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THE TRANSFORMATIVE IMPACT OF JUDO ON ATHLETES WITH DISABILITIES: INCLUSION, ADAPTATION, AND PERFORMANCE INSIGHTS

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Raphael Fellipe Figueiredo de Freitas

ABSTRACT

Judo is celebrated for its inclusivity and adaptability, offering significant benefits for athletes with disabilities (PwD). It fosters physical, emotional, social, and cognitive growth, enhancing motor skills, coordination, and balance. For athletes with physical disabilities, mastering techniques such as falling safely promotes strength and agility. Moreover, engaging in judo boosts self-esteem and confidence as athletes achieve milestones like advancing through belt ranks and earning medals. The supportive environment encourages personal accomplishment and helps develop social skills through interaction with peers. Research highlights the diverse range of disabilities in judo, including visual, auditory, and intellectual impairments. Studies by Oblak et al. (2020) reveal the therapeutic benefits of judo for individuals with intellectual disabilities, emphasizing the need for more research in this area. Bocioacă and Marin (2023) explore the role of adapted judo for individuals with Autism Spectrum Disorder (ASD) and Down syndrome, demonstrating improvements in integration skills through tailored practices. Additional research by Kons et al. (2021) and Krabben et al. (2017) addresses the dynamics of Paralympic judo, revealing challenges related to classification systems for visually impaired athletes. Kons et al. (2022) identify a concerning rise in injury rates among judo athletes with disabilities, indicating the need for improved safety measures. Lastly, the comparative study of neuromuscular control by Kons et al. (2019) shows that visually impaired judokas can excel in balance and certain strength metrics. Overall, these studies underscore judo's role in promoting physical development and social integration for PwD, while also highlighting the need for further research to ensure equitable and inclusive practices in the sport.

Keywords: Judo. Athletes with disabilities. Inclusion. Adaptation. Performance.

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INTRODUCTION

Judo is a sport renowned for its inclusivity and adaptability, offering valuable opportunities for athletes with disabilities, often referred to as persons with disabilities (PwD). Engaging in judo significantly impacts the lives of these athletes, fostering not only physical growth but also emotional, social, and cognitive benefits.

From a physical development perspective, judo practice enhances motor skills, coordination, and balance. For athletes with physical disabilities, learning how to fall and control their bodies is crucial for building strength and promoting agility. The adaptation of techniques and the use of suitable equipment make judo accessible, enabling athletes to hone their skills safely and effectively.

Beyond physical advantages, judo also boosts self-esteem and confidence. Achievements like advancing through belt ranks, earning medals, and overcoming challenges on the mat cultivate a sense of personal accomplishment. Regular judo practice creates a supportive environment where every achievement, regardless of size, is recognized and celebrated. This aspect is especially vital for athletes with disabilities, who may face additional challenges in their everyday lives.

Judo also fosters socialization and relationship-building. In an inclusive setting, athletes have the chance to interact with fellow judokas, learning teamwork and appreciating diversity. Judo classes often become spaces where differences are embraced, helping athletes develop social skills and form friendships. These interactions are fundamental in building a support network that can benefit athletes both personally and professionally.

Including athletes with disabilities enriches the sport of judo while challenging existing stereotypes and prejudices. By excelling in competitions, these athletes serve as role models, demonstrating that disability does not hinder sporting excellence. Their visibility at sporting events raises societal awareness about the importance of inclusion and respect for diversity.

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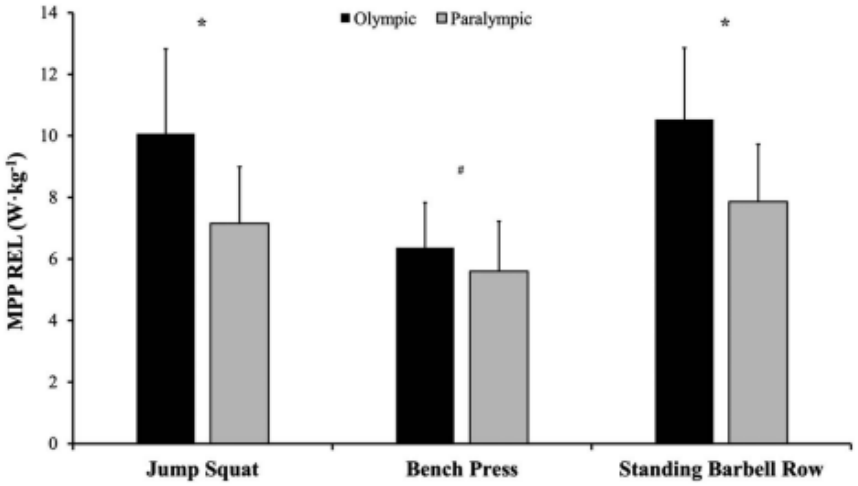
Figure 1: Comparisons of relative mean propulsive power in the 3 exercises tested between Paralympic and Olympic judo athletes.



Source: Loturco et al. (2017)

The research conducted by Oblak et al. (2020) delves into the inclusion of judokas with disabilities, highlighting the wide range of disabilities represented in the sport, including visual and auditory impairments as well as intellectual disabilities. The study identifies various terminologies in the literature, such as adaptive judo, inclusive judo, and special needs judo, reflecting the sport's multifaceted nature. While there is considerable research on judo for athletes with physical disabilities, especially those who are blind or deaf, there is a noticeable lack of studies focusing on individuals with intellectual disabilities. Oblak et al. employed a systematic review method, examining 24 relevant articles that explored judo's effects on people with various disabilities, including quality of life, motor skills, and psychosocial benefits. The findings highlight the growing recognition of judo as a therapeutic and recreational activity for individuals with intellectual disabilities, emphasizing its potential for promoting inclusion and well-being. However, the authors note that the limited number of subjects and diverse methodologies restrict the generalizability of their results, stressing the need for further research to draw more definitive conclusions.

Similarly, Bocioacă and Marin (2023) underscore the increasing importance of adapted judo for individuals with special needs, particularly those with Autism Spectrum Disorder (ASD) and Down syndrome. Tailoring judo practice to address the specific requirements of these individuals can help them overcome various challenges while enhancing their physical and mental health. The study evaluates the significance and outcomes of adapted judo in improving integration skills, based on the premise that participation in judo can cultivate essential skills for social integration and endurance. Over an eight-month period, the research involved 41 coaches, methodologists, teachers, and

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representatives from sports organizations, alongside 14 athletes with special needs from the Down Bucharest association, who attended at least two training sessions per week. Data collection included questionnaires, the Sargent test, assessments of maximum oxygen consumption, and plethysmographic measurements. The goal was to compile and analyze data to develop effective best practices and methodologies for adapted judo, bridging the gap between decision-makers and practitioners. Ultimately, this research highlights the crucial role of judo in promoting physical development and social integration for individuals with ASD and Down syndrome.

The study by Kons et al. (2021) investigates the dynamics of Paralympic judo for athletes with visual impairments, focusing on the competition among athletes classified as B1, B2, and B3. In this context, all eligible athletes compete against one another, raising concerns about potential disadvantages for those with more significant impairments. The research explores the relationship between para sport classification and various performance measures, including technical variation and time-motion variables. Analyzing 175 judo matches from the Rio 2016 Paralympic Games involving 129 competitors (82 male and 47 female), the findings revealed that athletes with less technical variation tended to experience lower levels of competitive success. Specifically, functionally blind athletes (B1 class) showed significantly less technical variation than their partially sighted counterparts (B2 and B3 classes) ($p < 0.05$). Interestingly, there were no significant differences in time-motion variables across the sport classifications ($p > 0.05$). The study concludes that technical variation serves as a sensitive measure for assessing differences in impairment and its impact on performance in visually impaired judo, suggesting that the current rules may disadvantage certain athletes with impairments.

Further research by Krabben, van der Kamp, and Mann (2017) investigates the role of vision in the performance of athletes competing in Paralympic judo, particularly among those with varying degrees of visual impairment (VI). This study challenges the assumption that vision does not affect judo performance, even when athletes start their matches with grips already established. Two studies were conducted: the first analyzed performance data from major recent VI judo competitions, revealing that blind judokas won significantly fewer medals compared to their partially sighted peers. The second study involved twenty-four sighted judokas competing in practice matches under both sighted and blindfolded conditions, demonstrating a significant performance advantage for sighted athletes over blindfolded opponents. The findings indicate that vision indeed enhances judo performance,

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suggesting a need to reassess the classification system in VI judo to create a fairer competitive environment for those with more severe impairments.

Kons et al. (2022) examined the prevalence of sports-related injuries among judo athletes with disabilities, revealing a concerning rise in both participation and injury rates in this population. This cross-sectional study involved 51 judo athletes (15 men and 36 women) in Brazil, aiming to assess the nature, mechanism, severity, and affected body parts of injuries across different impairment groups. The findings indicated a notably high injury prevalence, particularly among female athletes with visual impairments (73.3%) and male athletes with amputations (38.8%). A significant proportion of injuries (69.4% for men and 80.0% for women) were attributed to direct contact during training, with the knee (49.0%) and shoulder (23.5%) being the most commonly injured areas. Overall, the study highlights that a considerable percentage of judo athletes with disabilities have experienced injuries over the past two years, primarily due to training and competition, with many injuries classified as moderate to severe.

Lastly, the study by Kons et al. (2019) focused on analyzing neuromuscular and postural control in judo athletes with and without visual impairment. Two judokas participated, one with visual impairment and the other without, both sharing similar demographic, anthropometric, and technical characteristics in judo. The athletes underwent maximal isometric handgrip strength tests (using both dominant and non-dominant hands), vertical jumps (countermovement jump [CMJ] and squat jump [SJ]), and center of pressure assessments in three positions: neutral, anteroposterior, and judo combat base (Migi-shizentai). The primary findings indicated that the visually impaired athlete demonstrated greater standing balance in the neutral and anteroposterior positions compared to the non-impaired athlete (effect size [ES] > 2.0). In the Migi-shizentai position, the performance disparity between the athletes was less pronounced, particularly regarding the displacement area (ES = 0.52). The visually impaired athlete excelled in the SJ but performed worse in the CMJ and handgrip strength tests compared to the non-impaired athlete (ES > 2.0). This suggests that while the visually impaired athlete exhibited greater postural stability in the neutral and anteroposterior positions, their performance in the Migi-shizentai position was comparable to that of the non-impaired athlete, potentially influenced by their judo practice. Additionally, the visually impaired athlete outperformed their non-impaired counterpart in the SJ.

The inclusion of athletes with disabilities in judo not only enriches the sport but also fosters an environment of respect and diversity, challenging stereotypes and prejudices.

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Research highlights the importance of adapted judo as a valuable tool for the physical, emotional, and social development of these athletes, demonstrating its positive impact in areas such as self-esteem, social skills, and community integration. Recent studies also reveal the need for a better understanding of the specific challenges faced by athletes with different types of disabilities, such as those with visual or intellectual impairments, emphasizing the urgency for further investigations to solidify adaptive practices. Through judo, not only is inclusion promoted, but the social perception of the capabilities of people with disabilities is also transformed, paving the way for a more equitable and respectful future in both sports and society as a whole.

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