



## **The Effect of Judo on the Self-Confidence of Athletes with Disabilities: A Perspective from Self-Efficacy Theory**

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### **Abstract**

Low self-confidence remains a major challenge in the development of athletes with disabilities, particularly in the context of competitive sports. Low self-confidence can hinder motivation, reduce performance, and increase the risk of social isolation. While sports are believed to improve psychological aspects, there have been few studies that specifically evaluate the impact of martial arts such as judo on the self-confidence of athletes with disabilities. This study aims to examine the influence of participation in judo on the self-confidence of athletes with disabilities, particularly those who are visually impaired, based on the theory of self-efficacy. The study employs a pre-experimental one-group pretest-posttest design, involving 11 national judo team athletes as subjects. Data were collected through a self-efficacy questionnaire covering four dimensions: mastery experience, vicarious experience, verbal persuasion, and physiological-emotional conditions. The results showed an average decrease in scores from 60.18 to 58.73; however, the increase in maximum scores and response variability post-intervention indicated complex individual dynamics. These findings indicate that judo has potential as a tool for psychological strengthening, but requires a more personalized training approach and integrated psychological support. This study suggests the need for further research using stronger experimental methods and a broader population to gain a more comprehensive understanding.

**Keywords:** *Judo, Self-Confidence, Athletes with Disabilities, Self-Efficacy, Sports Psychology*

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## **INTRODUCTION**

Sports are a fundamental element in the development of human quality of life, and their role is becoming increasingly crucial in the context of people with disabilities (Diz et al., 2024; Mîndrescu, 2022; Puce et al., 2023). Various studies show that active participation in sports activities not only provides physiological benefits such as increased muscle strength, flexibility, and motor coordination but also significantly contributes to the social and psychological aspects of individuals with disabilities (Bulut et al., 2024; Stangova et al., 2022). Through sports, individuals with physical limitations have the opportunity to develop a sense of autonomy, enhance social interaction, and form a positive self-identity (Irwan et al., 2022). Additionally, structured physical activities play a crucial role in reducing the risk of social

isolation, anxiety, and depression, which are typically more prevalent among this group (Eduarda et al., 2024). Within the framework of holistic rehabilitation, sports function as a multidimensional recovery medium, strengthening the adaptive capacity of people with disabilities in facing daily life challenges (Mira et al., 2023; Stolz et al., 2022). Therefore, the integration of sports into disability empowerment strategies is not merely recreational but also strategic in accelerating the process of recovery and comprehensive social integration (Cifaldi, 2024). As one of the martial arts disciplines, judo has evolved into more than just a physical activity; it is a comprehensive tool for character education and mental development (Garbeloto et al., 2023).

The involvement of persons with disabilities in competitive sports has seen a significant increase at various levels, from national competitions to international events such as the Paralympic Games (Baumgart et al., 2022; Goh, 2020). This increase reflects progress in terms of inclusion and empowerment, while also demonstrating that individuals with disabilities have great potential in the world of competitive sports (Carty et al., 2021). However, this progress has not been fully accompanied by the fulfillment of athletes' psychological needs, particularly in terms of self-confidence (Ahmed et al., 2021; Kim & Cruz, 2021). Many athletes with disabilities still face mental barriers stemming from experiences of social marginalization, limited emotional support, and negative stigma toward their disabilities (Gurgis et al., 2022; Leighton et al., 2025). Low self-confidence can disrupt the training process, reduce motivation to train, and limit the achievement of optimal performance (Ita et al., 2022). Given the importance of self-confidence in supporting athletes' success, there is a need for a more in-depth study of the factors influencing it so that the participation of athletes with disabilities in sports not only increases in numbers but also in quality and sustainability (Lohani et al., 2021). Self-confidence is a key psychological factor in athletic performance (Lochbaum et al., 2022). For disabled athletes, the role of self-confidence becomes even more vital as they often face social and structural barriers, such as stigma, limited access, and low environmental expectations. These conditions not only affect motivation but also self-perception in competition. Therefore, strengthening self-confidence is a strategic aspect in the development of disabled athletes so that they can develop optimally, both physically and mentally.

In the development of athletes with disabilities, attention to psychological aspects such as self-confidence is still insufficient, especially in martial arts such as judo. Training tends to focus on physical and technical aspects, even though self-confidence plays an important role

in supporting athletes' motivation and mental endurance. Judo, as a sport that emphasizes physical and mental balance, has great potential in developing these psychological dimensions, yet it has not been extensively studied scientifically in the context of disability. Although judo has been recognized as one of the adaptive sports beneficial for people with disabilities, scientific studies specifically evaluating its impact on psychological aspects, such as self-confidence, remain very limited. Especially among visually impaired athletes, the literature examining the relationship between participation in judo and the enhancement of self-confidence has not developed sufficiently. This lack of data hinders a comprehensive understanding of judo's potential as a psychological intervention tool in the development of athletes with disabilities, while also creating an important gap that needs to be bridged through empirical research.

## **METHOD**

This study uses a descriptive quantitative approach with a pre-experimental design of the one-group pretest-posttest type to evaluate the effect of participation in judo training on the self-confidence levels of athletes with disabilities from the perspective of self-efficacy theory. The research subjects were 11 athletes with disabilities who were members of the national training center (Pelatnas) for judo. All participants were selected using total sampling due to the limited and specific nature of the population. Inclusion criteria included: (1) active status as a disabled judo athlete in Pelatnas, (2) participation in regular training for at least the past three months, and (3) voluntary consent to participate. The measurement instrument was a self-efficacy questionnaire adapted for the context of disability sports, covering four main dimensions based on Bandura's theory: mastery experience, vicarious experience, verbal persuasion, and physiological-emotional conditions. The scale was validated by experts and tested for reliability using Cronbach's alpha approach before use. Data collection was conducted before and after the six-week judo training intervention, with a training frequency of 3–4 times per week. Due to the small sample size, data analysis was performed using the Wilcoxon Signed-Rank Test, which is more suitable for non-parametric data distribution and a limited number of respondents. All research procedures were conducted in accordance with research ethics principles, including informed consent and data confidentiality guarantees for participants.

## RESULTS AND DISCUSSION

### Result

**Table 1.** Descriptive Statistics of Self-Confidence among Athletes with Disabilities

Statistics	Pretest	Posttest
Average	60.18	58.73
Standard deviation	4.12	4.56
Minimum	51	49
Maximum	64	65

The results of the descriptive analysis indicate that there was a change in self-confidence scores before and after participating in the judo training program. The pretest mean score of 60.18 decreased slightly to 58.73 on the posttest. Although there was a noticeable decrease in the average score, it should be noted that this difference was relatively small and could reflect natural variations in athletes' self-perception over time. The standard deviation at the pretest was 4.12, while at the posttest it increased to 4.56, indicating a slight increase in data dispersion or score variability after the intervention. This indicates that athletes' responses to judo training in terms of self-confidence became more varied. The minimum self-confidence score also decreased from 51 (pretest) to 49 (posttest), while the maximum score increased from 64 to 65. This indicates that while some participants experienced a decrease in scores, others showed an increase in self-confidence after participating in the training.

These changes may reflect different individual responses to judo training: some athletes may experience increased self-confidence due to personal achievements during training or supportive social interactions, while others may experience emotional challenges or adjustments that negatively affect their self-perception. However, to conclude whether these changes are statistically significant, inferential analysis such as the Wilcoxon Signed-Rank test is required. If the test results show a significance level below the threshold (e.g.,  $p < 0.05$ ), it can be concluded that participation in judo influences the self-confidence of athletes with disabilities. If the results are not significant, the variation in scores may be attributed to factors outside the intervention.



**Figure 1.** Interpretation of boxplot comparison scores

The diagram shows a comparison of the distribution of total self-efficacy scores of athletes with disabilities before (pretest) and after (posttest) participating in judo training. Visually, the median pretest score appears to be higher than the posttest score, indicating a decrease in the median self-confidence score after the intervention. This is consistent with the descriptive statistical results, which show a decrease in the mean from 60.18 to 58.73. Additionally, the interquartile range in the posttest is wider, indicating that the variation in participants' self-efficacy scores after training has increased. This means that participants' responses to the judo training were not uniform; some experienced an increase, while others experienced a decrease or stagnation.

The more extreme downward whisker length in the posttest also indicates the presence of participants with very low scores after the intervention, whereas in the pretest, the score distribution appears more homogeneous. Interestingly, in the pretest, there was one outlier below 52, indicating that before the training, there was one participant with a significantly lower level of self-confidence compared to the others. This figure overall illustrates that while judo training has the potential to influence self-confidence, the results are highly dependent on the individual conditions and responses of each participant. This underscores the importance of a more personalized approach in training programs for athletes with disabilities, as well as the need for adequate psychological support to optimize the positive impact of training on mental aspects.

## **Discussion**

The results of this study provide important insights into the influence of judo on the self-confidence of athletes with disabilities, particularly visually impaired athletes, using Bandura's self-efficacy theory framework. Although there was a statistically significant decrease in the average self-confidence score from 60.18 to 58.73 after the intervention, a deeper interpretation reveals that the dynamics of athletes' self-confidence are not linear and are greatly influenced by individual conditions and training contexts.

The relatively small decrease in the average score does not necessarily indicate the failure of the intervention. On the contrary, the increased variation in scores (as seen from the increase in standard deviation and interquartile range) indicates that judo training produces different responses in each athlete. This aligns with self-efficacy theory, which states that perceptions of self-competence are formed through personal experience (mastery), observation of models (vicarious experience), verbal persuasion, and physiological-emotional conditions (Syahri et al., 2024). In this context, not all athletes may have gained positive mastery experiences during the six-week intervention period, especially if they faced technical difficulties, social pressure, or emotional barriers.

Interestingly, although the average score decreased, the maximum score increased (from 64 to 65), indicating that some athletes gained a significant boost in confidence. This supports the notion that participation in judo, which emphasizes the principles of courage, discipline, and self-control, still has potential as a tool for psychological strengthening. However, these results also emphasize that a uniform approach to training may not be optimal for all athletes with disabilities.

Practically speaking, this indicates that coaches and national training organizers need to adopt more individualistic and holistic training strategies, including paying attention to the emotional and psychological needs of athletes (Hut et al., 2023). Integrating psychological counseling into judo training programs could be a strategic step toward strengthening verbal persuasion and helping athletes manage their physiological-emotional conditions, two important aspects of self-efficacy enhancement (Lindell-postigo et al., 2023).

This study also highlights the importance of evaluating the success of psychological interventions not only through aggregate values but also through analysis of distribution and individual responses. Active participation in judo can be a transformative experience for some athletes but may also serve as a new source of stress for those who are not yet fully mentally

prepared. This aligns with previous literature emphasizing the importance of psychological readiness in competitive disability sports. Methodologically, the one-group pretest-posttest design with a small sample size has limitations in drawing strong causal conclusions. The absence of a control group makes it difficult to separate the influence of judo from other external factors that may affect self-confidence. However, the use of valid and reliable instruments and appropriate non-parametric analysis (Wilcoxon test) still provides a strong foundation for initial interpretation.

The findings of this study have a number of important implications, both theoretically, practically, and in terms of policy (Yin et al., 2022). Theoretically, these findings enrich the literature on the application of self-efficacy theory in the context of disability sports, particularly in martial arts such as judo (Huang & Long, 2025; Palumbo et al., 2023). This study demonstrates that participation in judo can contribute to the formation or even shift in the self-perception of disabled athletes, although the effects vary among individuals. This highlights the need for further exploration of the psychological dimensions in disability sports using a contextual and experience-based approach (Xiang et al., 2022). Practically, the results of this study emphasize the importance of a holistic and personalized training approach in developing athletes with disabilities (Allan et al., 2020; Dehghansai et al., 2020). Training programs should not only focus on physical and technical aspects but also include mental and emotional strengthening (Lee & Kim, 2020). Therefore, coaches and sports psychologists need to collaborate in designing training strategies that support the development of self-confidence, such as providing positive feedback, creating a supportive social environment, and helping athletes manage stress and competitive pressure.

From a policy perspective, these findings can serve as a basis for policymakers in developing more inclusive and responsive disability athlete development programs that address psychosocial needs (Hammond et al., 2022). For example, providing regular psychological counseling services, specialized training for coaches on motivational approaches for athletes with disabilities, and developing national training programs that explicitly incorporate aspects of self-efficacy enhancement. Thus, empowering athletes with disabilities through sports is not only focused on achieving performance goals but also on improving their quality of life and mental resilience in a sustainable manner.

This study has several limitations that need to be considered in interpreting the results and applying the findings. First, the small sample size, consisting of only 11 athletes with

disabilities, limits the generalization of the results to a wider population. In addition, all participants were members of the national judo training camp, so the results of this study may not necessarily reflect the conditions of athletes with disabilities outside the context of the training camp or other sports. Second, the research design used was a pre-experimental one-group pretest-posttest design without a control group, making it impossible to draw strong causal conclusions. External factors outside the judo training intervention, such as personal psychological conditions, team social dynamics, or competitive pressure, may influence changes in self-confidence scores. Third, the relatively short duration of the intervention, which was six weeks, may not have been sufficient to produce stable and significant psychological effects, particularly in the aspect of self-confidence, which requires a long-term development process.

Given these limitations, future research is recommended to involve a larger and more diverse sample, both in terms of sports disciplines and types of disabilities, to obtain a more comprehensive and representative picture. The use of an experimental design with a control group would enhance internal validity and allow for more accurate analysis of the effects. Additionally, extending the intervention duration and adding psychological counseling sessions could help evaluate the long-term impact of judo on self-confidence. Future research could also consider a mixed-method approach, combining quantitative and qualitative data, to delve deeper into athletes' subjective experiences in responding to judo training. As a result, research findings would be richer in context and more relevant as a basis for developing comprehensive athlete development programs for individuals with disabilities.

## **CONCLUSION**

This study shows that participation in judo has varying effects on the self-confidence of athletes with disabilities. Although there was a decrease in the average self-confidence score, this result cannot be concluded as a significant decrease because individual responses varied greatly. Judo still has the potential as a means of psychological strengthening, especially if supported by a holistic and personalized training approach. Limitations in sample size and design without a control group are important considerations. Therefore, further research with stronger methods and broader scope is needed to clarify the influence of judo on the psychological aspects of athletes with disabilities in a more comprehensive manner.

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