

# Literature Analysis Of Scientific Athlete Talent Identification

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## Aim of abstract/paper

The process of athletes' development was initiated from their early age. According to the Holistic Athletic Career Model proposed by Tekavc, Wylleman and Erpič (2013), the athlete's career is divided into three levels including the Initiation level, the Development level, the Mastery level and the Discontinuation level. In order to ensure that athletes can achieve good results at Mastery level, how to select potential athletes at initiation level to train has become an important topic for each coach. In view of this, the paper collected literature related to the identification of athlete talent, statistical information and analysis of the identification methods to provide sports coaching reference.

## Theoretical background or literature review

There are many different methods about athletic talent identification in different countries. They can be summarized into three common categories: 1) Systematic, governmental system; 2) Systematic, non-governmental systems; 3) Non-systematic approaches (Hadavi & Zarifi, 2009). In any case, it is critical to identify the potential athletes as early as possible and to equip them with appropriate training during the whole process of athlete cultivation (Vaeyens, Güllich, Warr & Philippaerts, 2009). From the perspective of methodology, the traditional way to athlete talent identification is based on athlete's performance ranking or the coach's past experiences. Due to the advancement of information technology, however, some coaches and scholars have come to realize the benefits of scientific methods for athlete talent identification. To elaborate, the essence of scientific talent identification relies on the adoption of scientific theories and advanced methods to make athlete talent identification a higher success rate through certain tests and experiments. Therefore, the main function of scientific talent identification is to find and discover the athlete's congenital athletic ability, and to exert athlete's congenital athletic capability through systematic training.

## Methodology, research design and data analysis

Scientific athlete identification has been widely used in the current selection and training of athletes, but the actual identification mechanism does not have a clear approach. In order to fully understand the methods used by scientific talent identification, a systematic analysis of scientific-methodological literature was conducted in this study. As a result, this current study attempted to collect and analyze the relevant literature and to make contributions by synthesizing and generalizing the various methods. A total of 82 papers on athlete talent identification published from 1994 to 2015 were collected and collated. The items that were utilized for athlete talent identification as well as their corresponding sport categories were categorized and summarized in the final results.

## Results, discussion and implications/conclusions

Through the literature discussion and classification, this study classified the index of athlete talent identification into 10 categories, including body composition, physical fitness, physiology, psychology, technical ability, heredity, blood type, history, and intelligence. Furthermore, the study also collated the identification of different types of sports such as basketball, gymnastics, football, running, badminton, skiing, martial arts, shooting, billiards, bodybuilding, volleyball, tennis, baseball, light boat and other sports. Overall, the study presented these collated items and statistics in a clear form in the final report. It can provide sport coaches with different types of sports as a reference for athlete identification methods in the future.

## References

- Hadavi, F. & A. Zarifi (2009). Talent Identification and Development Model in Iranian Athletics. *World Journal of Sport Sciences*, 2, 248–253.
- Tekavc, J., Wylleman, P., & Erpič, S. C. (2015). Perceptions of dual career development among elite level swimmers and basketball players. *Psychology of Sport and Exercise*, 21, 27–41.
- Vaeyens, R., Güllich, A., Warr, C. R. & Philippaerts, R. (2009). Talent identification and promotion programmes of Olympic athletes. *Journal of Sports Sciences*, 27, 1367–1380.