



## PERCEPTIONS OF KARATE COACHES TOWARDS THE INCLUSION OF ATHLETES WITH PHYSICAL DISABILITIES IN TRAINING SESSIONS

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### **Abstract:**

Para-karate is an adaptation of karate sport, including regulation changes so as to facilitate the participation of people with disabilities in karate competitions and to promote inclusion in training settings. The purpose of this study was to examine the attitudes of karate coaches toward the inclusion of people with physical disabilities in common training sessions with athletes without disabilities and to record the coaches' perceived level of self-efficacy. The importance of this study relates to the lack of corresponding researches regarding the attitudes of coaches in this particular sport. The sample consisted of 68 karate Greek coaches, whereas measurement tools used included the Hammond *et al.* (2014) Questionnaire measuring coaches' attitudes towards inclusion and the 'Physical Education Teacher Efficacy' questionnaire by Biddle and Goudas (1997). Results showed that karate coaches' perceptions toward inclusion of participants with physical disabilities and self-efficacy were influenced by education level and relative knowledge of adapted physical activity, external influence of significant others and previous coaching experience either with individuals with disabilities or overall experience as coaches, whereas no differences were noted in terms of coaches' gender, age and local region, in a country that para-karate is still at the stage of early development. Based on the findings, recommendations were made for future researches using a larger sample of karate coaches.

**Keywords:** para-karate, physical disability, coaches, perceptions, inclusion

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## 1. Introduction

Inclusion refers to educational and sport environments in which people with disabilities co-exist with people without disabilities and have the same learning opportunities. The importance of inclusion for both individuals with and without disabilities is of high importance (Freeman & Alkin, 2000), developing empathy, acceptance and peer interaction resulting in social inclusion for all (Lieber *et al.*, 1998; Chesley & Calaluce, 1997).

Research data support the positive attitudes of participants with disabilities towards their disabled peers as well as the positive effect of inclusion on all individuals with disabilities in inclusive sport environments, as through inclusion, they can successfully participate with proper support and accessibility (Block & Obrusníková, 2007). As a result, participation of people with disabilities in both school and sport-inclusive environments has increased in recent years, providing opportunities for sports participation (Qi, & Ha, 2012). Of all sports, martial arts have been shown to promote social inclusion and physical fitness and cultivate life skills (Kohut *et al.*, 2021).

## 2. Literature Review

Karate, in particular, is a martial art where the spectrum of inclusion and people with disabilities can be applied by improving fitness indicators such as mobility, speed, power strength, and power endurance (Kohut *et al.*, 2021). Martial arts practitioners are eager to promote inclusive exercise and socialization of people with disabilities, nevertheless, they lack the necessary skills to do so (Kohut, Marynych, & Chebanova, 2021). Inclusion of karate practitioners with disabilities affects the effectiveness of methodological and systematic support, while inclusion barriers involve lack of accessibility and social support (Bossink *et al.*, 2017), plus reasons related to the nature of the disability itself (Masdeu Yelamos, Clardy, & Carty, 2022). Especially physical disabilities affect the individual's performance in sporting activities. These include conditions such as ataxia, ataxia, hypertonia, reduced muscle strength, reduced range of motion, limb deficiency and leg length discrepancy, which can be caused by various disabilities such as cerebral palsy, spinal cord injury, brain injury, amputation from injury or congenital limb deficiency, muscular dystrophy, multiple sclerosis and other neuromuscular diseases (World Karate Federation, 2021).

In para-karate, athletes train and compete in the kata event, and there are categories for physical disabilities, intellectual disability and blindness (World Karate Federation, 2021). Most research on karate and disabilities is conducted on people with autism spectrum disorders (ASD) and focuses mainly on kata techniques. Some results show a decrease in stereotypical behaviors in children (Bahrami *et al.*, 2012), while others exhibited significant improvement in socialization levels (Movahedi, Bahrami, Marandi, & Abedi, 2013), leading to the assumption that karate is beneficial for people with ASD as

it helps them to reduce communication deficits (Bahrami, Movahedi, Marandi, & Sorensen, 2016).

Karate coaches' attitudes towards the inclusion of people with disabilities have not been systematically investigated in research studies. Relative research so far has addressed the developmental and social benefits of an inclusive karate program (Ebesugawa, Wensley, & Murphy-Sims, 2010), the organization of the training process for inclusion and the methodological support for karate athletes with disabilities (Kohut *et al.*, 2021; Kohut, Marynych, & Chebanova, 2021).

A case study (Rao, 2008) presented through an analytic interview the experiences and observations of a karate coach concerning the inclusion of children with disabilities in his school. Nevertheless, an examination of karate coaches' perceptions toward the inclusion of participants with disabilities has not been studied yet. Thus, the purpose of this study was to examine the attitudes of karate coaches regarding the inclusion of people with physical disabilities in their training sessions with non-disabled athletes, as well as to record their perceived self-efficacy as coaches.

### 3. Material and Methods

The sample consisted of 68 individuals (N=68, 58 males, 10 females), all karate coaches recruited from different Greek regions who agreed to participate anonymously and voluntarily.

The coaches' attitudes towards inclusion for athletes with intellectual disability (Hammond, Young, & Konjarski, 2014) were used as an instrument to measure a) personal beliefs related to the positive or negative attitudes of karate coaches towards the inclusion of athletes with physical disabilities in their team, b) perceived self-confidence of coaches in teaching karate trainees with physical disabilities and c) the external factors that influence coaches' decision to accept participants with a physical disability in their training sessions. In the questionnaire administered, the term intellectual disability was replaced with the term physical disability and reliability was ensured through Cronbach's Alpha analysis. Furthermore, the Physical Education Teacher Efficacy questionnaire (Biddle and Goudas, 1997) was administered to measure the perceived self-efficacy of karate coaches.

The questionnaires were administered via Google Forms completion the questionnaires were sent to karate teams' representatives, who facilitated contact with karate coaches. The average completion time of both questionnaires was 15 minutes, with explanations provided by the primary researcher when needed. The study protocol and procedures were approved by the Internal Ethics Committee of DPESS, University of Thessaly (protocol number 1-8/7-12-2022).

SPSS version 29.0 was used for statistical purposes and included a Cronbach and Pearson r correlation analysis to examine the internal consistency of items comprising each factor and the relation among factors, respectively. A non-parametric independent samples t-test (Mann-Whitney) was used to locate possible differences in terms of gender,

place of residence, education in adapted physical activity and previous coaching experience concerning people with disability. Furthermore, non-parametric Kruskal-Wallis analysis was used to identify differences in relation to education degree and years of coaching experience. The level of significance was set at  $p < 0.05$ .

#### 4. Results and Discussion

Cronbach's  $\alpha$  analysis indicated internal consistency ranging from high ( $\alpha = .908$  and  $\alpha = .902$  for the factors 'self-efficacy' and 'self-confidence' respectively) to very good ( $\alpha = .794$  and  $\alpha = .764$  for the factors 'attitude' and 'external influence' respectively). Furthermore, the results showed a positive correlation between all factors (Table 1).

**Table 1:** Internal consistency and correlation of factors

|                    | N  | Cronbach a | Self-confidence | External influence | Self-efficacy |
|--------------------|----|------------|-----------------|--------------------|---------------|
| Personal beliefs   | 68 | .794       | .439**          | .503**             | .510**        |
| Self-confidence    | 68 | .902       |                 | .513**             | .358**        |
| External influence | 68 | .764       |                 |                    | .268*         |
| Self-efficacy      | 68 | .908       |                 |                    |               |

\*\*  $p < .001$ , \*  $p < 0.05$

Application of Mann-Whitney U analysis revealed statistically significant differences in terms of previous coaching experience with people with disabilities on self-confidence, in favor of coaches having previous experience with people with disabilities, as well as the external influence of others that lead coaches to teach people with disabilities. No statistically significant differences were observed in personal belief and self-efficacy factors (Table 2).

**Table 2:** Previous coaching experience with participants with disabilities

| Factors            | Previous coaching experience | N  | Mean Rank | Mann-Whitney U | Asymp. Sig. |
|--------------------|------------------------------|----|-----------|----------------|-------------|
| Self-confidence    | Yes                          | 42 | 41.12     | 268.000        | .001*       |
|                    | No                           | 26 | 23.81     |                |             |
| External influence | Yes                          | 42 | 41.79     | 240.000        | .001*       |
|                    | No                           | 26 | 22.73     |                |             |

\* $p < .001$

Mann-Whitney U results also showed statistically significant differences in personal belief factors between coaches with and without previous knowledge of adapted physical activity. No statistical significance was observed for the rest of the factors (Table 3).

**Table 3:** Previous adapted physical activity knowledge

| Factors         | Previous knowledge in adapted physical activity | N  | Mean Rank | Mann-Whitney U | Asymp. Sig. |
|-----------------|---|----|-----------|----------------|-------------|
| Personal belief | Yes   | 14 | 25.79     | 256.000        | .031*       |
|                 | No  | 54 | 36.76     |                |             |

\*p < .05

No other statistical differences were observed using Mann-Whitney nonparametric analysis in terms of gender (male, female), age (24-48, 49-68 years) and region (Athens and the rest of Greek regions).

The non-parametric Kruskal-Wallis analysis revealed statistically significant differences in self-efficacy based on karate coaches' education degree (graduates of the Department of Physical Education and Sport Science, licensed by the General Secretariat of Sport [N = 44] and former athletes (Table 3).

**Table 3:** Education degree

| Factors        | DPESS graduates<br>N = 2 | Licensed by GSS<br>N = 44 | Former athletes<br>N = 22 | H     | p     |
|----------------|--------------------------|---------------------------|---------------------------|-------|-------|
| Self- efficacy | 61.50                    | 37.23                     | 26.59                     | 8.192 | .017* |

\*p < .05

Finally, Kruskal-Wallis results showed statistically significant differences in self-efficacy actor based on overall karate coaching experience in years (Table 4).

**Table 4:** Overall coaching experience of karate coaches

| Factors        | 5 - 15 years<br>N = 16 | 16 - 26 years<br>N = 17 | 27 - 37 years<br>N = 5 | 38 - 48 years<br>N = 14 | H      | p     |
|----------------|------------------------|-------------------------|------------------------|-------------------------|--------|-------|
| Self- efficacy | 17.83                  | 37.70                   | 37.72                  | 39.70                   | 10.572 | .014* |

\* p < .05

The purpose of this study was to investigate the attitudes of karate coaches toward the inclusion of participants with physical disabilities in karate sessions with athletes without disabilities and to assess coaches' perceived self-efficacy.

Findings showed that coaches' perceptions are directly related to their previous coaching experience in teaching people with physical disabilities, as previous experience makes them more confident in their ability to contribute to the inclusion of people with disabilities and builds a more positive attitude towards inclusion. This finding is in agreement with Hutzler (2003) and Hammond *et al.* (2019), who underlined previous experience and expertise as important factors that develop self-confidence and contribute to positive inclusion attitudes of coaches. Furthermore, overall coaching experience seemed to influence self-efficacy as reflected in their teaching. In karate, due to the nature of the sport, as in other martial arts too, coaches with more years of coaching experience are associated with personal accomplishment through the Dan system and as a result, they feel more competent to teach.

Coaches' perceptions were also influenced by significant others and other external factors that can determine or affect their attitudes towards people with physical disabilities. External influence directly depends on their personal perceptions, confidence and self-efficacy. The coaches' final decision to accept trainees with a physical disability is influenced by their positive or negative attitudes towards people with disabilities, the confidence they feel to contribute to trainees' inclusion and their general perception of effectiveness as karate coaches. Research confirms that sports for people with disabilities rely on the knowledge and understanding of coaches and other factors to create the necessary conditions to achieve inclusion (Patatas, De Bosscher, & Legg, 2018). Thus, coaching profiles and decisions are influenced by knowledge, significant others and previous experience with people with disabilities and their surroundings (Jeanes *et al.*, 2019; Hutzler *et al.*, 2019).

Indeed, karate coaches' attitudes in this study were influenced by their perceived self-efficacy as coaches, with those who feel more efficient exhibiting more positive attitudes and higher self-confidence in their ability to include athletes with physical disability in karate sessions. Furthermore, the self-efficacy of karate coaches was influenced not only by their previous experience but also by their education level since karate coaches who were graduates of the Departments of Physical Education and Sport Science (DPESS) showed higher self-efficacy than those who were licensed by the General Secretariat of Sport or those who were former athletes. DPESS Graduates receive adapted physical education courses and relative knowledge and come in contact with individuals with disabilities during their studies. Therefore, they receive the necessary knowledge and skills that cultivate not only self-efficacy but also their personal beliefs, leading to a more positive attitude toward inclusion, as the results of this study revealed.

On the other hand, disability-related education content is absent among para-sport coaches (Huntley *et al.*, 2019). Culver & Werthner (2018) note that coaches should possess a certain level of knowledge and awareness during the coaching process. Nevertheless, coaches' knowledge is largely derived mainly experientially from informal or unauthorized sources (Trudel, Milistetd, & Culver 2020). As a result, coaches' learning is heavily dependent on their own experience, and therefore, they usually use social trial and error practice (Taylor, Werthner, Culver, & Callary, 2015). In this study, only 2 coaches were DPESS graduates compared to the vast majority of karate coaches who were licensed by the General Secretariat of Sport or those who were former athletes. Thus, coaches lack the necessary training to cope with the needs of people with disabilities in agreement with Kozub and Porretta (1998), Martin and Whalen (2014) and Dorogi, Bognár and Petrovics (2008) assumptions that coaches usually do not feel competent to coach people with disabilities due to lack of relative knowledge and experience. Finally, no differences were noted in terms of coaches' gender, age and region in which they operate their training sessions.

## 5. Recommendations

The survey is the first of its kind, and there is a lack of corresponding studies internationally. Thus, future research with a larger sample of karate coaches is needed to evaluate further the issue of karate coaches' perceptions toward the inclusion of participants with physical disabilities in training, as well as to examine the factors that shape such perceptions.

## 6. Conclusion

Overall, karate coaches' perceptions toward inclusion of participants with physical disabilities and self-efficacy were influenced by education level and relative knowledge of adapted physical activity, external influence of significant others and previous coaching experience either with individuals with disabilities or overall experience as coaches, whereas no differences were noted in terms of coaches' gender, age and local region, in a country like Greece that para-karate is still at the stage of early development.

### Conflict of Interest Statement

The authors declare no conflicts of interest.

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