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ANALYSIS OF THE EFFICIENCY OF THE HUNGARIAN HERACLES-PROGRAMS THROUGH HUNGARIAN MEN'S BASKETBALL

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ABSTRACT. One of the key elements of high-level youth development strategy is that we select the talented youngsters with adequate, scientifically based methods. In Hungary this is supported by the Heracles programs (Heracles Champion and Heracles Star Program), which have the explicit goal of educating a selection of athletes who have the opportunity to pursue a professional career. We wanted to investigate the effectiveness of the programs by placing men's basketball in the focus of our research. We analyzed players who entered the Heracles programs but had already reached the peak of their careers. The sample thus consisted of 143 people, these players could already present themselves in the senior national team with a realistic chance. We used descriptive statistical methods, relying on the website of the domestic and international basketball association, the website of the Heracles programs, and the eurobasket.com paid page. We found that 80% of the surveyed players had the opportunity to introduce themselves in the Hungarian first or second division, however, for a longer period of time, the athletes stayed primarily in the second division. Those who have started a career abroad, played mainly in second-class or less-registered championships. Most of the players who are currently selected by the senior Hungarian national team are playing for a domestic Hungarian first class team. 2/3 (N=63) of the Heracles players with national youth selection debuted in the first class and 1/5 (N=20) in the second division, so the youth selection and Heracles membership together can be a serious selection factor. According to our research debuting in the senior national team without Heracles and national youth selection causes big difficulties, not a single "Heracles age" player played more than one senior national tournament without these two criteria. We also observed some anomalies in selection efficiency (relative age effect, territorial distribution), however, forward-looking federal intent and new regulations predict an increase in playing minutes for young players and a more lasting use in first division.

Keywords*: youth strategy, talent selection, basketball players, sport career*

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Introduction

The Hungarian Heracles program was created with the aim of identifying talented players and tracking their careers using scientific tools as a key element of a new kind of youth development strategy. The Heracles Champion program began in 2001 with 13 sports, and today it sums up the future hopes of 20 Olympic sports. The primary goal of the project was to manage athletes between the ages of 14 and 18 with a scientific background, training camps and training opportunities to create the conditions for quality youth education and the financial and professional background necessary for adult sports success. It has emerged as an explicit task as the guiding principle of the program is to ensure that selected players reach the age-old international standard. The responsibles for the Champion program are the Hungarian sports federations, their competence extends to the selection of coaches and athletes, and to the development of professional programs. The key to the success of the program is the controlled state support.

From the beginning of 2006, the Heracles Star Program made it possible for selected athletes to compete regularly and internationally until the age of 23, thus opening up even more opportunities for patrons to professionalize. As long as nearly 1,350 athletes have been registered in the Champion Program, the careers of nearly 400 athletes have been supported under the Star Program at the expense of sports-specific funding that can be drawn by associations. In order to monitor athletes and select them as efficiently as possible, the National Sports Institute, which manages the programs, is still working closely with the relevant associations.

Our research focuses on the analysis of basketball players participating in the Heracles programs, with the goal of focusing on Heracles athlete membership as a selection indicator. Analyzing the performance of athletes, Harsányi (2009) concluded that youth competitions can be important selection indicators in terms of adult performance. Brouwers et al. (2012) investigated tennis players and came out the same conclusion. We wanted to find out if "Heracles membership" could predestine you for a professional career? We were curious about the proportion of the athletes who managed to achieve the first and second-class. At the other extreme, what is the proportion of athletes who, although selected in the Heracles programs, have not achieved a registrable professional career? In order to quantify the effectiveness, we also wanted to examine the goals of the program, the youth selection, and the existence of the senior selection between the Heracles players.

Methods

The database of Heracles athletes was selected on the basis of the www.nupi.hu website. Based on the filtered data, a total of 802 people were registered in the database, which includes both men and women. As the competitive system of women and men, their maturation process, the length of their careers, the number of people practicing the sport, their television and on-site views, and many other factors differ significantly, it is advisable to differentiate the measurements according to gender. The focus of the present research was on male athletes. Different sports can project different sports career lengths, and the maximum performance also falls at different times. (Ericcson, 1990; Allen & Hopkins, 2015). According to research in our analyzed sport (Longo et al., 2016), the peak is reached by basketball players at age 27-28.

Athletes often announce the end of their professional sports careers in basketball around the age of 40. In order to get a proper picture of the effectiveness of the Heracles programs, we had to choose a sample that was representative of the snapshot associated with the program. Players selected from the sample who have been there since the beginning of the program are already at the adult level and, according to the literature, may be beyond or at the peak of their performance. Based on these parameters, we selected all the Heracles players who were born between 1986 and 1991, and they had a realistic chance of participating in the last adult European Championship. Our study was two-way, as we looked at the careers of the selected Heracles athletes, we analyzed the Hungarian senior team of the last 12 years, and looked at which of them were Heracles athletes and whether they were among those selected at the age of Heracles arriving from outside the filter.

A total of 143 Heracles athletes were subject of our analysis according to the parameters we provided. Descriptive statistical methods were used for the research. In our study, we relied on the relevant data of MKOSZ (Hungarian Basketball Federation), and FIBA archives, the NUPI database, and the paid page www.eurobasket.com. Based on the database available to us, we also looked at the relative age effect as well as the home grown cities of the senior national team's Heracles athletes. We considered the headquarters of the youth clubs of the athletes' database indicated on the website www.nupi.hu to be home grown cities.

Data cleaning was performed first, we classified the variables and created groups. The following data was gathered: name, birthdate, birth quarteryear, highest league participation, league type of the longest participation of the player, youth national selection, type of youth national selection (U16, U18, U20), playing abroad, and raising club.

We marked the existence of a variable with numbers (YES:1, NO:0). League levels, birth quarteryears were also indicated with numbers (1-4), with the raising clubs' names we relied on the database of the Heracles progams. We used descriptive statistical analysis like: mean, modus, standard deviation, minimum and maximum values, and the percentage distribution of the players. Microsoft Excel 2013 helped us to get the following results and charts. When we gathered information about the current regulations and competitions, as a qualitative method, document analysis was also included in this research.

Results

We first examined the mainly articulated national youth selection among the Heracles athletes. 65.73% (N = 94) of the players participated in some kind of national youth tournament, however 34.76% (N = 49) despite the fact that they were chosen to be Heracles members, never got the chance to play on a youth national tournament. Out of these players 18 people could not be step out from the amateur level, but it is remarkable, that 17 players reached the first division and played in the Hungarian first league. 14 players who were not selected at youth age at international level later played at least once at the second divison.

We got a more shaded picture if we look at how many of the players who,- despite their membership in Heracles, never entered the European Youth Championships- were permanently applied in the first class. This performance was realised by four athletes, 22 players were second-level players for a longer period of time. 23 players were introduced in the first class, but for a variety of reasons they dropped out, stopped the game or continued as amateurs.

67.02% (N = 63) of the Heracles athletes with the youth national selection were able to present themselves in the first division of the men's basketball championship. 21.27% (N = 20) of the players only took it to the second division in this context, and 10 people did not advance beyond the amateur level. We registered a youth national team player who immediately continued his career abroad as a Heracles and youth national team player. We obtained data that correlated better with the athlete's actual performance level when we looked at where the Heracles members of this youth selection team spent most of their time in their careers so far. Most of them reached the first league (39.36%, N = 37 people), as well as a significant proportion of the players who were in the second division the most (38.29%, N = 36 people). For 7 (7.44%) athletes, foreign careers became dominant, and 14 people (14.89%) continued as amateurs or stopped playing.

Overall, the career maximums of the athletes studied are shown in the figure below:

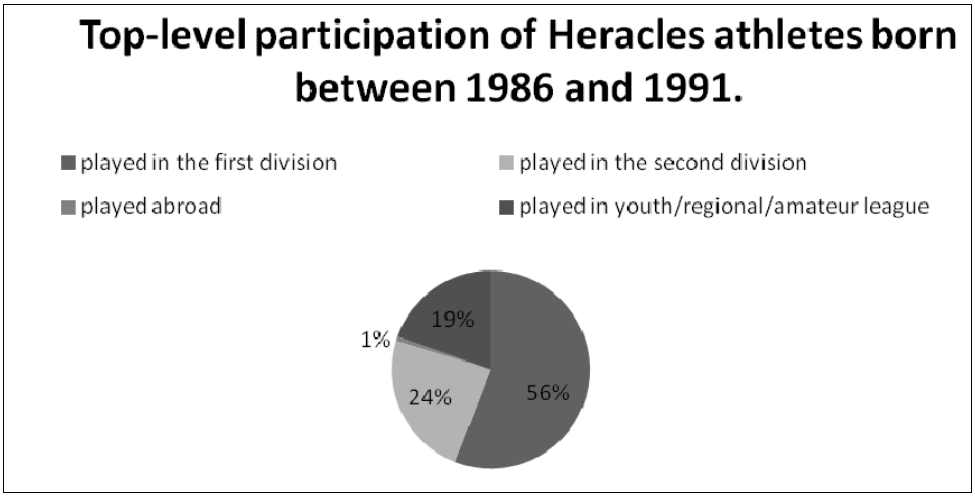

Figure 1. Top-level participation of Heracles athletes born between 1986 and 1991 (figure made by the authors)

4/5 of the players (N=114) made it to one of the Hungarian professional leagues (first and second division) for at least one match. This is considered to be a particularly good ratio, which means in this aspect that 8 out of 10 Heracles athletes can get a chance to make a living from basketball. However, not everyone can take advantage of this opportunity, and trust in players is sometimes due to short-term, competitive regulations. The current MKOSZ (Hungarian Basketball Federation) guidelines (MKOSZ, 2020-2021), as well as next year's competition notice, also encourage young people to enter the field and force clubs to apply young players. In our opinion, this may, among other things, induce an increase in the proportion of Heracles athletes in first-class frameworks.

One-time step ups may give a false picture of the real knowledge and level of the players, so we also looked at the most significant stages in the careers of all the athletes studied so far and what level these stations represented. Accordingly, the following results were realized:

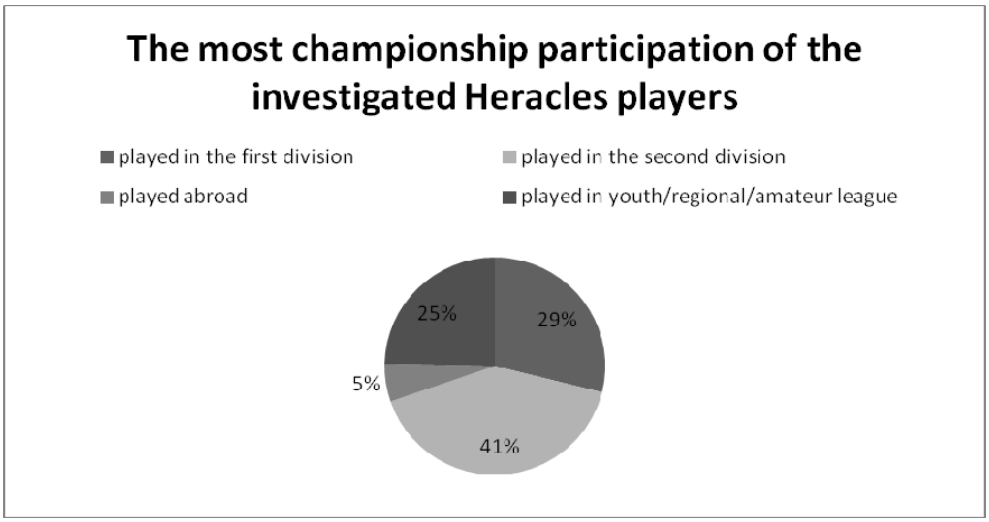

Figure 2. The most dominant level of the athletes so far (figure made by the authors)

In the first division, the number of players who grabbed for a longer period of time decreased from 56% to 29% (N=41). In contrast, the proportion of second division athletes who enter the field most often on that level increased from 24% to 41%. (N=58). We can discover interesting tendencies among those who choose a career abroad, as many have appeared in foreign second division or lower quality first division championships, however, of those who have been playing abroad for a long time, only Ádám Hanga is a decisive member of the senior Hungarian national team.

Among the youth clubs, most players were selected from the following during the period under review:

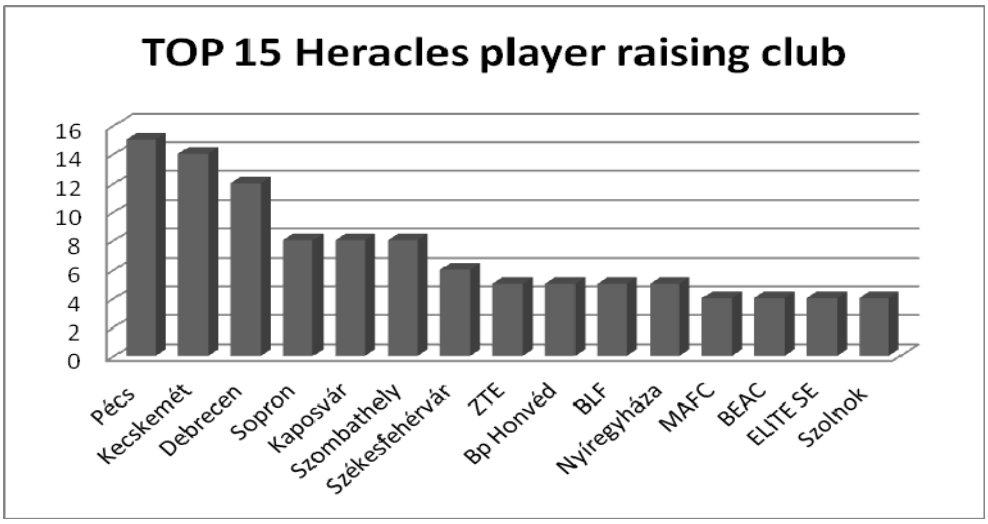

Figure 3. The top 15 Heracles player raising clubs at the selected period (figure made by the authors)

On the podium there are Pécs with 15 players, Kecskemét with 14 players and Debrecen with 12 players. Budapest provides the most players (N=35), however, it was calculated separately for each club due to its sports organizations with significant traditions (eg MAFC, Vasas). We considered it appropriate to compare the number of Heracles athletes raised by clubs with the number of Heracles athletes raised by their club and allowed to present themselves in the senior national team. To this end, we examined the framework composition of the adult national teams of recent years from Eurobasket 2009 qualifiers to Eurobasket 2017 Final Round. We saw a striking difference in that as long as the Heracles athletes included in the programs covered several segments of the country, the senior team was represented only by Kecskemét (3 people) and Szolnok (1 person) from the eastern part in the case of Heracles members. At the other hand 16 Heracles players were included in the national team from the western region. A total of 42 players have been invited to senior matches since the 2009 qualifiers, of which 23 players (54.75%) were "Heracles of Age" (1986 or younger) athletes. Three adult national team players did not fall within the reach of federal decision-makers when the framework for the Heracles program was put together, yet they created the opportunity for themselves to represent on the adult national team. Based on our analysis, it can be said that without a Heracles membership, it is a very difficult task to

get on an adult national team and even more difficult to be a defining player there. None of the players from outside Heracles but "Age of Heracles" entered the field in more than one qualifying series.

Discussion

Related to our data, it can be stated that the examined "Heracles membership" as a selection factor (80% of the analysed players reach the professional levels) can most likely predestine to a professional (national first or second league, abroad) career. Reaching the highest step for a longer period of time and compete in the first division is a difficult challenge, over the years many of them crumble for a variety of reasons. Our results show that Heracles basketball players play abroad mostly at second divisional teams, the Hungarian first league is the largest base of the adult national team. We cannot avoid the fact that a quarter of the Heracles players selected by the association (n =35) did not reach at least the second division, continued to play basketball at the amateur level, or stopped over time. We consider it important that this ratio decreases and the number of hungarian Heracles players in the first class increase for a longer period of time. There is a strategic intention for this aim at the federal level, and the professional and financial conditions for this are increasingly given.

Increased attention should also be paid to the relative age effect (Delorme et al. 2009,2011), as few children represent the last quarter of the year in the Heracles selection. 12% of the total sample was born in October, November, December. In 6 players it can be observed the so-called "Rocky road theory" (McCarthy and Collins, 2014), which assumes that players born at the end of the year is a disadvantage compared to their more matured teammates who born at the beginning of the year. At the end these players surmount their disadvantages and become important players due to their perseverance and work ethic. They were all able to introduce themselves in the first division, and they were also taken into account in the youth national teams.

Conclusion

The question that arises and has to be researched is where do the youth selection of Heracles athletes dissapear, who do not professionalize, do not get into first and second league frameworks. The basis of our further research will be to discuss the careers of the youth national team players and the key stages of a professional athlete's career.

Although many young Heracles players were able to play at least a game in the first league among the athletes surveyed, their highest proportion (58 people, 41%) was more likely to prevail in the second division for a longer period of time. In our opinion, this is due to the annual championship regulations, as well as the ownership and coaching decisions, since in the first league the decisive proportion of the playing minutes is given to the expatriates and the dominant, older Hungarian players. At the moment, the teams cannot employ a foreign player in the second division championship, which further facilitates the entry of young Hungarians there.

The aim of the association is to get as many young athlete as possible to compete at the highest level, for which it will give all support to the best of its ability. The effective work of academies and youth development clubs remains essential to achieve this goal. Although Heracles programs are geographically diverse at the senior national team level, the selection is strongly western-centered. Resolving this requires a two-pronged approach: on the one hand, optimizing federal selection processes and developing a broader perspective, and on the other hand, rethinking the youth developement strategy of sports organizations representing the eastern region of Hungary, and a kind of more effective youth training. The goals are clear: to nurture young talents who can compete at the highest adult levels. We think that investigating the efficiency of the Heracles-programs could not be a one time occasion. The changes of the competition systems can make it difficult, but as more and more player comes out from the youth levels we can have a more punctual look at the efficacy of the selection. Further research is needed in this context.

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