



Characteristics of Professional and Non-Professional Football Players – An Eight-Year Follow-Up of Three Age Cohorts

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ABSTRACT Identification of the most talented youth players is regarded as a key part of the talent development process in football. The basis for the criteria is naturally affected by the characteristics of the early-detected talented players. Nonetheless, earlier research has found limited evidenced for different criteria in this process. This study has examined whether professional and non-professional football players showed differences in player and coach characteristics as talented youth-level players eight years earlier. A total of 103 players selected for Norwegian youth national teams (age cohorts 1991–1993) participated in this study. Based on player and coach characteristics, the results showed that non-professional players had the most playing time and felt more successful in comparison to the professional players. The professional players, however, reported higher ambitions and a higher number of weekly-organized training sessions. No differences between the professional and non-professional players showed in terms of their relationship to their coaches were found. The study concludes that we need more research on identification criteria to be able to predict which abilities and skills should be sought in the identification process for youth-level players. As in earlier research, this study also found a poor relationship between youth performance and senior performance.

KEY WORDS Talent, Youth, Skills, Football, Identification.



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Introduction

Talent selection and identification have been significant issues in sport science research. Most studies have focused on finding the skills and abilities of the most talented players and, as a consequence, predict the future top-level players (Rees et al., 2016). Nonetheless, the talent identification process in both professional and amateur clubs has mainly been affected by several well-established assumptions about what characterizes a talented football player. These include the notions that talent is hereditary, that it is domain-specific, that a trained eye can identify talent at an early age, and that such early indicators predict future success (Durand-Bush & Salmela, 2001). Furthermore, these assumptions may lead to certain expectations about the characteristics of talented players and their path to elite-level football. Naturally one might expect the most talented players to be characterized by an extraordinary skill level in comparison to their peers, getting more playing time, enjoying competitions and experiencing greater success, having a sole focus on football as their main sport, being more ambitious, and training more in both organized and self-organized arenas.

A considerable amount of research has been undertaken into finding early indicators that predict future success. Because of the complexity of talent development and the potential factors affecting each other (Williams & Reilly, 2000), the ideal pathway to a professional career is difficult to describe. Many of these player characteristics have been confirmed in empirical studies, even if many of the assumptions need further confirmation to be used to identify the future top-level players.

Studies have found match-play performance to be closely connected to the selection for full-time scholarships

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at elite player residential programmes (O'Connor, Larkin, & Williams, 2016). Playing time has also been found to be closely related to the coaches' assessment of the players' abilities (Sæther, Aspvik, & Høigaard, submitted), even though some studies have found academy players overvalue their own skills (Nerland & Sæther, 2016). This would indicate that these players are comfortable in the competition settings during matches. As a result of their early success and feedback that identifies them as talented, the talented players are also expected to be solely focused on their main sport, potentially increasing the difference in skills compared to less talented peers and, furthermore, increasing the players' ambitions (Sæther, 2013) to become potential professional players. With regard to the number of sports in which players had participated, results from earlier studies indicate that there were no differences between players obtaining a senior professional contract and non-professional players (Haugaasen, Toering, & Jordet, 2014b), as was also shown in other similar studies (Ford et al., 2012). Later research has also shown that the amount of training cannot be taken as a predictor of future success since players obtaining a senior professional contract were not found to train more than non-professional players in their youth (Haugaasen, Toering, & Jordet, 2014a).

However, this notion of a continual positive circle of progression in the players' development has some major shortcomings. The relationship between early selection to youth-level national teams and selection later in youth has been found to be weak (Sæther, 2015), indicating difficulties in predicting future performance at an early age. This would suggest that despite the positive circles that the players experience, sooner or later they are faced with obstacles that potentially affect their development. A well-known explanation for the lack of relationship between skills is the fact that early-selected players are characterized by an early birth month, a feature related to the advantage of being born early in the year, an effect called "the relative age effect". This effect has been widely confirmed among youth-level players (Helsen et al., 2012; Sæther, 2015, 2016).

The most important reason for which the talent identification process is vital in the development of talented players is the environmental and contextual elements that surround the players are found to be essential factors associated with the success of talented athletes (Carlson, 1991; Hall, Kerr, Kozub, & Finnie, 2006; Stambulova, 2007). There is an expectation that competitive environments lead to winning the most matches because of the often-high degree of players selected by the top-level clubs. However, such a focus on winning could have a negative effect on the players' development if the focus on a mastery climate (according to achievement goal theory) is not also included, since performance climate often promotes interpersonal competition, achieving results, and public recognition of the demonstration of skills (Ames, 1992). Some studies have suggested that introducing mastery-oriented criteria while simultaneously maintaining performance-oriented criteria will lead to an positive and effective motivational strategy that is equal to that entailed in focusing entirely on mastery criteria (Ommundsen & Roberts, 1999). It is important to stress that many of the participants in this study are not only at the development stage, but that they also compete in adult competitive football where the performance and competitive element is stronger (Ommundsen & Roberts, 1999). High personal pressure, especially from coaches, is one of the main challenges that may affect the development of youth football academy players (Richardson, Gilbourne, & Littlewood, 2004).

Such competitive environments are expected to select the best players at all times, giving them the most playing time, and again affecting the players' assessment of their own skills. The identified players, especially by top-level clubs, are given obvious advantages in this selection system (Ashworth & Heyndels, 2007) even though there are many obstacles in this process (Larsen, Alfermann, Henriksen, & Christensen, 2013). These environments are often characterized by high expectations, which might indicate that players may experience considerable personal pressure, especially from coaches. Several researchers have underlined the importance of high quality coach-athlete relationships in order to reduce stress, and to improve the performance and enjoyment of competitive experiences (Kristiansen & Roberts, 2010). Similarly, Rodahl and colleagues (Rodahl, Giske, Peters, & Høigaard, 2015) highlight the quality of the coach-athlete relationship as a significant factor in enhancing mental toughness, which may subsequently increase the athlete's ability to cope with stress (Nicholls, 2011). The coach is of great importance for the development of young players (Carlson, 1991), and coaches' understanding of player development impacts the players' progression (Gagné, 2000; Martindale, Collins, & Abraham, 2007).

Well-established development environments for youth-level players are expected to provide talented players with feedback on their training in both the short- and long-term. An essential part of the theory of "deliberate practice", which has been indicated as a prerequisite for the development of expertise, is that feedback must be given at each training session (Ericsson, Krampe, & Tesch-Römer, 1993). The content of this feedback must be seen as important, where feedback should be expected to be constructive and balancing the amount of praise and criticism. Earlier studies have highlighted that feedback during exercise is a common strategy recognized by most coaches (Potrac, Jones, & Cushion, 2007) even though little feedback is given after exercise, potentially affecting the players' ability to reflect on their own skills (Partington & Cushion, 2013). Previous research also shows that the content of the feedback is essential for the players' further motivation and development (Cushion, Ford, & Williams, 2010; Ford, Yates, & Williams, 2010).

The most talented players selected for national youth teams are naturally expected to be the most likely to be future professional football players. Even so, most talented players never become professional players, despite their early-detected talent. Thus, the search for early indicators continues, hallmarking professional players early in their youth. The aim of the present study was to investigate player and coach characteristics for players

aged 14 to 16 who were selected for Norwegian age-specific national teams in 2007. The second aim was to compare the players who, in 2015 (eight years later) had gone on to play the game professionally as opposed to non-professional players. The use of future performance based on earlier data has been used as an appropriate way of collecting data (Höner & Feichtinger, 2016).

Methods

Participants

The participants were drawn from three age cohorts of Norwegian players selected for a national youth team in June 2007. The players were born between 1991 and 1993, and represented U16, U15, and U14 teams.

Measures

Player characteristics. The questions used to assess player characteristics were single item questions intended to measure a range of topics labelled as player characteristics. Birth month was reported according to the four birth quartiles (January–March, etc.), and background was the number of sports the players were engaged in or have played and the ambitions they had according to the categories: international, national, first division, etc. The estimated weekly amount of training sessions (organized and self-organized) was allocated to the categories: never, 1 day, 2–3 days, 4–5 days, etc. Playing time was categorized as: all matches, most matches, some matches, and few matches. The final questions asked the players to respond to the statements, “I often succeed”, and “I like to compete”, and their answers were rated using a Likert scale that ranged from 1= fits well, 7= fits badly.

Coach characteristics. The questions used to assess the coach characteristics were single item questions intended to measure a range of topics labelled as coach characteristics. Using a Likert scale for their responses, ranging from 1= fits well, 7= fits badly, the players were asked four questions about their coach. These questions were: “I often get praise from my coach”, “I often get criticism from my coach when I am not succeeding”, “only the best players get playing time”, and “it is most important to win matches”.

Procedures

The data were collected using a questionnaire among players selected for a national youth team. Before answering the questionnaire all the participants were informed about the purpose of the study, that their participation was voluntary, that the survey was anonymous, and that all information would be treated confidentially. All players were provided with an information letter to be given to their parents. The study (ethics clearance) was in accordance with, and approved by the Norwegian Social Science Data Services.

Statistical Analysis

All analyses were conducted using SPSS version 21.0. Means and standard deviations were calculated for player characteristics and the coach-athlete relationship. Student’s T-test was used to identify the differences between professional and non-professional players according to player characteristics and coach characteristics. The significance level (alpha) was set to .05.

TABLE 1 T-test, Comparing the Professional and the Non-Professional Players in 2015

| Variables | Scale | Professional Mean | Non-Professional Mean | N |
|------------------------------------|------------------|-------------------|-----------------------|-----|
| % | | 48 | 52 | 103 |
| Player Characteristics | | | | |
| Birth month | 1-4 ^a | 1.8 | 2.0 | 111 |
| Self-organized training (day/week) | 1-5 ^b | 2.9 | 3.4 | 103 |
| Organized training (day/week) | 1-5 ^b | 3.1 | 2.1* | 78 |
| Ambitions | 1-5 ^c | 2.1 | 2.7* | 102 |
| Sporting background | | 2.5 | 2.5 | 103 |
| I often succeed | 1-4 ^d | 1.7 | 1.4* | 77 |
| Like to compete | 1-7 ^e | 1.6 | 1.9 | 102 |
| Playing time | 1-5 ^f | 1.3 | 1.1 | 77 |
| Coach relationship | | | | |
| Coach praise | 1-7 ^g | 2.3 | 2.2 | 103 |
| Coach criticism | 1-7 ^g | 3.6 | 3.0 | 103 |
| Most important to win | 1-7 ^g | 2.2 | 2.5 | 100 |
| Only the best players play | 1-7 ^g | 3.0 | 3.0 | 101 |

Legend: *P < 0.05 – reference “Professional”; a 1= January-March, 4 = October–December; b 1= Never, 5 = 6–7 days a week; c 1= Internationally, 5= 5–6 division; d 1= Very well, 4= Very bad; e 1= Fits well, 7= Fits badly; f 1= All matches, 4= Few matches; g 1= Fits well, 7= Fits badly.

Results

The results showed that the professional and non-professional players were characterized by some similarities and some significant differences. The non-professional players trained close to (<0.082) significantly more self-organized ways, whereas the professional players trained significantly more in organized settings. The professional players had significantly higher ambitions, even though the non-professional players significantly felt they often succeed and, close to significantly (<0.083), had more playing time compared to the professional players. Furthermore, there were small differences in birth month, the number of sports they had participated in, and their fondness of competitions.

The players' relationships with their coaches seemed quite similar in terms of praise, although the professional players reported close to significantly (<0.056) less criticism from their coaches. Overall, both groups of players reported more praise than criticism. There was found to be no difference between their coaches' focus on the importance of winning matches and that only the best players got to play matches. Even so, according to the players the coaches had a higher focus on winning than letting only the best players play (mean 3.0 vs 2.35).

Discussion

This study examined players and their coaches' characteristics among a group of talented players aged 14–16 years, dividing the players between professional and non-professional players in an 8-year follow-up. Somewhat surprisingly, the professional players did not stand out from among as many of the variables as one could expect, in terms of their own characteristics or the characteristics of their coaches.

Most surprisingly, the non-professional players, almost significantly had more playing time, indicating that these players were regarded as more talented than the professional players. Earlier studies have found connections between the players' perception of their own skills and their playing time (Sæther et al., submitted). The results from this study could be seen as confirmation of this relationship since the non-professional players also experienced significantly (<0.05) more success in comparison to the professional players. Even if the relationship between skills at youth level and senior level is one of the most common assumptions (Durand-Bush & Salmela, 2001), the results from this study indicate that this relationship is not that strong, as earlier studies have also highlighted (Rees et al., 2016). Even if one could expect the relative age effect to be present in such high performance groups (Helsen et al., 2012), the effect was not significantly different between the professional and non-professional players. An obvious explanation could be that these groups of players have already been affected by this effect (Sæther, 2015), and both groups had mean values approximately in the second quartile. Both groups were thereby affected by the relative age effect, but they did not differ as groups.

According to the theory of deliberate practice, the players with the highest degree of deliberate practice will develop the best skills, assuming the players receive feedback from expert coaches, which is a prerequisite for the training to be described as deliberate practice (Ericsson et al., 1993). Since the professional players in this study trained significantly more in organized setting than the non-professional players, this assumption could partly be confirmed. However, the non-professional players trained close to significantly more in self-organized settings, indicating that these players compensate with self-organized training. However, a recent study found no differences in training amount when comparing players that had obtained a senior professional contract with non-professional players did, indicating that this is a poor predictor of future success (Haugaasen et al., 2014a). From the players' overall training amount, one could argue that the main difference is the type of training (professional versus non-professional) is important, not the amount.

Talented football players are obliged to have great ambitions in regards to their football careers, which is also confirmed by the professional players in this study, being significantly more ambitious. Based on the fact that the non-professional players had the greatest amount of playing time and considered themselves to be more successful than the professional players, one could expect the non-professional players to be the most ambitious. An obvious explanation could be that the professional players were, in fact, more ambitious, and that this could be one reason as to why they became professional players. An earlier study examined the ambitions of talented players and found them to be very ambitious (Sæther, 2013), although that study did not compare professional and non-professional players. This player' ambition could be expected to be accompanied by a sole focus on their main sport, but, at the time of the study, no differences were found in terms of the number of sports they had participated in. This was also confirmed by an earlier study (Haugaasen et al., 2014a).

Based on previous studies on coach characteristics, one could expect the professional players to have a closer relationship with their coach, compared to the non-professional players. The players' relationships with their coaches seemed quite similar since, overall, both groups reported more praise than criticism. However, an essential difference was that the professional players reported close to significantly less criticism from their coaches. Earlier studies have highlighted the potentially adverse effect of both too much feedback (Potrac et al., 2007) or a lack of feedback to the players (Partington & Cushion, 2013). Previous research also shows that the content of the feedback is essential for the players' further motivation and development (Cushion et al., 2010; Ford et al., 2010).

Even though the participants of this study were quite young, being part of a high-performance environment one could expect the focus on winning matches to be essential. However, the results showed no differences between the professional and non-professional players in terms of the focus on winning matches and only letting the best players play in the matches. Even so, according to the players, the coaches had a higher focus on results (winning) than on only giving attention to the best players (best players play). Pressure from coaches is a major challenge for youth-level players (Richardson et al., 2004). The coaches' focus in this respect would, of course, be of vital importance, potentially affecting the players' development.

In summary, these results could indicate that some of the player' characteristics are more essential in talent development than the coach-athlete relationship and the environment of which they are a part. It would, of course, be a mistake to draw such a conclusion. Even if the players did not differ in their relationship to their coach, this could indicate that they were given a proper environment to develop as footballers. Since the non-professional players appeared to be considered more talented because of their playing time and their feelings of success compared to the professional players, one could expect these players to become professionals. The higher ambitions of the professional players could indicate that they were willing to give more to become professional players, and perhaps here lies the puzzle. We obviously need more research evidence to be able to test that hypothesis and to find potential indicators to identify youth-level players.

In essence, this study only provides a snapshot of the players' characteristics, their coach relationship, and the environment they have been a part of. Talent development process must be seen as a long-term process, which is highlighted by this study, showing that the players need to be in an environment emphasizing development, to be able to achieve their potential goal of becoming a professional football player. This study cannot make any assertions about the characteristics of either the players or their coach relationship during the eight-year period. It can only indicate that there could be a relationship between the players' characteristics and their coach-athlete relationship, and them becoming professional or non-professional players. However, the results do indicate that the players assumed to be the most talented according to playing time and the players own assessment of their own success were not the players most likely to end up as professional players. The two common characteristics of the players who became professional was their higher amount of organized training and their higher ambitions. Further studies need to be carried out to confirm these findings.

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