THE COMPARISON BETWEEN THE SUCCESS TURKISH ELITE ATHLETES OBTAINED IN SENIOR CLASS AND THEIR RETROSPECTIVE SUCCESS

Pekel Hacı Ahmet[1], Altunsoy Mustafa[1], Aydos Latif[1], Yaman Metin[1],

Bayraktar Işık[2] Uzun Ahmet[3]

[1]Gazi University School Of Physical Education and Sport

[2]*Sports General Directorate SESAM*

[3]*Akdeniz University* School Of Physical Education and Sport

Abstract : The aim of this study is to make a comparison with literature by introducing the facts such as the onset of training for athletes at the elite level, the first achievement phase, high performance phase and their achievement in athletics. Also, by identifying the causes for success and failure, it is to ensure the continuation of success that Turkey has reached in this field and to offer a solution, which we believe is going to be useful, for the failure.

As of 2013, the total number of athletes competing in Turkish Athletics and Cross Country League includes 229 women and 224 men. 310 athletes who are 20 years and above constitute the population of the study and 93 of theses athletes (30%) constitute the sample group.

It is found out that the average age of women athletes is 21,7±5,2 years while it is 23,1±10,6 years for men. The ratio of the ones who have started athletics between the ages of 13-15 is 37,6%. This age group is considered to be the branching age in athletics. It is identified that age of training onset of the research group is 13,1±4,3 years and the percentage of athletes having no break is 58,1% (54 athletes). When their possibility of being a coach is analysed, 13,9% of them (13 athletes) stated that they did not get any help from any coach.

Implications: It was determined that successful athletes in elite level started training late and they could not get "basic fitness training" and "branch education" fully. According to these results, plans to encourage the reduction of the onset age of Athletics should be developed and branching education and developmental education should be widespread in the country.

Keywords: Athletics, success levels, success index

INTRODUCTION

Athletics known as "mother of all sports" all over the world is seen as one of the objective branches in terms of measurement of the performance and perceived as the base of each kind of sportive features, that is, it is perceived as the most powerful, fastest and the most durable one. Athletics has become one of the sports preferred in the worldwide child education, the development of the social spirit, being disciplined and gaining a contentious feature, being respectful towards others and the development of self-confidence (Bağırgan, 1999).

When we examine the subject in terms of the distribution of medals in the Olympics, the number of medals distributed in athletics branch shows a big difference when compared to all other branches. While the number of gold, silver and bronze medals distributed among men and women in Athletics is 141, it is 114 in swimming, 66 in gymnastics, 54 in wrestling, one of the weight sports, and it is just 6 in indoor sports. In Athletics, in which the most medals distributed, Turkey has been able to won only 6 medals so far (International Olympic Committee, IOC, February, 2014).

Although some success has been recently attained in our country, that the success is not continuous grabs

the attention. According to a long-term training plan, although an athlete needs to be competing in elite level at least eight years (Balyi & Hamilton, 2004), it is seen that it is not the case in our country. It brings to the mind that there is a deviation or lack of facts such as the onset age of Athletics, event orientation, event education, performance education and performance on high level. In the sports world where success is not based on a single element and many causes change the result, "performance" appears to be a process requiring more attention in the objective branches, like athletics, which have metrical and chronometrical measurements.

When the progress of athletic performance is examined, features such as genetic factors, age of training onset, training load, people's growth and maturation, chronological age and biological age will affect athletic performance in the long process and change the results (Paulford, 2011). In terms of factors determining physical training, depending on the growth, it is emphasized that anatomical, neurological (neurological), hormonal changes and the changes in musculoskeletal system are needed to be taken into account, because these factors depend on the harmonious development of the genes and hormones which are coordinated with biological clock and other factors (Malina, Bouchard & Bar-or, 2004; Tiyanyi, 1990). While some studies emphasize fast-growing period in defining training, competition and recycling programmes, they reported that this period corresponds to the age 12 for the girls and 14 for the boys (Balyi & Hamilton, 2004).

In the studies about the onset age of Athletics, Athletic development is divided into two parts as early specialization and late specialization. In the pattern described as late specialization and consisting of six stages, sub-units leading to the performance such as principal stage, basic (fun) level, learning to do training, training for training, training for the competition, training for winning and alienation from sports (retirement) are explained (Balyi & Hamilton, 2004).

Late specialization stage is divided into four as training for training, training for the competition, training for winning and alienation from sports (Balyi & Hamilton, 2004). On the other hand, when the mean age of the athletes participated in the study was taken into account, the sports age of this elite group, majority of which men and women at the ages of 22 and 23 constituted, did not complete 10 years of period or just completed because of highness of the average age of training onset. However, 10 years or 10.000 hours of training rule in sport is necessary for the performance summit in Athletics as it is in many sports events (Balyi & Hamilton, 2004).

It is emphasized in many studies that an athlete who train at least three hours per day can achieve success at the highest level after 8-12 years of training (Ericsson, 1993; Ericson & Charnes, 1994; Bloom, 1985; Salmela et al., 1998). When we separated this three hour into periods, a total of three hours per week for a child who has just started training will correspond to a one-day training unit for the elite athlete.

Table 1. Early and Late Specialization Long Term Plan (Bompa, 2000)

Early Specialization Stages	Boys	Girls	Late specialization	Boys	Girls
Training for Training	12-16 ages	11-15 ages	Basic	6-9 ages	6-8 ages
Training for the Competition	16-18 ages	15-17 ages	Learning to do Training	9-12 ages	8-11 ages
Training for Winning	18+	17 +	Training for Training	12-16 ages	11-15 ages
Alienation from Sports (retirement)			Training for the Competition	16-18 ages	15-17 ages
			Training for Winning	18+	17 +
			Alienation from Sports (retirement)		

Due to the reasons above, the necessity of the comparison of the past and today's achievements of elite athletes in Turkish athletics with the worldwide practices arises. The aim of this study is to make a comparison with literature by introducing the facts such as the age of training onset of athletes at the elite level, the first

achievement phase, high performance phase and their achievement in athletics. By identifying the causes of the results, it is to offer a solution, which we believe is going to be useful.

THE STUDY

According to the records of Youth and Sports Ministry, General Directorate of Youth and Sports and 2013 Licence Registration and Information System, 10.743 women and 19.368 men who were licenced and competed in athletics constitute the population of the research (GSB, SGM, Licence Registration Office, February 2014).

101 women who raced in athletics and cross country league as of 2013 constituted the sample group of the study (69 women in the first league and 68 women in the cross country league). In males' group, while the number of athletes in the Super League is 108, while the number of athletes competing in the 1st league and cross country league is 64. Nevertheless, athletes racing in the both categories constituted 9 of the women and 12 of the men racing on the track and cross country league. In this case, while the total number of athletes competing in the league is 229 among women and it is 224 among men. This research has been applied to athletes aged 20 years old and over. The 93 athletes who were 20 years old and over among 310 athletes having raced in the Athletics and Cross Country League as of 2013 constituted the sample group of the study. In other words, the study covers 30% of the athletes competing in Turkey Athletics League.

93 of the 135 questionnaires were found to match the criteria and other 42 ones were not assessed. Questionnaires were left out because the questions, which were mandatory for the participation of the athletes under 20, were left blank. Apart from that, there are 13 questions in the questionnaire and the information such as athletes'

> • Demographic information,
> • When s/he started athletics and whether s/he had any break or not,
> • If s/he had any break, what was the reason for it and how long was it,
> • Whether s/he took part in the national team,
> • Whether s/he had international or national success,
> • Whether s/he had Turkish records according to category.

were included in the questionnaire.

The arithmetic average of the data obtained from the results of the study, standard deviation and percentage distributions were determined.

FINDINGS

According to the results of the study carried on the age of training onset of athletes at the elite level, the first achievement phase, high performance phase and their achievement in athleticism in Turkish Athletics, the gender and average age of the athletes participating in the Super League Clubs, 1st League and Cross Country League competition were found, as shown in the following table.

Table 2. Age distribution according to the gender

Gender	General	Super league	1. league	Cross Country League
Woman	21,7±5,2	21,9±5,3	21±4,8	21,8±4,9
Man	23,1±10,6	23,1±4,3	21,2±4	24,9±4,1

42 athletes labelled as "star" (9,3%) were under 18 years old while among the 453 athletes racing in Super League, 1st League and Cross Country League, in which athletes in elite level indicates the highest level of the Turkish Leagues, 143 (31,6%) athletes were under 20. Total number of the athletes who are at the age of 20 and have just got in the big leagues category is 52 (Table 3).

Table   3. Quantitative Structure of Turkish Athletics and Cross Country League

Athletics League	The number of Athletes	23 Years Old+	23 Years Old-	20 Years Old- (The Youth and The Stars)	18 Years Old- (The Stars)
Super League	208	85	118	66	23
1. league	134	39	40	59	10
Cross Country League	132	59	71	21	9
Total	474* (453)	183	229	146	42

*Since 21 athletes raced in both categories, they were evaluated in one category.

The number of athletes who began athletics before the age 10 is indicated to be 6. 3 of these athletes declared that they had started training with another sports branch. Two of these athletes are the athletes who are with various degrees in national teams. The number of athletes who began athletics in the range of 10-12 ages regarded as the onset age of Athletics is 34. While 38.2% of these athletes have not any achievement, 32, 3% of them have various international success.

Athletes in track and field, which is seen as performance sport among individual sport are mostly funded by clubs in Turkey. Therefore, in the struggle of the clubs, except for the exceptional circumstances, all athletes in elite levels race.

While the number of licensed athletes from athletics in Turkey was 10.743 for the women in 2014, it was 19.368 for the men. The number of athletes competing in the league is 238 for the women and 236 for the men. (SGD, Licence Registration Office, February 2014). Some of these athletes are able to race on track and cross country league. While the number of athletes in this case is 12 for the men, 9 athletes among women can run on the track and cross country league.

The number of athletes who began between the ages 13-15 which is accepted as the branching age in athletics is 35%. This group making up almost one-third of the research group is the age group which is most cluttered. While 42, 9% of the athletes in this group has not any Turkish degrees, 37, 2% of them has international success.

While the average age of training onset of research group is $13,1 \pm 4,3$ years, when this case is examined in terms of national athletes, the age of training onset is determined as $13,1 \pm 4,2$ years. The number of athletes who began athletics between the ages of 16-17 is 10. Even the ones who are in the lowest level have had the opportunity to gain Turkey Championship. 8 athletes having begun athletics when they were 18 years old and above have become the athletes having success in Turkey and in international areas. As a result, while the number of athletes who began athletics at the age of training onset and below this age is 37 (43%), it was found that more than half of the athletes (57%) began the athletics after the age of training onset. When the mean age of training onset of the athletes participating in the study was considered, it is seen that they started training at the age of branching ($13,1 \pm 4, 2$ years). This creates huge drawbacks in the long-term development of the athletics which is one of the performance sports.

CONCLUSIONS

In a study based on the long-term athletic performance improvement which Paul et al. (2011) carried out, appropriate age classification in the development of motor skills is found to be the range of 11-12 ages depending on the improvement of complex skills of aerobic development and they stated for the speed development that speed works which are up to 5 seconds starting from the age of 7 should include first speed development period (Maline et al. 2004; Balyi & Hamilton 2004). In addition to this, as for the speed development, it is stated that speed training- requiring alactic resources which is up to 20 seconds at the ages of 11-13 for the girls and 13-15 for the boys in second speed period- can be offered to the athletes (Balyi & Way, 2002; Balyi & Hamilton 2004; Viru et al, 1999). Correspondingly, many studies have stated that since the age of 5, efficiency can be gotten gradually in terms of strength development in adolescence period which is the range of 12-14 ages among men and 9-12 ages among girls (Beunen, 1997).

In a study which Jason et al (2013) carried out about 256 elite athletes in Australia, they stated that 78% of the athletes came from non-competitive part (games, free time) which is the lowest age group and their age of training onset is 9.1±4,7. In the same study group, in spite of the athletes in the "basic competition" described as second level and the age of 14,3±4, athlete ratio in the third level as "enhanced competition" is % 4,3±2,8 and the mean of age is 15,6. Athlete group who started training at the age of 17 and above are in the sports branches of rowing, cycling and canoeing. When Turkish Athletics Super League, 1. League and Cross Country League are examined separately, the average age of the athletes on the elite level is quite lower than the average age of the world elite athletes. While the average age of women athletes competing in Turkish leagues is 21,7±5,2 years, the average age of women athletes ranking on the top 50 in the elite level on the world is 25,9±4,1 years (www.iaaf.org, IAAF, February, 2014). Likewise, while the average age of male athletes competing in the league is 23,1±10,6 years, the average age of male elite athletes in the world is 25.9 ± 4.2 years.

This indicates that performance increase graphics which should be spread over a long period in athletics as a performance sport does not work in our country. Likewise, researches show that the age when top performance in athletics is reached is in the range of 23-26 years (Bompa, 2000). When this age is compared with our athletes in elite level, it does not reach even the onset age in women's group, when top performance is achieved whereas in men's group we just reach the initial level.

Besides, the over participation of the athletes in youth and stars category to the leagues is noteworthy. When the age status of athletes competing in Super League, 1st League and Cross Country League in which athletes in elite level needs to compete is examined, it is seen that 143(31,6%) of the 453 athletes are under the age of 20. The number constituting almost one third of the part can be said to mean getting support from non-elite young athletes in order to form the branches.

The number of athletes in the "Big Leagues" is 52 (11,5%). The number of athletes at the age of 20-22 under the age group of 23 is 229 and it is more than half of the total number (50, 5%). And the number of athletes who are at least 23 and above, which we call "top level rank", is 183 (40,4%). Although 42 athletes (9.3%) are under the category of "Stars", described as "infrastructure, their competition with athletes at the elite level would not be so much important, but it could be one of the threatening reasons, which is known as early specialization in the Turkish Athletics where the age of training onset is quite late and also one of the biggest drawbacks we were going to meet in branching orientation.

Despite starting training late, the athletes who are in lack of necessary background can be severed from the sport at an early age because of the reasons such as disability that may arise as a result of high intensity training and too early training to get prepared for the performance at the highest level, overtraining syndrome and so on. Children and youth in various sports branches are known to have competed according to their chronological ages in order to overcome their competition concerns and to equalise. Within the same year, that there are differences between early and late born people depending on their date of births is determined by various studies. The effect of age which causes differences is called relative (relative) age effect (Stephan, 2014; Barnsley & Thompson, 1985; Wattie ve ark., 2008). Relative age effect which Cobley et al (2009) did in their one-year term was continued with a two-year investigation by Stephan et al (2014) and it was found that the impact of two years of relative age effect has more influence.

The facilities which the clubs are competing in the Champions League devoted to athletics can be so many. Super League is the competition area where athletes in the elite level can display performance best. Most of the athletes prefer competing in the super league teams and their sports life is longer than other athletes'. Due to these reasons, it is expected that average age of competing athletes may differ within themselves. That's why, precautions must be taken in order to provide opportunities so that athletes can compete in their own age groups.

The athletes who participated in the study declared that 58,1% of them had no break at athletics, 41,9% of them had break more than a month for various reasons, 16,1% had break because of injury, 7,5% had break due to their education and 6,4% had break because of their problems with their coach.

Two out of every five athletes who participated in the research group has stated that they had break at athletics for more than a month and they emphasized their "disability". Disability issue can be accepted in the break at training, besides, the analysis of being disable should be done according to the diversity of athletics branches through which athletes focus on success.

Besides the causes of injuries, "precautions" rather than "treatment" will be considered primarily and it should be considered as a factor which will destroy the waste of time. In the process, where education issue in the training break is the secondary factor, the issue of athletes being directed to the educational institutions which will provide the best performance increase to them must brought into question. In the third cause of problems which is about the problems with coach, this kind of problems is quite crucial in individual sports such as athletics. 13 (13,9%) athletes of 93 athletes participating in the research group stated that they had no help from any coach. What is more remarkable is that three of these athletes (3.9%) have international success.

When the branches of the athletes having participated in the research, it was found that 20,4% of them is sprinter athletes, 4% is short-distance runners and 12% is middle-distance runner. The branch where most athletes takes place is the long distance with the percentage of 25. Only one athlete from combined (Decathlon, Heptathlon) participated in the study whereas 11 throwing, 18 jumping branches, 4 cross country and marathon runner participated in the study.

While only 68.8% of the athletes participated in the competition within their own categories, 31.2% of athletes participated in competitions in other categories. The most active category of athletes participating in the competition within other categories from their own branches is long-distance runners in track. 7 athletes in this category were also involved in the cross-country competition. Although it results from the similarity among the long distance running sports based on the track competitions usually done in summer and cross-country competitions in winter and road racing, the annual and long-term planning and goal of the athletes should be analysed and well planned.

Among the branches another remarkable point is the athletes competing in short and medium distance competitions. While 6 (19.4%) out of 31 athletes are short-distance runners, they also compete in the middle distance races and vice versa.

Another remarkable point is the athletes who compete in both short and medium distance. 6 (17.1%) out of 35 short and long distance runners participating in the study have indicated that they run both 400 and 800 metres. That occurs in the pathway to success in the athletics performance creates drawbacks in aiming high level performance in an athlete's own branch as well as being support for the club or national team by taking part in 4x400m relay teams. Although they are related to each other, in terms of training principles and performance components differences in these two branches are available.

When the standing of the athletes participating in the study analysed, it is seen that we have achieved most of the international success in short distance run. 12 (34.3%) of the 35 medals won in international competitions belong to 4x100m in short distance branch or to 4x400m relay race and only one medal was won on an individual basis. Apart from that, the category in which we have won the most medals with 9 medals (25.7%) is long-distance branch.

It is determined that the athletes participating in the study were belong to 21 clubs in total. Super League has a total of 16 clubs for men and women, and the athletes in nine of these clubs are included in this study. The number of clubs participating in the study from the 1st League, which 12 clubs constitute, is 6. Eight of the teams

competing in the final race of the Cross Country League which is represented by 24 teams have become the teams which support the study.

While 80 athletes having participated in the study (86.1%) took help from at least one coach, 13 athletes (13.9%) stated that they continued their training without any help from any coach. While seven of these athletes were the national athletes, 3 of them were the international athletes. Coach, being a prominent factor in case of a break in athletics, is an extremely important factor in athletics, one of the performance sports.

While 79 athletes in the study group (84%) participated in national team at different times, only 16% of them stated that they took no part in national team. The number of athletes who have managed to take part in national team is 19 (20.4%) in all categories. 76 of the athletes (81.7%) competing in big league's category had no part in national team, 3 athletes had part once and 14 athletes (15.1%) stated that they were assigned duty many times. The number of athletes having worn more than one national uniform in the youth category is 11 (11.8%). The number of athletes having worn national uniform most was recorded as 60 for seniors, 6 for under 23 years, 15 for the U20 and 25 for the youth.

In the category of stars, known as the lowest level of international competition and the last phase of infrastructure, in the category which consists of non-national athletes under 23 years most, 5 athletes have represented our country once and 17 athletes (10.8%) have taken part in national teams more than once while 78 athletes cannot take part in national team.

The number of athletes who are national athletes in stars category, but are not national athletes in youth and big league's category is 7 (7.5%). The number of athletes who could be national in youth category, but non-national in big league's category is 23 (24.7%). The number of athletes who are national athletes in both stars and youth categories, but do not have a chance to take part in national team in big league is 16 (17.2%). The number of athletes who do not have a chance to become national athlete in stars and youth categories, but have chance to be national athlete in big league is 8 (8.6%).

When the Turkish records of athletes having participated in the study is analysed in their events, 19 athletes has won at least one Turkish record whereas 75 of the athletes having competed in big league (80.6%) have not broken any Turkish record.

While 79 athletes having participated in the study (84.9%) do not have any record in the 23 years and below category, 16 athletes (15.1%) have broken Turkish record at least once in the youth category. Similarly, while 77 of these athletes (82.7%) are out of question in terms of any record in youth category, 16 of them (17.3%) have demonstrated success by breaking Turkish record. In the youth category, while 74 athletes (79.5%) have broken no record, 19 athletes (20.5%) have broken Turkish record at least once. While the number of Turkish records broken in seniors is 19, it is 11 for the U23 years and below, 8 for the U20 and 4 for the youth.

Looking at the relation between the achievements of athletes and their onset age of Athletics, while 13 (37.1%) of 35 athletes having started athletics in 13-15 age group have international success, 50% of the athletes having started athletics before they were 10 years old have international success. In the comparison of their standing according to their onset age of Athletics, 3 of 5 athletes having started athletics when they were 20 years and above took the attention as the athletes having international success.

When the greatest and the earliest achievements of the athletes having participated in the study are analysed, the percentage of achievement to reach success is directly proportionate to the early age of starting training for the athletes. 8 (25.8%) of 31 athletes who have no Turkey degree in senior category among 93 athletes had international success in the past in U20 and youth categories. Furthermore, although there was no great success in the past, the number of athletes who have been in the rank in big league category in Turkey Championship and in international competitions is 31 (57.4%). 5 (20.8%) of the 24 athletes who have international success in the youth category in the past do not demonstrate any success in big league category, but 13 of them (54.1%) have had international success in big league category.

When the greatest and the earliest achievements of the athletes having participated in the study are analysed, it is noteworthy that one of the four athletes with no success in senior class has at least one international success either in U20 or youth category. Among the 8 athletes who became successful both in the youth and stars

category in the past, the number of people showing international success in senior category is 2 (25%). This shows that there are various problems in the continuity of long-term success. The biggest problem for a powerful sports organisation is the search of talent and routing stage which are important in the infrastructure. Athletes are subjected to event education first and then performance training in the athletics where athletes with athletic abilities are directed to the appropriate events as of 10-12 age group. However, when a child having just started training is exposed to heavy burden because of the ambition of coach, his/her family or the manager, his success in sports increases, yet this success becomes a short-term success (Bompa, 2000; Martindale, 2005).

While being successful for the athletes having started training after 16 requires a great talent, 8 of the athletes (8.6%) who started training after the specified age   reached international success. This may indicate that we do not have a systematic talent search and referral base. Though an athlete having just started training could not improve his/her motor skills to be developed, that s/he can have the international success may be a reflection on that real talents are not assessed in athletics.

Three of the seven athletes with elements of success in the past in the stars category (42.8%) have continued their success internationally. While 5 of the athletes in the rank in the Balkan Championship where most of the international success was achieved with 17 athletes had no success in the past, 10 in U20 and 5 in youth category have at least one international success. 7 (58.3%) of the medallist athletes in Mediterranean Games, where 12 medals were won, do not have any success in the past. Among the 8 athletes showing great international success both in youth and stars categories, the number of people being successful is 2 (25%).

In the study group, among the 35 international achievements, the event we have gotten the most medals with the number of 12 (34.3%) is the sprints. However, in sprints we could get only one medal individually, all other medals were won in 4x100m and 4x400m events.

In 2008, in a conference held by the European Athletics Association (EAA), 17% of the athletes who won medals at the world championships in the U20 category have stated that they could win a medal in senior category too (Abdel-Malek, 2008).

In a long-term study done by Andre et al (2014) on four sports events, they could determine that one of the three athletes, who have international success in their backgrounds, was able to become successful in senior category. Moreover, in the study it is stated that among athletes who ranked in the seniors, the number of the athletes who do not have success in the past is higher than the ones who were successful in the past.

While Brito et al (2004) states in their studies about the subject that few athletes among the first five athletes were among the first five athletes in seniors, Schumacher et al (2006) found in their studies about cyclists that 30% of athletes having participated in the world championship in the U20 category could participate in the world championship in senior level.

According to the categories, one of the main reasons of success change is because of that in the sub-age group children are more successful than the children born in the first months of the year due to the RYE (Andre et al., 2014; Munch & Grondin, 2001).

Another reason is the element of talented athletes' -who started training late- prevention of others. In one of the studies which Cote et al (2004) carried out, the idea of having a branch by doing continuous practice on a main branch for five years in the early period was dominant.

In one of the studies they carried out on the athletes participated in The European Stars Olympic Festival (EYOF) and Star Olympics, Martindale et al (2005) emphasized that investments for the instant success is not that much necessary and achievements must be supported in long term.

SUGGESTIONS

- When the athletes in elite level are considered, it is seen that successful athletes have started training late and on the basis of their lack in "basic training education" and "event education", it is found necessary to spread event education and developmental education besides the systematic search for talent.

- Apart from that, while some of the athletes having started training early gain international success in sub-categories described as U20 and youth category, they could not get even Turkey degree in senior category. The main deficiency in this issue is early specialization and training load. This issue is under the responsibility of coaches.

- We believe that this factor which is very important in coach education will have better outcomes with the help of meeting camps, seminars and briefings that are going to take place regularly for the athletes and coach groups.

- Since the average age of athletes in elite level in our country is lower than the ones on the world, plans to encourage young candidates for athletes to be in elite level must be developed. Social insurance is the most important of all these. While a number of awards such as Olympic, World, Europe after Big Championships includes a few athletes and plans- which will support athletes who can be successful in the future- should be done.

- 23 years and below category which is described as a special category- in which 20-22 years old athletes can race as well and take place in big league category -must be more active as there is not so much national or international active organization in this age group. This is quite crucial for an athlete- who has just left youth category, started in big league category and found himself/herself in an elite group- to adapt to a higher performance. Though it is planned to be a one day activity along with a 23 years and below Turkey championship, another 23 years and below Turkey championship or a special international 23 years and below tournament can be organised.

- Since most of the athletes competing in Turkey Athletics League are under 20 years old, an arrangement of the settlement of the teams racing in the leagues is necessary. Many athletes in the teams racing especially in Super League are 20 years and below athletes in youth and stars category. This will eliminate the obligation of training periodization and racing with an athlete in a higher category or in a two times higher category.

- The features of athletes - who are successful in youth level- such as growth, development, chronological and biological age must be taken into consideration.

- In addition not to having many world and country records in terms of individual branches in short distance running, our achievements- which have recently increased in 4x100, 4x400m relay races- implicate that international achievements can be increased with more planned preparations.

- Some of the national athletes have stated that they did not practice with any coach. Since coach is significant in individual sports, coach education should be revised and functional precautions must be taken and especially in individual sports, a long term planning in coach education should be handled on the basis of 10-12 years of developmental process.

- The children who started athletics late and were seen to be talented were able to gain success with a sudden loading. On the basis of achievements- which athletes having started training late gained- a pattern in which factors such as the systematic search for talent, guidance and selection of talent are ensured to be functioning, to be formed will be able to overcome the deficiencies. After the first stage, the second stage, directed to performance, should be designed as a stage where first steps are taken on the performance in branch under the name of development. As the last stage, it becomes operative as a stage preparing the person to become an elite athlete under the name of "excellence" and "specialization". Researches shows that this kind of stages are set up in a very large perspectives from 3 to 6. The long term organization of Bloom (1985) which he divided into 3 as "harmony, development, excellence" was divided into four by Cote et al (2007) as "recreation, siege, privatization, and sampling" and finally Balyi and Hamilton (2004) divided it into six periods as stated before.

REFERENCES

Abdel-Malek, E. H. (2008). Proceedings *from European Youth Conference*. Oslo, Norway.

Andre, B., Jean, C., &Antonio, M., F. (2014).From early to adult sport success: Analysing athletes' progression in national squads. *European Journal of Sport Science*, 14, 178-182.

Bağirgan, T. (1999).*A.B.T.D*, 36, Ankara.

Balyi, I. & Hamilton, A. (2004). *Long-Term Athlete Development: Trainability in children and adolescents: Windows of opportunity, optimal trainability.* Victoria, BC, Australia: National Coaching Institute British Columbia & Advanced Training and Performance Ltd.

Barnsley, R. H.,Thompson, A. H., Barnsley, P. E. (1985). Hockey success and birth date: The relative age effect. *Journal of the Canadian Association of Health, PhysicalEducationandRecreation*, 51, 23-28.

Beunen, G. P. (1997). Muscular strength development in children and adolescents. In Froberg, K.,Lammert, O. H., Hansen, S.C.,Blimke, J.R. (Eds.).*Children and Exercise XVIII: Exercise and Fitness- benefits and risks*. Odense: Odense University Press.

Bloom, B. (1985). *Developing talent in young people*. NY: Ballantines.

Bompa, T. (2000). *Total training for young champions*. NY: Human Kinetics.

Brito, N., Fonseca, A. M., &Rolim, R. (2004). Osmelhores atletas nosescalões de formaçã oserãoigualmente osmelhores atletas no escalão sénior? Análise centradanos rankings femininos das diferentes disciplinas do atletismo aolongo das últimasduas décadasem Portugal. *Revista Portuguesa de Ciências do Desporto*, 4(1), 17-28.

Cobley, S., Baker, J., Wattie, N., McKenna, J. (2009). Annual age-grouping and athlete development: A meta-analytical review of relative age effects in sport. *Sports Medicine*, 39 (3), 235-256.

Cote, J., Baker, J., Abernethy, B. (2007). Practice and playing the development of sport exercise. InTenenbaum, G., Eklund, R.C. (Eds.), *Handbook of sport psychology* (pp. 269-289). NY: JohnWiley.

Ericsson, K.A., and Charness, N. (1994, Aug). Expert performance: its structure and acquisition. *American Psychologist*, 725-747.

Ericsson, K.,A., Krampe, R.T. & Tesch-Romer, C. (1993). Role of deliberate practice in the acquisition of expertper formance. *Psychological Review*, 363-406.

GSB. (27 Şubat 2014).SGM, Sicil Lisans Birimi.

Hollings, S.,& Hume, P. (2010). Is success at the IAAF world junior championships are pre request for success at world senior championships or Olympicgames? *New Studies in Athletics*, 25, 65-77.

IOC. (2014). http://www.olympic.org/sports.

IAAF. (2013). http://www.iaaf.org/records/toplists/sprints/100-metres/outdoor/men/senior/

Jason, G., Juanita, W., Karen, O., Françoys, G. (2013). Patterns of performance development in elite athletes, *European Journal of Sports Science*, 13:6, 605-614.

Jason, P.G., Morag, J.C., Elissa, J., Weissensteiner, R. (2013) An integrated framework for the optimisation of sport and athlete development: A practitioner approach, *Journal of Sport Sciences*, 31:12, 1319-1331.

Jonath, U., Krempel, E. H., Müller, H. (1995). *Leichtathletik 1. Laufen*, Rororo Sport, Hamburg.

Malina, R. M., Bouchard, C., & Bar-Or, O. (2004). *Growth, maturation and physical activity*. Champaign, IL:Human Kinetics.

Martindale, R., Collins, D. & Daubney, J. (2005). Talent development: A guide for practice and research within sport. *Quest*, 57(4), 353-375.

Musch, J.; Grondin, S. (2001). Unequal competition as an impediment to personal development: A review of relative age effect in sport. *Developmental Review*, 21(2), 147-167.

Ford, P., De Ste Croix, M., Llyoyd, R., Meyers, R., Moosavi, M., Oliver, J. … Williams, C. (2011).Thelong-term athlete development model: physiological evidence and application. *Journal of Sports Sciences*, 29:4, 389-402.

Salmela, J.H., Young, B.W., & Kallio, J. (1998). Within-career transition of the athlete-coach triad. In Wylleman, P. And Lavallee, D., (Eds.) *Career transitioning*. Morgantown, VA: Fit Publications.

Schumacher, Y. O.,Mroz, R., Mueller, P., Scmid, A., & Ruecker, G. (2006). Success in elite cycling: A prospective and retrospective analysis of race results. *Journal of Sport Sciences,* 24(11), 1149-1156.

Stephan C., Hollings, P.A., Hopkins, W.G. (2014) Relative-age effect on competition outcomes at the world youth and World Junior Athletics Championships. *European Journal of Sports Science*, 14:sup1, 456-461.

Tiyanyi, J. (1990). *Longterm planning for young athletes: A nover view of the influences of growth, maturation and development* (Doctoral dissertation). Sudbury, ONT: Laurentian University.

Viru, A.,Loko, J., Harro, M., Volver, A., Laanetos, L. & Viru, M. (1999). Critical periods in the development of performance capacity during childhood and adolescence. *European Journal of Physical Education*, 4, 75-119.

Wattie, N., Cobley, S., & Baker, J. (2008). Towards a unified understanding of relative age effects. *Journal of Sports Sciences*, 26 (13), 1403-1409.