentorship models for successfully accompanying athletes with IDD into teaching/coaching roles. It also underscores the potential for broadening the scope of inclusion by including individuals with an IDD in authoritative and leadership roles, contributing to a more inclusive and equitable society.

The findings advocate for adapting the teaching/coaching curricula of judo federations and developing national programmes to provide professional opportunities for individuals with an IDD.

Keywords: *judo; Intellectual Developmental Disorder (IDD); sports education; inclusion*

Intellectual Developmental Disorders (IDD) are neurodevelopmental conditions characterised by significant impairments in cognitive functions and adaptive behaviours. These impairments manifest in intellectual functioning, such as reasoning, problem solving, planning, abstract thinking, judgment, academic learning, and learning from experience. The adaptive behaviour component involves significant limitations in daily life activities such as communication, social participation and independent living. Individuals with an IDD typically present these challenges from childhood, impacting their ability to perform age-appropriate social, academic and life skills. (Harris, J. C., 2014). The significance of engaging in sports and physical activities is universally acknowledged, extending to populations with Intellectual Developmental Disorders (IDD) (WHO, 2022). A growing body of academic literature underscores the comprehensive physical, psychological and social benefits of regular participation in sport for individuals with an IDD (Kreinbacher-Bekerle et al., 2023). Additionally, there is an increasing emphasis on the necessity for inclusivity in physical activity, education and sport (Bertills et al., 2019; Colocon, 2019), aligning

with UNESCO's Sustainable Development Goal 4 (2015), which advocates for inclusive and high-quality education for all. Judo has been identified as beneficial for individuals with an IDD (Oblak et al., 2020). Some literature (e.g., Nanou, 2020; Tomey, 2017; Lavissee, 2006) illuminates the inherent benefits of inclusive judo programmes and the particular social benefits of the inclusive context. However, there is a lack of research focusing on athletes with IDD transitioning into teaching or coaching positions in judo and in sport in general. This research aims to explore the empowerment of athletes with IDD to become sports teachers, using the sport of judo as an example.

According to the Kodokan there are the following ways of learning (J. Kano, 2005): (1) *kata* (formal techniques), (2) *randori* (free practice), (3) *kogi* (lecture) and *mondo* (dialogue).

The practical parts of the exercise are *kata* and *randori*. In this methodology, a programme of learning and acquiring judo knowledge is elaborated, which can be used as the introduction of judo practice for children.

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METHODS

This project aimed to accompany Nina (the name has been changed), a 22-year-old judo competitor who won a gold medal in the Special Olympic World Games 2019, with an IDD, in her pursuit to become a judo teacher. Nina and her mentors, Tina Pestotnik and Gaston Descamps, are all part of Judo Club Sokol, based in Ljubljana, Slovenia. The study spanned an entire sport season, from October 2022 to June 2023, during which Nina received bi-weekly assistance to teach judo to 2 different age groups: children of 5 to 7 years at Judo Club Sokol and 8 to 11 years at a school specialised for children with neurodevelopmental disorders. The number of participants in the club consisted of one group of 12 children and, in the school where Nina was a former student, the number of participants was limited to 3.



Figure 1: Judo session at the judo club (left side) and judo session at the school (right side)

The sessions at the school began with a cardiovascular warm-up (e.g., jogging) for 5 minutes, followed by an articular warm-up (5 minutes). Then, *ukemi* (break falls) were taught for 10 minutes. After this, the technical part came, with the learning of *ne-waza* (groundwork) techniques primarily; in the second part of the cycle, *tachi-waza* (stand-up work) techniques were also introduced (10 minutes). This was followed by the opposition game's part, or *kakari geiko*, all related to the technical work done beforehand, to validate and apply the technical skills learned in an oppositional situation; this opposition part was established on a ludic basis. The sessions always finished with 5 to 10 minutes of meditation/mindfulness to cool down and train the mind to be in the present. The training at the judo club also began with a cardiovascular warm-up based on a collective game, after a few laps of running (10 minutes). Then, basic psychomotor exercises were completed, with movements like crawling, moving in different positions and directions, jumping on one or two legs, and the development of *ukemi* practice (10 minutes). The technical part came with the teaching of one or two techniques in *ne-waza* or *tachi-waza* (20 minutes). Following this, the opposition part came with either *kakari geiko* related to the technical part, *randori* (free sparring) in *ne-waza* or in *tachi-waza* (5/10min). At the end of the training session the children played another game for 10 minutes. In both settings, the sessions always began and finished with the *rei* (bowing) and the technical parts followed the progression of what is required to pass the white/yellow and yellow belt promotion tests.



Figure 2: Adaptive teaching of *yoko-ukemi* with kinesthetic guidance

As the school's students had neurodevelopmental disorders, the pedagogical approach was adapted; for example, in the teaching of *ukemi* (Figure 2), kinesthetic guidance was chosen to work with one student with autism spectrum disorders (ASD).

Nina was guided by experienced mentors who supervised the sessions and gradually entrusted her with more responsibility as her confidence and skills developed. This progressive increase in autonomy, coupled with timely feedback, was instrumental in Nina's teaching development. In the beginning, Nina learned how to lead the warm-up and game part at the club and the school. When she had more assurance and experience, she started to lead the technical part as well and she began to have more and more autonomy in her teaching role.



Figure 2: Adaptive teaching of *yoko-ukemi* with kinesthetic guidance

As the school's students had neurodevelopmental disorders, the pedagogical approach was adapted; for example, in the teaching of *ukemi* (Figure 2), kinesthetic guidance was chosen to work with one student with autism spectrum disorders (ASD).



Figure 3: Illustration of mentorship application

To illustrate the mentorship application, in Figure 3, on the left side, we can see the mentor, Tina, giving her feedback on how to teach *seoi-otoshi*; in the picture on the right side, Nina is applying this feedback with the children. Note that in the back of the picture, we can see the 3 posters, 1 for the white-yellow belt progression and 2 for the yellow belt progression.



Figure 4: Poster representing the white-yellow belt progression

The primary aim for the season was to equip the children with the necessary skills and knowledge to achieve their white-yellow (Figure 4) or yellow belt. Consequently, the pedagogical approach, spearheaded by Nina, centred around the techniques and knowledge required. For this purpose, one poster was created, with pictures of Nina and her mentor Gaston showing each required technique. The poster serves a dual purpose; firstly, it is a visual cue for children to recall the necessary skills. Secondly, for Nina, having the poster facilitates the assimilation of the technical progression she is tasked with imparting to the participants. She could refer to it at any time to remember the technical progression she had to teach to the children. This artefact possesses enduring value as both a didactic aid for instructors and a pedagogical reminder for participants.

RESULTS

In July 2023, at the end of the project, a qualitative interview was conducted by Nina's mother in Slovenian, which was then translated into English. The interview was developed following qualitative research guidelines, seeking to understand Nina's teaching experiences, the challenges encountered, the enjoyment and satisfaction gained, and her aspirations for the future.

Theme 1: Teaching Experience

Nina found the experience of teaching judo at the club and the school to be positive and manageable despite the large number of *judoka* at the club. She mentioned that the mentor provided guidance and correction whenever needed, which contributed to her successful teaching experience. "Teaching at the club was smooth; the younger *judoka* followed my instructions well. If I needed assistance, there was a mentor by my side to support and help me. Despite the large number of *judoka*, it was manageable to work with them as they were responsive and well-behaved. I would love to continue teaching in the future." The smaller number of *judoka* at the school allowed her to work one-to-one with the students, which she found enjoyable. "At the school, there were fewer *judoka*, so I could work with them one-to-one. My mentor was also there to provide guidance and correction whenever needed." These observations underscore the importance of mentorship and support in the early stages of teaching, as well as the benefits of being able to tailor instruction to the size and needs of the group. Nina emphasised the ludic aspect of some parts of the sessions as a good and enjoyable memory, "During warm-up activities with a large ball at the club, we had a lot of fun and turned the warm-up into an enjoyable activity."

Theme 2: Transition from Competitive Athlete to Teacher

Nina expressed that transitioning from being a competitive athlete to having a teaching role within the judo club was excellent and enjoyable. "The feeling was excellent. I enjoyed this role and would love to continue teaching." She did not encounter any difficulties in becoming a role model for the children and found it rewarding to pass on her knowledge to younger *judoka*. "Feeling like their role model and being able to pass on my knowledge was excellent for me. I believe it's beneficial to share knowledge with younger *judoka* as it may inspire them to become coaches themselves. I did not encounter any difficulties in this role." This suggests that former athletes can find fulfilment and a sense of purpose in transitioning to teaching roles as they can serve as role models and inspire the next generation of athletes.

Theme 3: Challenges and Support

Nina mentioned that one of her initial challenges was giving instructions to the group. However, she overcame this obstacle with her mentor's help and gained confidence in her teaching abilities. "When I first entered the group, I had some difficulty giving instructions. With the help of my mentor, I successfully overcame this obstacle and now I feel more confident." This highlights the importance of having supportive mentors who can provide continuous feedback and guidance to trainee teachers. The help from her tutors was continuous throughout the sessions and consisted of sharing feedback. "They both provide continuous feedback, ensuring I am up-to-date with the content. If there's something I don't understand, we discuss it again. They also support me during training when I need them." The challenging part for Nina was to lead a bigger group of children but she succeeded. "Tea-

ching judo met my expectations because I enjoy this role. The club had a larger number of *judoka* compared to the school and I found joy in working with both groups. This allowed me to learn how to work with small and large groups. Exceeding my expectations was being able to handle a larger number of judoka at the club, as I initially thought it would be more challenging.”

Theme 4: Feedback and Motivation

Nina received positive feedback from the children, indicated by their enthusiasm, hard work and motivation during training sessions. Although she did not have contact with the parents, the positive response from the children boosted her confidence and motivation to continue on her path to becoming a coach. “From the children, I received a sense of love and respect. I didn't have contact with the parents. The enthusiasm and hard work of the younger *judoka* and their motivation during training sessions indicated to me that I chose the right path to become a coach. This feedback gives me even more motivation and confidence.” This underscores the importance of student feedback as a source of motivation and affirmation.

Theme 5: Valuable Lessons and Skills

Reflecting on her first year of teaching, Nina mentioned that she learned valuable lessons and skills such as attracting attention, leading properly, being an authority and giving instructions for executing throws. These are essential skills for any teacher and will benefit her in her long-term career as a judo teacher. “Being a coach can be quite demanding at times but if you enjoy the role, everything is manageable. A year ago, I wasn't good at attracting attention, leading properly or being an authority. I also learned how to give younger judoka instructions for executing throws.” This reflection indicates a growth mindset and a willingness to learn and improve which are crucial traits for any professional.

Theme 6: Professional and Personal Aspirations

Nina expressed that the teaching experience positively impacted her professional and personal aspirations. She expressed a desire to become a judo teacher in the future. “This experience has had a positive impact on me. I want to become a judo teacher.” This indicates that the experience was rewarding and influential in shaping her career aspirations.

Theme 7: Future Projects and Inclusion

Nina shared her idea of introducing judo teaching for individuals with IDD, even in kindergartens, with the assistance of mentors. This suggests a commitment to inclusivity and a recognition of the potential benefits of judo for individuals with an IDD. “My idea is to introduce judo teaching for individuals with intellectual disabilities, with the assistance of mentors, even in kindergartens.” It also highlights the importance of mentorship and support in making sport accessible to all.

Final Reflections

In her final reflections, Nina expressed that she had always wanted to become a judo teacher and the year of trying out the role was enjoyable for her. “When I started practising judo, I wanted to become a judo teacher and in this past year I have tried this role, which I really enjoyed.” This suggests a sense of fulfilment and alignment between her aspirations and experiences.

CONCLUSION

Empowering individuals with an IDD to become sports teachers is a promising opportunity for promoting inclusion, self-confidence, and personal and professional development. This research provides valuable insights into the experiences, challenges and aspirations of an athlete with an IDD transitioning into a teaching role. The supportive mentorship, structured training and positive feedback received during this process were instrumental in overcoming initial challenges and developing essential teaching skills. These findings highlight the importance of creating supportive environments, tailored training programmes and mentorship models to empower individuals with IDDs to succeed in teaching roles. The study's findings are a stepping stone in advocating for adapting the curricula of judo federations to be more inclusive for individuals with IDDs to reach teaching certification and educational programmes. While this research offers valuable insights into the experiences and potential of athletes with IDDs transitioning into teaching roles, it has some limitations. Firstly, the study is based on a single case, which may not represent the experiences of other individuals with IDDs. Secondly, the study was conducted in a specific cultural and organisational context (Judo Club Sokol, Slovenia), which may limit the generalisability of the findings to other settings. This paper opens several avenues for future research and practice. A key area for further investigation is the development of structured training programmes tailored to the unique needs and strengths of individuals with IDDs aspiring to become sports teachers. Another important area of focus is the exploration of mentorship models that facilitate the successful transition of athletes with IDDs into teaching roles. Furthermore, assessing the impact of having sports teachers with IDDs on the students' attitudes, skill development and overall learning experience is also crucial to understanding the broader implications of this initiative.

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