

From Talent to Professional Football - Youthism in German Football

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ABSTRACT

The aim of this study was to investigate the impact of the German youth academies conducted by the clubs of 1st and 2nd Bundesliga and the role of the U17 Bundesliga as a part of the German talent development programme in football. We examined all 821 U17 Bundesliga players born in 1993 and tracked their career development until season 2012/13. It was found that less than 10% were able to sign a contract for a professional team in Germany (1st, 2nd and 3rd league), while more than 45% quit playing football before advancing onto senior level. 29 out of 36 (80.6%) 1st Bundesliga players born in 1993 (season 2012/13) were trained in a professional youth academy, two players were educated in a 4th league club and five players were transferred from a foreign country. Youth academies and the U17 Bundesliga are crucial for the development of German talents, since a very good football education with weekly challenges in league is beneficial. However, one can be worried about the physical as well as mental and emotional stress those young players are exposed to, which might lead to an earlier end of their careers.

Key words: Association Football, Soccer, Talent Development Systems, Youth Sport Academies

INTRODUCTION

After the disappointing World Cup in 1998 and especially the European Championship in 2000 when Germany was eliminated at the group stage, the German Football Association (DFB) discussed reasons for being unsuccessful. Since the average age of the National team's roster had been over 30 years of age, the lack of skilled young players was named to be the main factor for failure. Consequently, the national talent scouting and development system had to be improved significantly. On the first stage, 366 local bases were implemented in order to support the 14,000 most talented eleven to sixteen year old players. Moreover, German professional clubs were obliged to extend their youth programmes in 2001 (1st Bundesliga) and in 2002 (2nd Bundesliga), respectively. Also, an evaluation of those youth academies every three years (see Figure 2 below) should help to increase the quality

of each academy and each talented young player at an academy. In 2006, the first elite schools for football were founded to give the very talented players the chance to concentrate on football and school side by side. The stages of the complex talent development system is illustrated in Figure 1. The monetary support for the talented young players by the clubs and associations could not be much better when taking a look at the facilities of the youth academies. From 2001 until 2010, more than half a million euros were spent for new football centers. First league teams are required to have at least three grass fields, a resistance training room, a gym, several locker rooms, a room for physical therapy, a whirl pool, etc. Moreover, the clubs offer private school lessons as well as apartments, psycho-social and medical care [1].

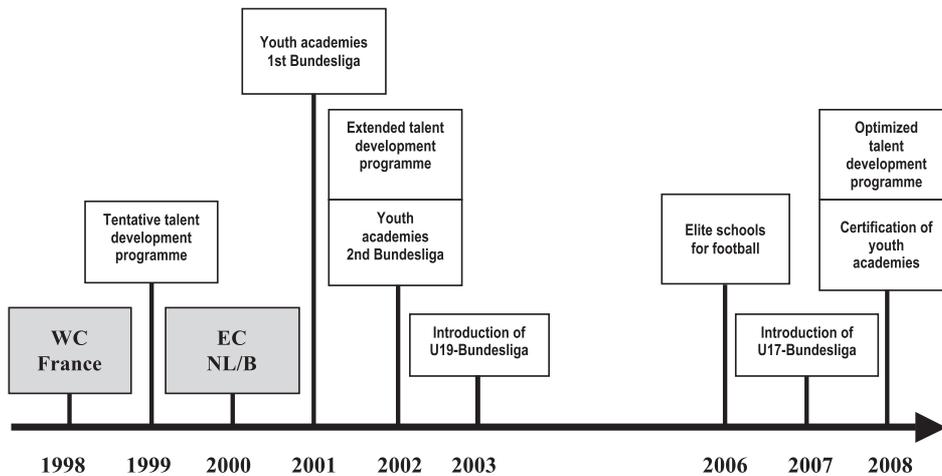


Figure 1. Stages of German talent development system in football since 1998 [2]

The success of the German youth development system is proven by achievements in the latest international championships at both youth and adult stages. The talent development programmes implemented by the DFB seemed to raise the quality of German football. As a first widely visible success, German youth national teams would win the European championship in every age group (U17, U19, and U21) in 2009 and in U19 in 2014. Another success of German football has been the Champions League final in 2013 with the two German top teams Bayern Munich and Borussia Dortmund being the opponents. Each team started with six players who have been educated in a youth academy. The most recent and biggest achievement since implementation of youth academies is the win in the FIFA World Cup in 2014 with 21 of 23 players on the roster being educated in a youth academy and an average age of 25.7 years. Another consequence can be seen in the rosters of the German Bundesliga teams. While there have been only 8.1% of U21 players in Bundesliga in 2000/01 [2], there have been three times as many U21 players (26.8%) in 2010/11 [2]. Most of those players (81.8%) have been educated in one of the 49 youth academies that are maintained by the professional football clubs. Also, the average age of 1st Bundesliga decreased from an average age of 27.1 in season 2001/02 to 23.6 years of age in 2012/13 (www.transfermarkt.de, accessed on October 17th, 2013). Moreover, the average age of Germany's national team fell over the last 14 years from over 30 to less than 26 years of age.

To challenge youth players of professional academies, the U19 and U17 Bundesliga were implemented in 2003/04 and 2007/08 by DFB. Youth academies seem to do good work and prepare many talents for a professional football career. However, we hypothesize negative unintentional side effects due to the intensive football education: earlier ends of careers and therefore short careers. Thus, the aim of this study is to examine the correlation of performance and success on U17 level and success and duration of professional careers in adult age.

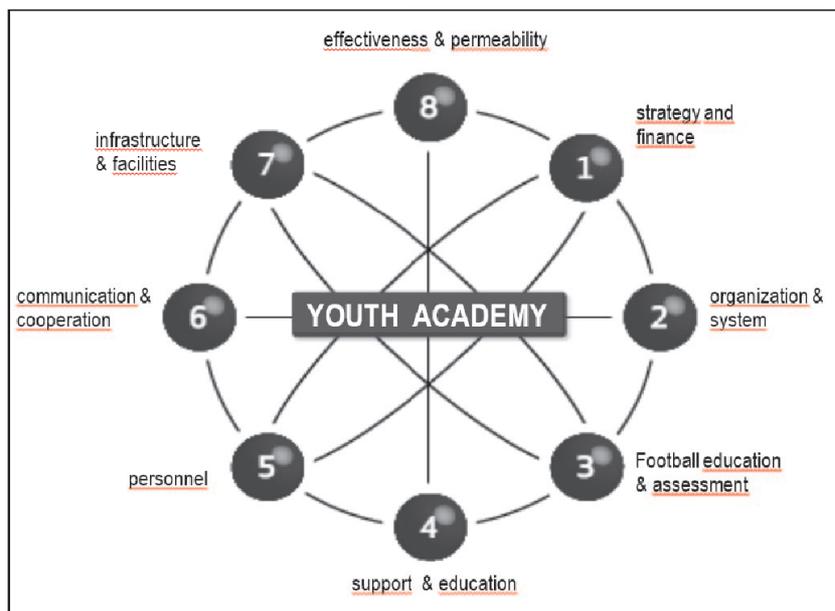


Figure 2. Certification of the youth academies in 8 categories [2]

METHOD

SAMPLE

Rosters of German U17 Bundesliga (season 2008/09 and 2009/10) were downloaded from the webpage www.transfermarkt.de (accessed on October 17th, 2013). German U17 Bundesliga is divided into three leagues with 14 teams each representing different regions (North/North-East, West, South/South-West). Name, date of birth, club in season 2008/09, club in season 2009/10, transfers from 2008 – 2013, current club, current league and the league of the club's men's team in seasons 2008/09 and 2009/10 of the 821 players born in 1993 were recorded. The age-group 1993 was chosen because it was the age-group that just arrived in adult soccer in the latest available season 2012/13.

Also, for the special sample of 31 U17 players who have been part of a Bundesliga team in season 2012/13, total time played in 2012/13, show ups in youth national teams (U15 – U21) as well as their dates of entry in youth academies were recorded.

With that information, it was possible to demonstrate the player composition of U17 Bundesliga, follow every player's career from U9 until first year of senior football and get some statistics about the origin, the kind of football education and success of every player.

INDICATORS OF TEAMS' AND PLAYERS' SUCCESS

The final rankings of all U17 Bundesliga teams were collected after season 2009/10. These rankings and the number of players appearing on a professional team roster were used as an operational definition for a team's success. The success of a single player is defined by the league the athlete is playing in the first year of senior football. An appearance on a professional team roster is defined as "successful", while the career is called "unsuccessful", if the player is part of an amateur team or has quit playing football.

RESULTS

BUILDUP OF U17 ROSTER IN THE AGE GROUP 1993

In season 2008/09 and 2009/10, 821 players born in 1993 played in U17 Bundesliga. However, there has been a lot of transition on the rosters in between both seasons. In 2008/09 the older age group of U17, 1992, dominated the rosters with 765 players, while only 259 players born in 1993 have been part of a U17 Bundesliga team. In 2009/10, when those players born in 1993 have been the older ones, age-group 1993 was represented by 562 players in U17 Bundesliga (68.5%). 217 (26.4%) players have been playing in U17 Bundesliga in both season and 42 talents (5.1%) could be found on a U17 roster only in the first season. They missed the second season due to different reasons. Most of those players did not play U17 Bundesliga in season 2009/10, since their team dropped out of the league (30). Six players transferred to a lower level team, while six very talented players got the chance to advance into U19. Players, who have only been part of U17 Bundesliga in 2009/10, have mainly been U16 players of the same club (399) a season before and the other 163 players climbed up with their team. The transition matrix is shown in Table 1.

Table 1. Transition of age-group 1993 between 2008/09 and 2009/10 in U17 Bundesliga

season 2008/09 (1993: younger age group)		season 2009/10 (1993: older age group)			
		on roster of U17 BuLi	not on roster of U17 BuLi		
			relegation of team	advancement in U19	transfer in lower level team
on roster of U17 BuLi		217	30	6	6
not on roster	climb up of team	163	-	-	-
of U17 BuLi	U16	399	-	-	-

LEAGUE-MEMBERSHIP IN 2012/13

The 821 former U17 Bundesliga players, who were born in 1993, have entered adult stage with the beginning of the 2012/13 season. As shown in Figure 3, only 82 (9.9%) of all players fulfilled their dream of professional football in their first year at the senior level. Among these, only 31 talents (3.8%) made their way directly into the 1st Bundesliga or any other European first league. 6.1% made it into a second or third league professional team. 25.0% of the players are part of the fourth highest league, the "Regionalliga" (RL), while 67.3% of those players are members of a U23-team, which is the regular way of development, when playing for a professional club. The majority (65.1%) of the 821 players were playing at the amateur level or quit playing football in their first year of adult football. 628 of the 821 players were members of a youth academy at the U17 stage. The other talents played for amateur clubs. Figure 4 demonstrates that no player of amateur clubs made it into professional football in the first year after youth football. However, the rate of ending up in an amateur league is the highest, when originating of amateur clubs.

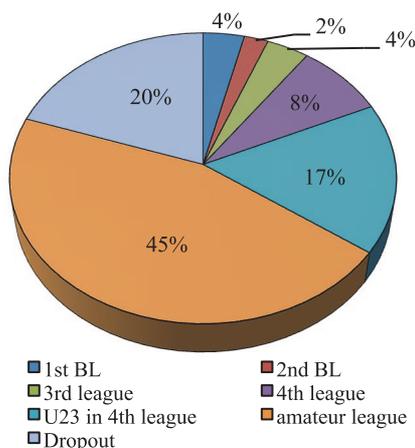


Figure 3. League-membership of the 821 U17 Bundesliga (BL) players born in 1993 in season 2012/13

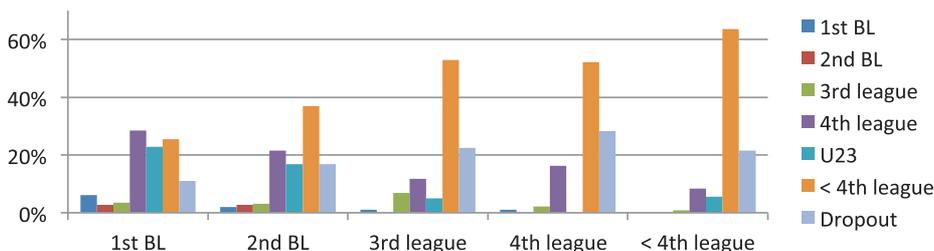


Figure 4. Origin and today's league-membership of the former U17 Bundesliga players

When looking at the professional clubs, the rate of becoming a 1st division professional football player is highest, when having played for a 1st league club in U17 (1st BL: 6% vs. 2nd BL: 2% vs. 3rd league: 1%). Thus, dropping from a 1st league club to a lower league is quite likely and is seen in 657 of 821 cases (80.0%), while raising up from lower to a higher league is almost impossible (2.4%), especially for amateur players (1.0%). Moreover, there is an overall of 162 dropouts representing 20.0% of all players. This dropout rate is lower with an increasing league of the men's team.

SUCCESS OF YOUTH ACADEMIES

There is a strong correlation between rank in the U17 table and the number of players earning a spot on a roster of a 1st Bundesliga team ($\rho = -0.689$; $p < .01$). The better the U17 team has finished season 2009/10, the more players have been drafted by a 1st Bundesliga team. Thus, a team success in U17 and education of later players are not mutually exclusive; they rather come together, what is shown in Figure 5.

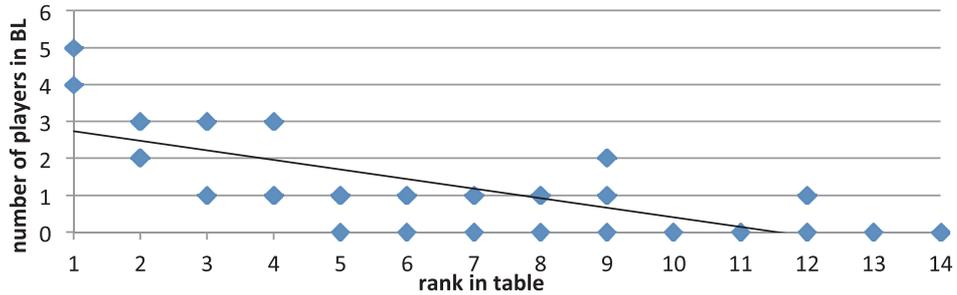


Figure 5. Correlation between rank of team and number of players in 1st and 2nd BL in season 2012/13

FOOTBALL EDUCATION

36 players born in 1993 have been part of any 1st Bundesliga roster in season 2012/13. The majority (31) has been playing in U17 Bundesliga. 29 of these former U17 Bundesliga players have been educated in a German youth academy. The other two players found the unusual way from an amateur club to a 1st league team. Also, five players were transferred from a foreign country.

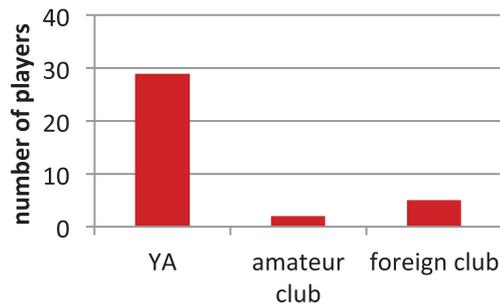


Figure 6. Type of football education

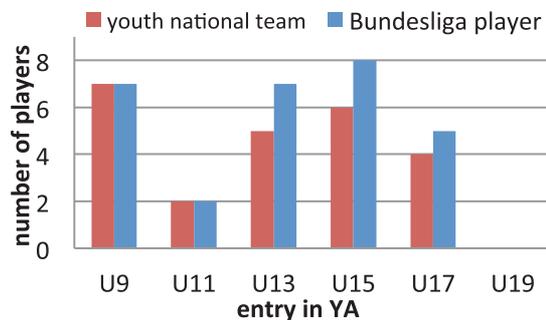


Figure 7. Time of entry in YA of today's 1st league players

Figure 7 demonstrates that Bundesliga players emerging from a youth academy have entered a youth academy not later than in U17. 24 of 36 (66.7%) 1st league players have joined youth academies at the age of 15 years or less. 42.8% were 13 or younger when they were recruited by a professional club, 25.7% were younger than 11 years of age and even 7 players started their career in a youth academy in the youngest age group U9.

28.8% of those 29 players educated in a youth academy have been members of a youth national team also or are still representing their country. Those players have the best chances to become a professional player due to their outstanding talent and the education in a German youth national team.

IMPACT OF THE YOUNGEST AGE GROUP IN 1ST BUNDESLIGA

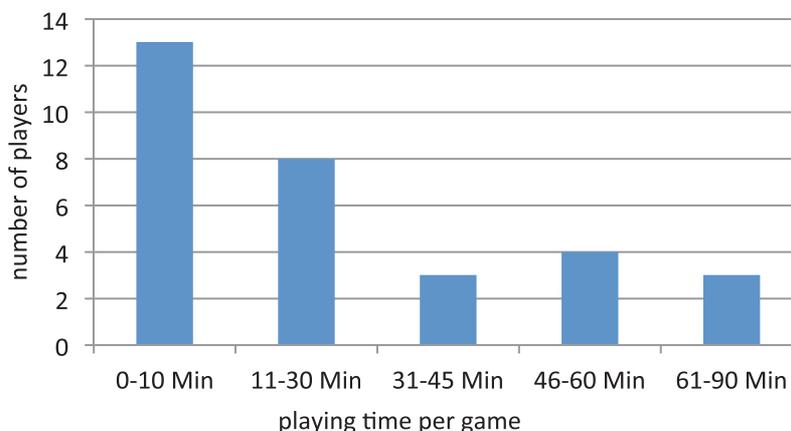


Figure 8. Playing time of players born in 1993 in 1st Bundesliga

The mean playing time of the 31 players in 1st Bundesliga has been 16.3 minutes (min = 0 min., max = 79.5 min., standard deviation = 20.8 min) in season 2012/13, having five players getting more than 45 minutes per game, which demonstrates a significant impact of young players. 13 players do not get more that 10 minutes per game on the field. They are substitutes for the last minutes to get some experience on a high level, not to make a big a contribution, though.

DISCUSSION

According to DFB [2], the talent development programmes have been proven to be very successful, since the number and level of young players in the German Bundesliga and the men's national team is at an all-time high. Besides other talent development programmes (see Figure 1), youth academies and the introduction of a youth Bundesliga seem to play an important role in educating professional football players.

Since 2001, 1st Bundesliga clubs and accordingly since 2002, 2nd Bundesliga clubs are obliged to run a youth academy, which has been a good decision by DFB and the German Football League (DFL), after analyzing Germany's deficits in the talent development system. The professional clubs provide almost 5000 youth players a football education in the age groups U12 to U19 per year. Since youth academy players usually are the best players of their age-group, the quality of their education is crucial for the development of the men's

Bundesliga as well as the German national team.

Therefore, the quality of the youth academies is proven every three years by an autonomous company. As shown in Figure 2, certification includes eight different categories, being said to be important for an ideal education of Germany's best youth players. Since certification is part of the licensing procedure of professional teams and is linked to money and prestige, the youth academies strive for excellence, which lifted the level of quality of the youth academies. As a consequence, the quality of Germany's youth academy players increased as well.

Moreover, the talent development programme for the non-youth academy players, implemented in 2002 in order to promote another 14,000 talented players, seems to be beneficial for the education of a high number of players. Having that programme helps less developed players and players, whose distance to a youth academy is too far, to develop better football skills and present themselves to youth academy scouts in regional competitions.

With the introduction of U17 in 2007 and U19 Bundesliga in 2003, not only training in youth academies, but also the level of competition between the best players could be lifted. At first sight, Germany's new talent development system seems to be a great success, since the number of German young Bundesliga players being educated in a youth academy and having played U17 as well as U19 Bundesliga, has increased since implementation of the youth Bundesliga. Playing in U17 Bundesliga does not guarantee a professional football career in Germany, since less than 10% of the U 17 Bundesliga players of age group 1993 became a member of a professional team in Germany, though. The best chance to become a professional football player in the first year of senior level is to play for a first league team in U17. The worst chance is linked to playing on amateur teams. These findings were to be expected, since youth academy teams already select the best players of every age group and provide those kids money, flats and the prospect of a professional football career.

The best time for an entry into a youth academy cannot be found in general. As shown in Figure 7, the perfect age seems to be very individual depending on the stage of physical and mental development, the familiar background of the talent, the social integration and the distance between hometown and youth academy. Thus, pros and cons of an entry have to be weighted for every talent even though the education in a youth academy might be better than the education in a local football club. However, the transfer into a youth academy should not be performed later than in U17, since academies usually do not select as many new players as they do in the age groups before. Furthermore, with an increasing age the selection of the players becomes more and more elite, since the distance players come from is getting larger. While most of the players in U9 – U12 are living in a nearby area, players from U13 – U16 usually come from the region and players from U17 – U19 transfer from all over the country and even from foreign countries.

Conditions and education are different in every youth academy. The table of the men's Bundesliga does not determine the quality of the youth academy. Thus, there are several clubs, usually financially weaker and smaller clubs that are reliant on talents as important resources. Those clubs pay special attention on the development of good players.

All in all, the implementation of youth academies and the youth Bundesliga is an important part of Germany's talent development programme and seems to play a big role in becoming a professional football player. Thanks to the good education, there is a number of great young players like Julian Draxler, Maximilian Mayer, Mario Götze, Erik Durm, Leon Goretzka and Maximilian Arnold who are U21 players, but already are key players in their club and they have already been part of the men's national team.

The national team also takes benefit from the talent development programme. The roster that won the FIFA World Cup 2014, was composed of 21 of 23 players educated in a German youth academy. That shows a high impact of the academies. Furthermore, with the better education of young players, the way of play became more attractive and more successful. Thus, with Bayern Munich and Borussia Dortmund, the two finalist of the 2013 UEFA Champions League have been German and six players of every starting team have been educated in a German youth academy.

In season 2012/13, less than 10 percent of all U17 Bundesliga players born in 1993 could earn a spot on a men's 1st, 2nd or 3rd Bundesliga roster and another 16.7% were able to become a part of a second team of a professional club (U23). These players still have a good chance to climb up into professional football, since it is the main aim of U23 teams to get as many players as possible into professional football. On the other hand, there is a tendency that the very talented players get offered a professional contract right after U19. Thus, it seems that if a talent is not skilled enough and well-trained at the age of 19, the player has missed the boat.

31 of 36 today's Bundesliga players born in 1993 played in U17 Bundesliga, two for an amateur club and 29 for in a youth academy. The other players were transferred from foreign clubs. The absolute number of talents getting the chance to play at the professional level seems to be very low. However, the relative number is very high, when taking into account that the youngest age group in German Bundesliga season 2012/13, age group 1993, represents 5.7% of all 540 Bundesliga players. Even though being the youngest, least developed and least experienced, with an average of 16.3 minutes per game they already get a decent time on the field.

Due to the excellent education of young talents, average age in the German Bundesliga fell from season 2001/02 until today and no change in that tendency is in sight [1]. In 2001 a decrease of average age was necessary, since both, the Bundesliga and the German national team have been over aged and young players could not be found. Thus, the talent development programme has solved the problem of over aged teams and the high number of foreign players in the German Bundesliga. The trend after 2001/02 has definitely been positive for German football, since it became more attractive and successful.

However, Figure 9 shows that this decreasing trend of average age still persists to this day, which is not only positive. It shows that many young players find their spot on a Bundesliga roster, but it also implies that the number of players aged between 27 and 30 – the prime of a football career - decreases. The careers apparently start earlier, but also end earlier and seem to be less sustainable. The peak level of play is hit a few years earlier, when players are less experienced and less able to play the role of a leader, which may be a negative development. In other sports, for example in tennis, the average age of the ATP TOP 50 rises every year and shows a value of 28 today [3], while the average age of the first occurrence in ATP's TOP 100 is 21.7 [4]. Thus, the issue of the best time to be on the peak of the performance level needs to be evaluated further.

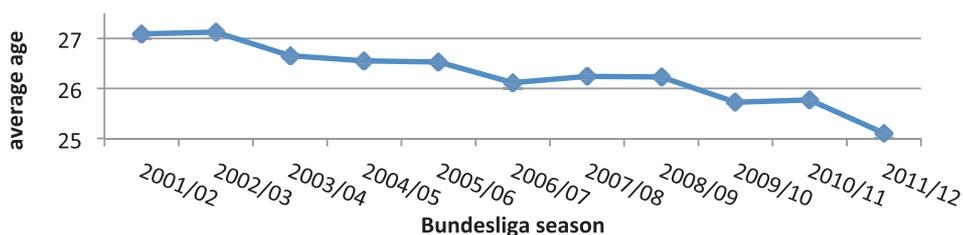


Figure 9. Average age of Bundesliga players from 2001/02 until 2011/12 [1]

The talent development programme seems to help talented young football players to become a professional football player at a young age. On the other side, 20 percent of all U17 players quit playing football before advancing into senior football. The number of youth academy players dropping out (14%) is not as high as the overall number of drop outs, but it cannot be denied that the number might be considered as too high compared to the increased investment of the clubs. Further investigations regarding the reasons for dropping out would be worthwhile. There might be social, educational, or job reasons, but there might also be medical factors that force talents to quit playing football at a young age. The number of those players would be very interesting, in order to make statements about a possible overload in youth age. In addition to the stress players have to deal with, the UEFA introduced another competition for U19 players. In season 2013/14, the UEFA Youth League started for all U19 teams whose men's team is part of the UEFA Champions League. For most of the officials of German youth academies, the UEFA Youth League is both boon and bane. On the one hand, the experience playing internationally enhances the players' football abilities; on the other hand, stress associated with international games might overstrain young talents, since the number of games and time of traveling increases, while time in and for school decreases. The result of that league might be better and more experienced football players as well as a higher number of drop-outs and shorter careers due to the overload in young ages. That issue can only be finally evaluated several years after the implementation of UEFA Youth League, though, when today's U19 players have reached their mid and end twenties. As shown above, the way from talent to a professional football player is long and hard and only the best and toughest talents will go their way. Players have to stay healthy and have to deal with the pressure of football and school. Due to a possible overload in youth the players might suffer injuries in the early ages. Moreover, burnout plays a big role in youth football. According to Hill [5], burnout is a big issue in English youth football. He found out that one quarter of the British elite players have already experienced symptoms of burnout, while even one percent frequently experience symptoms of burnout, what might become a reason for dropping out.

It can be speculated that football careers might be advanced in time, so that older and more experienced players who usually are the key players of a team are getting rare due to injury and mental illness.

A second severe problem is the fact that professional clubs select and bind talented young players in very young ages no matter where they come from. That leads to an international battle between clubs and between consultants, who also want to capture players at very young ages. In U17 Bundesliga, almost every player is counseled by a consultant showing that money already rules youth football. Those bids for talents might turn their heads and put pressure on young players, having in mind that clubs, consultants, parents and peers expect a professional career in football.

CONCLUSION

The implementation of mandatory youth academies for every 1st and 2nd Bundesliga club and the U17 Bundesliga is positive for the development of a great number of very well educated football players, so that the most talented players can reach higher individual levels due to an intensive football education and a better competition.

However, there are tendencies in German youth soccer that are a cause of concern. Physical, mental and emotional overloads in youth due to the daily demands of coaches, parents and peers are one big issue that might end in exhaustion and might lead to an earlier end of careers. In order to prevent an overload, football federations and clubs have to find a

common way to limit the number of games and the stress put on a talent, so the youth player does not get overstrained in young ages.

Moreover, club coaches have to prevent overloads and resulting injuries by balancing physical loads in practice and regeneration. An individual plan for every talent might be reasonable.

Regarding the battle between scouts and consultants, a rule that prohibits third parties to contact youth players until the age of 16 might help.

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