

Talent Identification and Development in Judo: A Systematic Review

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Objective

The goal of the present review was to synthesize the available literature of talent identification and development in judo and critically analyze what has been most researched, characterize the methodologies and compile the evolution and trends of associated research.

Methods

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were used to identify relevant studies (n = 45). The mean quality of the evidence was 94.0%. Most of the studies were published between the years 2014 and 2021 with cross-sectional designs and group comparisons or performance prediction. Studies used batteries of tests focused on expert or advanced samples and measured individual constraints. Few studies examined female samples, psychological skills or biological maturation. Only 20% of the studies used multivariate analyses. On closer examination, there was a high degree of variability in the indicators that were found to discriminate between skilled and less-skilled judo athletes, predict performance and or/ predict career pathway.

Results

Phase 1 identified 2277 articles from the database searches using the keywords listed above, with an English and Portuguese-language restriction imposed. An additional 18 articles were identified through external sources. Removal of duplicates resulted in a total of 1742 articles. After reviewing the titles and abstracts, 1628 of these records were eliminated, leaving 114 studies identified for full-text assessment. After a thorough assessment, 69 articles were removed. This left a total of 45 articles that remained in the final study selection.

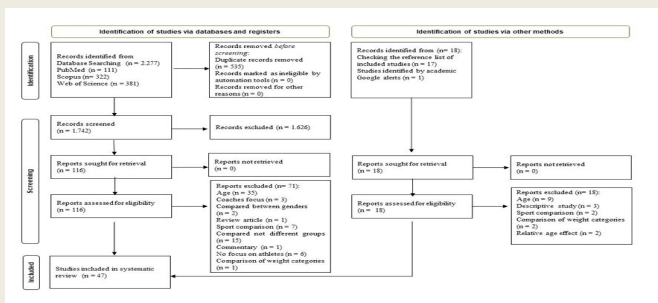


Figure 2 illustrates the profile of study publication dates. From these studies, 29 (64.4%) were published in the 8-year period between 2014 and 2021. Only four studies (8.8%) examined elements of talent or talent development frameworks. Talent development frameworks included the Development Model of Sport Participant (DMSP) and Long-Term Training (LTT).

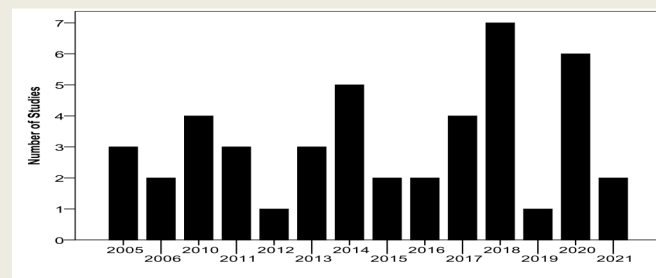


Figure 2. Number of studies by publication year.

As noted, most research in this area (64.4%) utilized cross-sectional followed by retrospective designs (20.0%). Only 8.9% of the studies used longitudinal designs and just 6.7% were intervention/short-tracking designs. Most studies were group comparisons followed by performance prediction within cross-sectional designs (Figure 3).

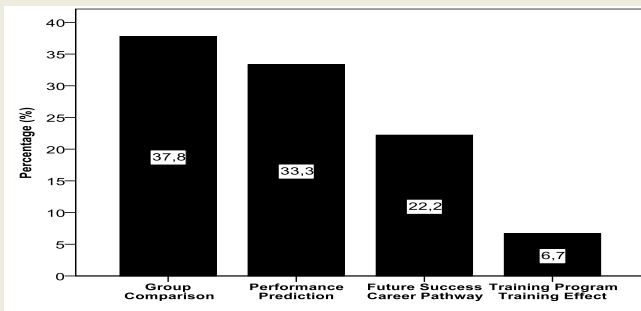


Figure 3. Study themes.

The studies included in this review were subdivided into constraint categories according to the types of variables they examined (Figure 4). Of those studies, 40 measured some type of performer constraint while nine examined task and 9 environmental constraints. 16 studies were multidimensional analyses (at least four indicators measured), but only one study examined simultaneous performer, task and environment constraints. The most common indicators evaluated were anthropometric characteristics (66.7%), physiological characteristics (62.2%) and technical skills (48.9%). Almost half of the studies (44.4%) measured some type of competition performance (ranking, winning, medalist, success). Only six studies measured biological maturation. Task and environmental constraints were more investigated in longitudinal designs.

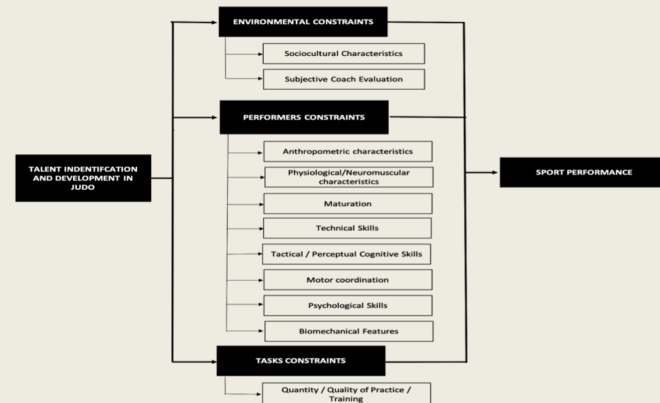


Figure 4. Scopes of talent identification and development in Judo.

Conclusion

Research in talent identification and development in judo has generally focused on individual constraints related to anthropometric and physiological characteristics, and technical skills in cross-sectional designs. Very little is known about what talent indicators discriminate high skilled judo athletes or predict actual performance or future success. Future research should adopt multidimensional and longitudinal approaches that integrate existing findings about the maturational, psychological and environmental aspects of judo for tracking the most talented judo athletes, especially in female samples.