Abstract: A comparative study of South African and English adolescent elite rugby players with reference to game-specific, anthropometric and physical and motor variables

According to Jenkins (1992:40) a variety of anthropometric, physical and motor variables exist in players which determine specific differences and similarities among players. These differences and similarities are determined in order to develop more accurate and scientific methods of physical conditioning and to make these available for the implementation of scientific conditioning programmes, as well to determine which components are important for certain playing positions. Thus, according to Jenkins (1992:40), it can be determined on which aspects sport scientists and coaches should concentrate. Because there is a need for an organised talent identification and development programme, research in this regard has to be carried out with a view to the future development of South African sport (Headley, 1992). The focus should be on South African schools in particular, because this is the breeding ground for elite sportsmen and -women.

The research question that this study attempted to answer was how talented 18-year old South African rugby players compare with a similar group from England. Rugby development in England currently enjoys great international interest and developing rugby-playing countries are taking thorough cognisance of their achievements, particularly as England was crowned as the 2003 World Cup winners. This research therefore is in line with a new tendency, namely research on the international level in order to make a contribution to the compiling of an international profile of talented players, which will be of great value to the school coach as far as the identification of talented 18-year old rugby players is concerned. Although elite players of different countries may vary in respect of the norm scales, the different profiles of achievement components will make an important contribution to talent identification and development.

The aim of the study was to draw a comparison between the anthropometric, game-specific and physical and motor variables of South African and English adolescent elite rugby players. A further objective of the study was to investigate the relationship between date of birth and the characteristics of talented sportsmen. This was done by evaluating the above variables in order to determine how the variables differ in the various groups. The first group consisted of the first rugby team of the Ivybridge Sport School in the south-west of England (N=22), which was tested during the 2002 rugby season. The other two groups consisted of South African teams, namely the Craven Week under 18 rugby team of the Blue Bulls (N=18), which was tested in 2002 rugby season, and the Craven Week under 18 rugby team of the Leopards (N=22), which was tested in the 2003 rugby season.

The anthropometric variables that were used were body mass, body length, triceps, sub-scapular, mid-axilla, supraspinal, pectoral, abdominal, thigh and calf skinfolds, and
the forearm, ankle and calf circumferences. The game-specific skills were ground skills, side-steps, aerial and ground kicks, passing for distance, passing for accuracy over 4 m and 7 m, and kicking and kick-off for distance. The respective physical and motor characteristics were the adapted sit-and-reach, vertical jump, zig-zag running for agility, speed and grip strength. Basic descriptive statistical analyses (x, S, Minimum values, Maximum values) as well as d values (Cohen, 1988) were carried out by means of the SAS computer program package of the North-West University, Potchefstroom Campus (SAS Institute Inc., 1991). The results indicated that only a few differences occurred as far as the anthropometric variables among the three groups were concerned, which did not really give any of the groups a typifying morphological exception of the few differences mentioned above, the three trial groups basically looked the same.

Differences existed between the game-specific skills characteristic of South African and English adolescent elite rugby players. The English players’ performance in respect of kicking distance and kick-off distance was poor compared to that of the South African players. Differences also existed between the physical and motor characteristics of South African and English adolescent elite rugby players. In this respect too the English players’ performances were poor compared to those of the South African players, something that could probably be attributed to a lack of physical exposure to the game and a lack of conditioning.

A correlation was also found between achievement and date of birth among South African adolescent elite rugby players. The data indicated a strong correlation between achievement and date of birth. However, more research is necessary before definite conclusions can be drawn. It is necessary to promote the effectiveness of game-specific preparation and development, and therefore it is recommended that the influence and effect of such programmes on the anthropometric variables, game-specific skill characteristics and physical and motor characteristics of adolescent elite rugby players in particular be investigated. It is also recommended that further research be undertaken in order to do research on the international level, thereby making a contribution to the compilation of an international profile of talented players, which will be of great value to the school coach as far as the identification of talented 18-year old rugby players is concerned.

Although the norm scales of elite players of different countries may vary, the different profiles of performance components will make a great contribution to talent identification and development.