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Sport Talent Identification and Development in Nigeria: A Preliminary Investigation

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Abstract

Sport talent identification and development has become an interesting area of sport science research and the need to explore the basic fundamentals of this process necessitated the need for this preliminary investigation in Nigeria with the view to develop an ideal sport talent identification and development model that could be used for future recruitment and selection of young potential athletes. Data was collected from 50 participants using a self-report instrument based on the talent identification and development characteristics and indicators. Results indicated that the physiological characteristic with the mean value ($m = 15.26 \pm sd = 8.44$) was the most apparent considered variable used by the participants during the talent identification and development process when compared with other variables of motor skill, psychology, physiology and body morphology. Results on the indicators of sport talent identification and development revealed that majority of the participants, 27(54.0%) of coaches place emphases more on both the performance of basic motor skills and the combination of the anthropometrical, physical and physiological profiles of the young talented athletes during the talent identification and

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development process. Conclusively, this baseline information has given us insight to the future direction of this research which is the examination of these talent identification characteristics and basic indicators using descriptive, field and laboratory measures with an enlarged sample that will include sport scientists. This will enable us to analytically dissolve the potentials of the young athletes into a series of measurable and non-measurable components.

Keywords: sport, talent, identification, development, characteristics, indicators.

Introduction

The identification and development of talents in sport is a combination of factors which notably depends on genetics, environment, opportunity, and motivation as well as the effect of these identified variables on the psychological, physical and physiological traits of the young individual. Over the years, the identification and development of talents have been of major interest in sport science research (Vaeyens et al. 2008; Spamer 2009; Vaeyens et al. 2009; MacDonald 2009; Cote 1999; Baun et al. 1996; Borms, 1994; Bompa, 1985).

Talent identification and development programmes in sport are design to identify young individuals with extraordinary potentials for future success in higher level sport participation, as well as to select and recruit these young individuals into talent promotion programmes. The purpose of these talent identification and development programmes according to Vaeyens et al. (2009) is to increase athletes potentials by means of a variety of measures designed to accelerate talent development. The measures includes among others high profile coaching, scientific and medical interventions, high level training and competitions, counselling and good social support as well as effective time management.

Talent identification and development procedures have traditionally been categorised into natural and scientific selection methods (Bompa 1999; 1994). The focus of the natural setting is on the young individual who is already into sport. The involvement of the young individuals in sport is as a result of the opportunity sets (such as influence of parents, peers, siblings and proximity of facilities), these will naturally make identification of talents easily possible. The scientific approach is a process of measurement and evaluation procedure using a set of criteria to identify the physical, psychological and physiological traits possess by a would be young athlete. This is normally referred to as talent detection. The advantage of the scientific approach according to Williams and Reilly (2000) is the objectivity that it provides and the facilitation of the application of scientific training for the development of the athletes. This process will further motivate the sport scientists who were involved in the identification and detection process to

continue to apply scientific training techniques on the athletes.

A clear cut theoretical framework to really describe the concept of talent is lacking because of its extreme complex nature. A key premise for this lack of consensus according to Vaeyens (2008) is the perennial debate regarding the relative contribution of nature and nurture in the development of talent. However, it is noteworthy to discuss two models which to a very large extent are appropriate for this study. The first is the Bloom's (1985) talent development which is holistic in nature with its approach. This model consist of three stages which are initiation, development and perfection. This model interestingly was developed through structured interview with elite olympic swimmers and tennis players as well as non-sport participants such as mathematicians, pianists and surgeons. It incorporates transitions, and characterises the stages of development by the completion of certain tasks, the development of relationships or attitudes and the achievement of learning and not by chronological age. A major aspect of Blooms model is its relation to its subject pool. This is based on the performers learning experiences of development which is multidisciplinary, for example science, medicine, arts and sport. A major support for Bloom's model was provided by Scanlan, Ravizza and Stein (1989) in their study on elite skaters in which the progressions highlighted in Bloom's three-stage model utilised. Also, this model being based on the experiences of the performers in the development stage to the elite stage provides an ideal data which describes the cognitive, behavioural and social factors which are significant and pertinent to the elite athlete development (Hellstedt, 1995).

The second model is the Differential Model of Giftedness and Talent (DMGT). This model present a very constructive conceptual framework which has been accepted in the sport science domain (Tranckle & Cushion, 2006; Van Rossum & Gagne, 2005). This model proposes a four broad domain of natural abilities which are intellectual, creative, socio-affective as well as sensorimotor. The model suggest that sport talent is multidimensional in nature and that individuals should have consistent elements from domains other than sensorimotor abilities such as leadership or problem solving gifts (Vaeyens et al. 2008).

According to this model, the crucial aptitudes in sports are seen to be physically predominant in nature. This aptitude which are partly genetic can be observed more directly during childhood because the environmental inputs and the systematic learning may have limited moderating influence. Meanwhile, these gifts according to Van Rossum and Gagne (2005) may still manifest at a later stage and can be measured by the ease and pace with which individuals acquire new sport skills. This model is a framework that merits future research. According to Vaeyens et al. (2008) it recognised the potential influence of nature and nurture and takes into account the dynamic and multidimensional features of sport. This model provides a beautiful distinction between potential and accomplishment. The model further acknowledges that physical maturity and past experiences can influence performance in sport and encourages coaches and

other sport scientists to focus more on the individual's capacity to learn sport skills.

Talent identification, detection and development process often consist of measurement and evaluation of physical, physiological, psychological and sociological parameters of individuals for different sports (Gabbett et al. 2007; Gabbett & Georgieff, 2005; Brown, 2001; Duran-Bush & Salmela, 2001). The examination of potential anthropometrical and physiological variables for talent search in sport are wide ranging from single consideration of age, height, weight to a more extensive studies containing many anthropometric measures, somatotyping, tissue analysis and psychological parameters (Wolstencroft, 2002).

Many researchers have always not arrived at a consensus as to which of these talent identification and development parameters is more important (Andersen et al. 2000; Taubas, 2000). However, it is very important to note that if all these talent identification parameters are measured and evaluated appropriately, it could provide the necessary information needed by the sport scientists and coaches to develop the natural abilities of the would be young athlete.

The rapidly changing environment has necessitated the need for many countries to develop an ideal sport talent identification and development models that will produce athletes for sport competitions. Opportunity sets and expertise to develop these models are not in place in many developing countries. Nigeria as a case study with about 150 million population have been finding it difficult to excel in many top flight international competitions such as the Olympic games and commonwealth games despite being rich in human and natural resources that could make them excel if there is a clear-cut sport talent identification and development models in place for sport talents.

As part of a large project to get a base line data for the development of a model for sport talent identification and development in Nigeria and later extended to countries such as Ghana, South Africa, United States of America and Britain for the purpose of comparison, this study examines talent identification and development in sport in Nigeria with the view to understand the parameters use in talent identification and development process in Nigeria.

Methods

Participants

Fifty participants were purposively selected for this study. They were selected based on their involvement in talent identification and development programmes. 88% of the participants are males, while 12% are females. Their mean age was ($m=39.02 \pm sd6.22$). These participants are all coaches and their various sport involvement is shown in Table 1.

Table 1. Sports involvement of participants where talents have been identified and developed

| Sports | Frequency | Percentage% |
|--------------|-----------|-------------|
| Basketball | 6 | 12.0 |
| Handball | 7 | 14.0 |
| Volleyball | 4 | 8.0 |
| Football | 8 | 16.0 |
| Athletes | 7 | 14.0 |
| Karate | 1 | 2.0 |
| Tackwando | 1 | 2.0 |
| Boxing | 2 | 4.0 |
| Wrestling | 1 | 2.0 |
| Gymnastics | 2 | 4.0 |
| Hockey | 2 | 4.0 |
| Swimming | 3 | 6.0 |
| Tennis | 4 | 8.0 |
| Table Tennis | 2 | 4.0 |
| | 50 | 100% |

Measure

A self-report instrument which is open and closed ended in nature was used to gather information from the coaches in this study. The first part of the instrument was on the participants' demographic characteristics. The second part was on their sport involvement and the number of years they have been involved in sport talent identification. The third part of the instrument was on the characteristics of talent identification which are motor skills, body morphology, physiology and psychology. This part of the instrument was closed-ended as participants rated these characteristics on a rating scale of high, average and low. The last part of the instrument was based on the indicators of talent identification process which include the performance on basic skills and the anthropometrical, physical and physiological profiles of the individual athletes. The development of the content of this instrument was based on literatures which focused on the measurement and evaluation of early detection and development of talented young athletes (see Fisher & Borm, 1990; Regnier et al, 1993; Katartzi et al, 2005; Papadopoulous et al, 2006). In order to improve the quality of the instrument we gave out the instrument to colleagues who are experts in this field of study to check for any ambiguity in the content of the instrument. Their suggestions where incorporated into this instrument before it was administered.

Procedure and Data Analysis

The participants were contacted through telephone, e-mails and personal visits to their

various locations, by the researchers and their assistants. The instrument had an attached information which explains the purpose of the study as well as the explanation of the content of the instrument. Some of the instrument were sent to the participants by e-mail and some were administered personally by the researchers and their assistants. The administration of the instrument was done after the participants had given their consent to participate in the study. Descriptive statistics of percentage mean and standards deviation were utilised in this study.

Results

Due to the purposive nature of the sample used for this study all the participants' response to the question whether they have been part of talent identification process was positive as shown in Table 2.

Table 2. Have you been involved in talent identification exercise?

| Response | Frequency | Percentage |
|----------|-----------|------------|
| Yes | 50 | 100% |
| No | - | - |

This question was asked because of the fact that some of the participants may just have been recently employed or deployed to the talent identification units of their various sport councils and it could be possible that as at the time of the conduct this study, their sport councils may not have embark on talent identification exercise.

Table 3. How long have you been involved with talent identification exercise?

| Response | Frequency | Percentage |
|-------------------|-----------|------------|
| 0-2 years | 8 | 16 |
| 3-4 years | 11 | 22 |
| 5-8 years | 23 | 46 |
| 9 years and above | 8 | 16 |
| | 50 | 100% |

On the period of the coaches involvement in the talent identification and development exercise, 16% of the participants have participated in the exercise within the period of 0-2 years, 22% have participated in the period of 3-4 years, 46% of the coaches have participated in the period 5-8 years, and the remaining 16% have participated in the period of 9 years and above.

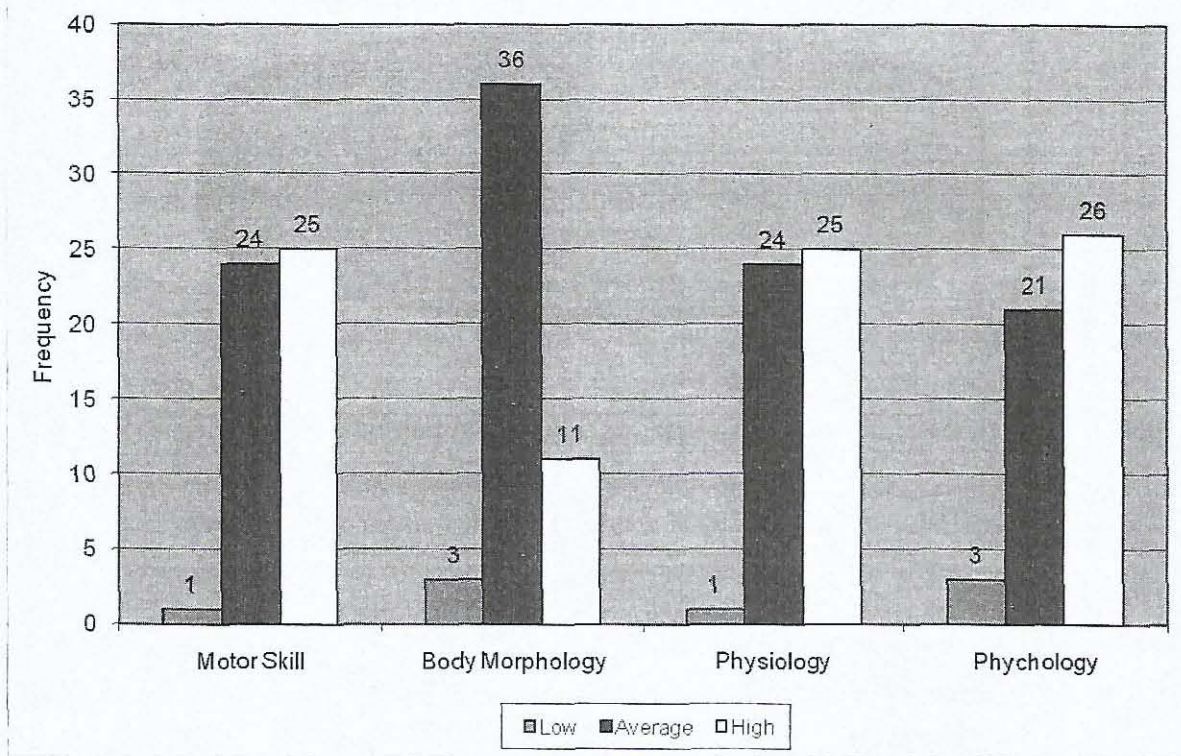


Fig 1. Multiple bar chart showing the distribution of the Talent characteristics of the athletes

The multiple bar chart in Fig 1 shows the coaches ratings on the talent identification and development characteristics of motor skills, body morphology, physiology and psychology. These results indicate how they rate each characteristic in the course of their involvement in the talent identification and development programmes. Motor skill was rated low by 1(2.0%) participant, 24(48.0%) of the participants gave average in their ratings, while 25(50.0%) of the participants rated motor skill as a high talent identification and development characteristic in the course of their measurement and evaluation of young talented athlete. On body morphology, 3(6.0%) of the participants rated the talent identification and development characteristics low, 36(72.0%) of the participants gave an average rating for this characteristic, while 11(22.0%) of the participants gave a high rating for body morphology. The body physiology characteristic was rated low by just 1(2.0%), 24(48.0%) of the participants rated the characteristic averagely, while 25(50.0%) of the participants gave a high rating to the young talent athlete body physiology. Further results also shows that 3(6.0%) of the participants rated psychology low in the course of measurement and evaluation of this characteristic during the talent identification and development process, 21(42.0%) gave average in their rating of the characteristic, while 26(52.0%) of the participants rated the psychological characteristic high.

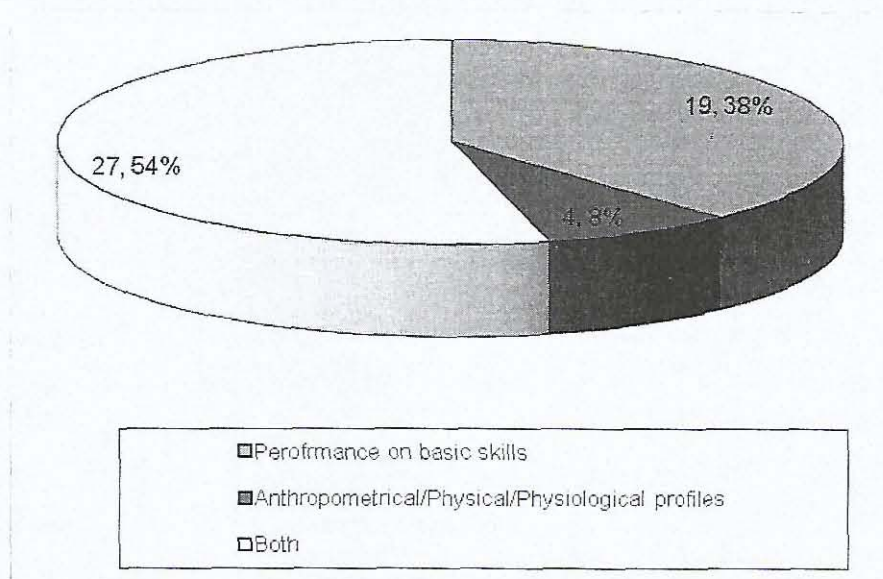


Fig 2. Pie chart showing the Indicators used in Talent Identification Process

Fig 2, revealed the indicators use by the coaches during the talent identification and development process. These indicators are areas where the coaches also place emphases on. The result indicate that 19(38.0%) of the coaches place emphasis more on the young talent athlete’s performance on basic motor skills, 4(8.0%) of the coaches prefers the combination of the anthropometrical, physical and physiological profiles of the young talent athletes, while 27(54.0%) of coaches place emphases more on both the performance of basic motor skills and the combination of the anthropometrical, physical and physiological profiles of the young talented athletes.

Table 4. Mean and Standard Deviation values for the talent identification and development characteristics

| Characteristics | Mean | Standard Deviation |
|-----------------|-------|--------------------|
| Motor skill | 13.01 | 7.66 |
| Physiology | 15.26 | 8.44 |
| Morphology | 14.22 | 8.02 |
| Psychology | 12.88 | 7.15 |

Table 4 shows the mean and standard deviation values for the talent identification and development characteristics. When these mean values are compared, the physiological characteristic is the most apparent and the indication of this is that the physiological components of the young talented athletes must be in the proper state of function. Once the young athletes’ body

physiology is fine, other characteristics will also fall into proper shape for proper growth and development of the athletes.

Discussion

The focus of this study was the examination of the parameters used in the talent identification and development process in Nigeria with the view to have an empirical basis for comparison with countries whose sport talent identification and development models are seen to produce meaningful results. The outcome of this process in the long run is aimed at proposing an ideal talent identification and development sport model for the country.

Both the natural and scientific selection methods have always been used for sport talent identification purposes. This is why the coaches need to be learned and experienced on these methods to be able to understand and identify the talent characteristics as soon as they are detected in these young individuals. The ratings given to the sport talent identification and development characteristics of motor skills, body morphology, physiology and psychology by the coaches are more of both average and high when compared with the low rating as indicated on figure 1. The ratings are even more on the high side. This shows the importance given to the physiological, psychological, motor skill and somatotype characteristics as predictors of sport talents. Researchers are concerned with the importance of these potentials, and at the very least the collection of these talent parameters as measures particularly from early childhood through the stages of adolescence by coaches and sport scientists would give the insights on how these talent identification characteristics would impact on the growth and development of the young athletes (Reigner et al, 1993). The use of performance of basic skills and anthropometrical, physical and physiological profiles were both acknowledged as potential indicators in the talent identification process as shown in Fig 2. It has been acknowledged that anthropometric values are innate unlike physical measures, the inclusion within the talent identification models is also problematic (Ackland & Bloomfield, 1996). However, earlier research into the anthropometrical and physical profiles of athletes have found that the determinants of success vary at different age groups (Regnier & Salmela, 1987; Jancarik & Samela, 1987), and also differs between the males and females (Malina & Bouchard, 1991). The outcome of talent identification programmes at relatively young age according to Malina (2009) is due to an early specialisation in sport and regardless of the process used to identify the young players, they will not be nurtured appropriately without a sound, developmentally appropriate programme of training and support.

Conclusion

Contemporary sports according to Trninic et al (2008) impose greater requirement on athletes potentials, sport selection and sports preparation, and these are general conclusion of many scientific research studies and expert knowledge and experience of top level coaches. The future direction of this research is the examination of these talent identification characteristics and basic indicators using descriptive, field and laboratory measures with an enlarged sample that will include sport scientists. This will enable us to analytically dissolve the potentials of the young athletes into a series of measurable and non-measurable components. The end product is talent identification and development sport model which can be used to develop comprehensive sport talent identification and development data base that may help predict future sport performance of athletes in Nigeria.

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