UNIVERSITY OF CAPE COAST

SPORTS TALENT IDENTIFICATION AND DEVELOPMENT AT SENIOR

HIGH SCHOOL LEVEL IN UPPER EAST REGION, GHANA

CHRISTOPHER AKUBAH

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BY

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Thesis submitted to the Department of Health, Physical Education and

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DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

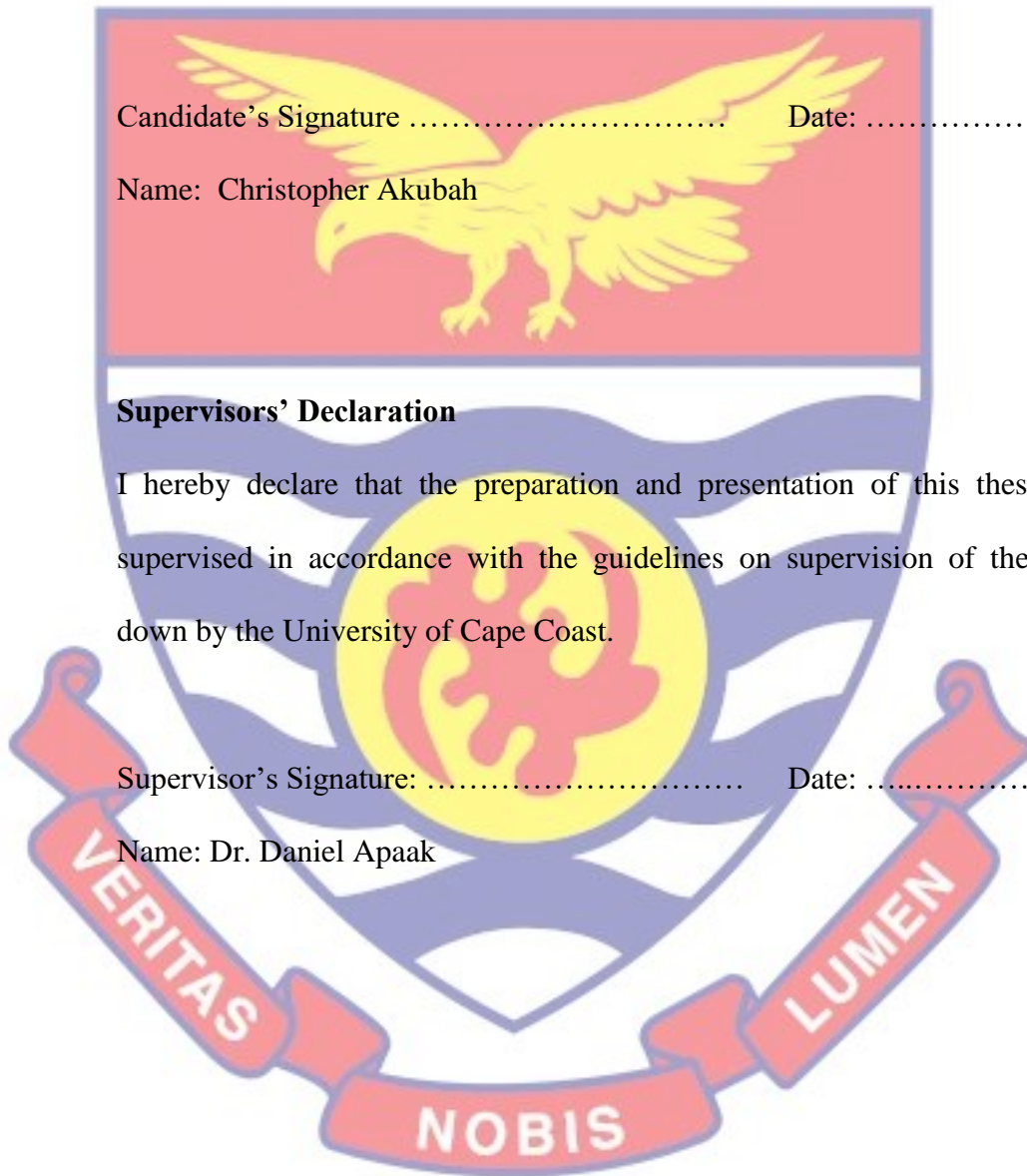Candidate's Signature …………………………   Date: ……………….…

Name: Christopher Akubah

Supervisors' Declaration

I hereby declare that the preparation and presentation of this thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

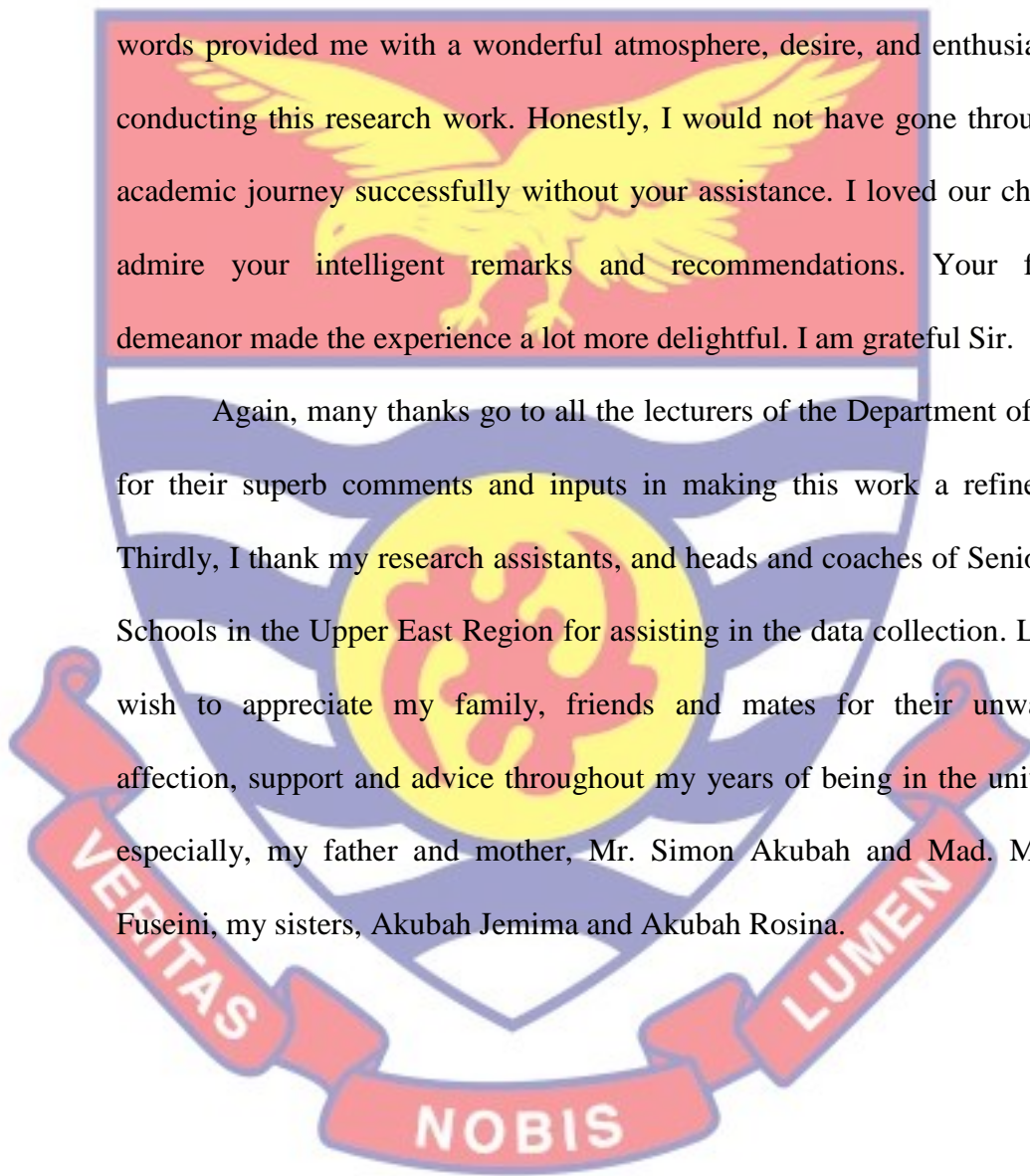Supervisor's Signature: ………………………   Date: …..…………….…

Name: Dr. Daniel Apaak

ABSTRACT

The purpose of this study was to examine modes of sports talent identification, challenges faced in sports talent identification and factors that predict sports talent identification and development in Senior High Schools in Upper East Region of Ghana. A census sampling technique was used to include all 203 participants (180 male and 23 female sports coaches) in Senior High Schools in the Upper East Region. In gathering data for the investigation, questionnaires were used and the data were analysed using frequencies, percentages and multiple regression. Findings from the study indicated that the common mode of identifying talented student-athletes was through observation by coaches (90.6%). Also, limited financial resource (82.3%), judging coaches' competence by their teams' performance in competitions (73.9%) and early talent identification (69%) were identified as major challenges in sports talent identification. Again, technical skills (β= .153, t=2.254, p|<.05) and tactical skills (β= -.276, t=-3.851, p<.05) were found to be significant in predicting sports talent identification while adequate sports equipment and facilities (β= .300, t= 4.425, p < .05), expert coaching (β= .271, t=4.224, p< .05), regular training (β= .260, t=3.848, p<.05), and family support (β= .151, t=2.318, p< .05) were significant in predicting sport talent development. Therefore, it was recommended that coaches should include scientific methods in identifying sports talents. Also, Senior High Schools should place emphasis on sports talent identification and development rather than on winning sports competitions. Lastly, talented student-athletes should be provided with adequate sports facilities, family support, regular training and expert coaching to help them develop their talents.

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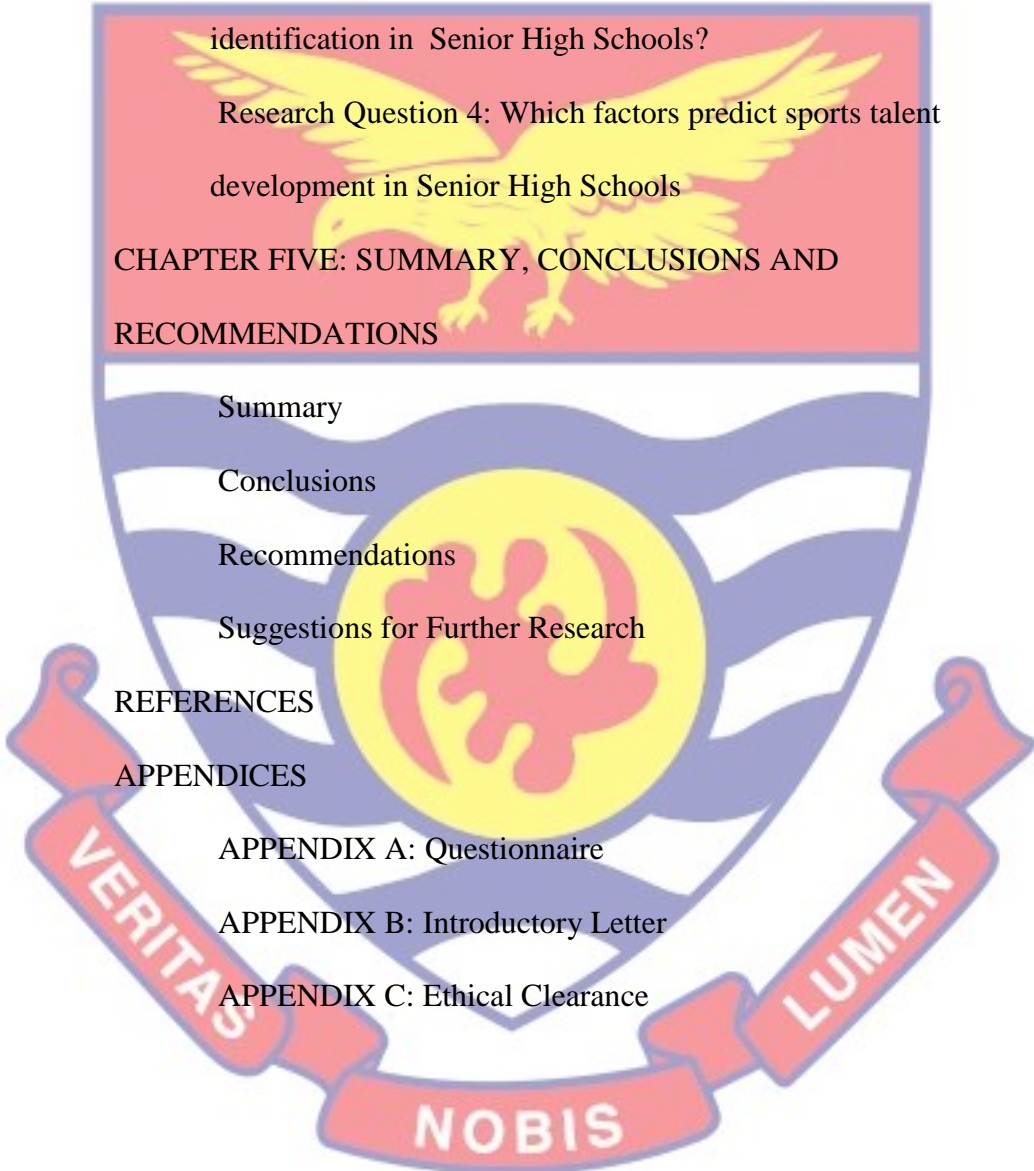
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DEDICATION

To my mother: Mad. Memuna Fuseini

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CHAPTER ONE

INTRODUCTION

Background to the Study

As future leaders and innovators, talented students are valuable natural resources to any country (Winner, 2000). Identifying and developing people's potential particularly in sports has grown tremendously. Talent is an exceptional ability, a capacity for fulfillment (Brown, 2001). Sports consist of all competitive physical activity which, through organized participation, maintains or improves physical ability and skills while providing entertainment to spectators (Council for European Sports Charter, 2001). Regnier, Salmela, and Russel (1993) asserted that the act of identifying current participants who have the potential of becoming exceptional athletes is known as sports talent identification. Sports talent identification should be accompanied by talent development to steer promising performers toward peak performance (Gulbin, 2001). Sports talent development is the availability of appropriate mastering atmosphere for athletes so that expertise will be achieved (Williams & Reilly, 2000).

Over the years, diverse methods of identifying talents for various sports have been presented. These models were created to uncover the supposed underlying mechanisms of potential and to give a method for identifying such characteristics in a group of promising sports performers. Bompa's (1999) model identifies two prominent way of how promising sports performers (i.e., athletes) are noticed in sports. These are; (a) natural selection, and (b) scientific selection. In "natural selection", the potential of the individual to excel in a particular sport is expected to manifest when

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participating. Individuals may participate in that particular sport as a result of parental interest, the closeness of amenities, or the prominence of the sport in that particular geographical location. The "scientific selection" procedures may be thought of as a proactive system because of the way in which talented athletes are identified. In this method, individuals are tested on standards that can be connected with information in a particular discipline in sport. For instance, in soccer or badminton, measuring physical, physiological, and mental aspects that influence total performance.

Harre's model is founded on the idea that acquiring knowledge and practicing are the only factors that can decide whether or not a newborn has the necessary characteristics to flourish (as cited in Du Randt et al., 1992). Harre emphasized a close linkage among identifying and improving talent and that talent is constantly re-identified as sport grows. In this light, Harre highlighted the significance of placing several promising performers through training regimes or sessions. Beyond the schooling setting, Harre further proposed that talent could be a result of appropriate or suitable encouragement from dad, mom, and close friends. This acknowledgment of significant others' function in converting promising sporting competence to expertise is in line with Bloom' (1985) work which was carried out across diverse domains. Subsequent to identifying the function of practice and environmental characteristics of the growing athlete, Harre identified particular principles for identifying talents:

a. Identifying talent ought to be performed in two steps. Firstly, all youngsters demonstrating high all-round athletic prowess are

recognized. In the subsequent phase, these people are categorized according to talents identified with specific sporting discipline.

b. Identifying talent ought to rely on criteria that are both crucial to optimal performance or productivity and heavily controlled by genetics.

c. The features and talents of every person ought to be assessed to their stage of genetic makeup.

d. Identifying talent should contain certain emotional and behavioral elements that assist an athlete to flourish.

Bloom (1985) indicated that to obtain intense ranges of functionality in their particular professions, people had to undertake extensive ways of motivation, emotional support, and training. Bloom noticed that developing talent involves years of dedication to learning and that the quantity and eminence of assistance and instruction obtained from parents, classroom instructors, or coaching staff in this phase is crucial. Bloom ingeniously established three phases of identifying talent as follows; "stage of initiation", "the middle stage of development", and "late stage of perfection". In Bloom's perspective, these phases give guidance for gifted persons who experience the talent development process together with instructors and strategists who lead them through that journey. Bloom emphasized that classroom instructors or coaches at the late stage of perfection should be more technically skilled than those within the middle or intermediate phase of growth. Coaches ought to stress on advancement of good techniques, create opportunity for performance assessment and anticipate outcomes via self-control and hard work principles.

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In other words, competitors become accomplishment-oriented and competition turn out to be the standard for gauging development.

Globally, talent identification and development might be different from one country to another. In countries such as Germany and Australia, talent identification is generally based on "scientific selection" (Krasilshikov, 2011). It is often connected to testing and measuring motor capabilities. Meanwhile, talent identification and development in China was specific and based on natural selection (Singh, 2007). In South Africa, there exists a problem with the small portion of the talent that grows to its capacity, because there is no well-defined sports talent identification system (Lambert, 2002). Sports development plans in Nigeria are hampered by political and economic challenges. As a result, little or none is executed in relation to constructing recreational facilities, paying athletes' improvement initiatives, and assisting in sporting activities improvement and scientific investigation (Ajiduah, 2001). Relevant review of literature did not identify any work done on sports talent identification and development in Senior High Schools in the Ghanaian context.

Statement of the Problem

Although there exists sports programmes in Senior High Schools in Upper East Region, the concern is whether there are certain institutionalized programmes that help in identifying and developing sports talents which facilitate in developing student-athletes to the top of their sporting career. A careful appraisal of literature shows that many countries employ either the natural selection or scientific selection method to identify sports talent

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(Bompa, 1999), while systems of identifying and developing sports talents in other countries are not properly delineated (Lambert, 2002).

Empirical studies in Europe, North America and Australia predominantly provide the basis for current literature on identifying and developing sports talent (Krasilshchikov, 2011). This is particularly essential to note, considering that there is significant proof to demonstrate that sports talent identification and development is cultural and context-specific (Bloom, 1985). It relies on the country's culture, the intricacy of the sport, as well as the sport facilities or infrastructure available. A relevant review of literature did not identify any work done on sports talent identification and development in the Ghanaian setting, this leaves a knowledge gap worth filling, hence the need to conduct the study.

Purpose of the Study

The purpose of this study was to examine sports talent identification and development in Senior High Schools in Upper East Region of Ghana.

Research Objectives

The following were the objectives of the study:

1. To examine modes of identifying sports talents in Senior High Schools in Upper East Region.

2. To identify the challenges faced in identifying sports talents in Senior High Schools in the Upper East Region.

3. To identify factors that predict sports talent identification in Senior High Schools in Upper East Region.

4. To examine factors that predict sports talent development in Senior High Schools in Upper East Region.

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Research Questions

These questions guided the study:

1. How are sports talents identified in Senior High Schools in Upper East Region?

2. What are the challenges faced in identifying sports talents in Senior High Schools in Upper East Region?

3. Which factors predict sports talent identification in Senior High Schools in Upper East Region?

4. Which factors predict sports talent development in Senior High Schools in Upper East Region?

Significance of the Study

Primarily, the results of this study will assist Physical Educators and Coaches in the Upper East Region to establish pathways that can be used in identifying and developing sports talent of Senior High School students in the region. Furthermore, this research will contribute to enhancing the body of knowledge in the area of sports talent identification and development in Senior High Schools. Also, this research will be used as a reference material in the area of study.

Delimitation of the Study

This research was delimited to Senior High Schools in Upper East Region and focused on only identifying and developing sports talents of student-athletes. Also, only sports coaches in these Senior High Schools were selected to participate in this study.

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Limitations

The limited sample size was a constraint to the conclusions of the research. With a greater sample size, a relatively more dependable finding would have been obtained hence enhancing the capacity to extrapolate the finding across Ghanaian Senior High Schools.

Definition of Terms

Coach- an individual who has the expertise to train an athlete to reach top performance or/and Physical Education teachers in Senior High Schools.

Sports Talent- refers to an exceptional ability to shine or accomplish in a certain sporting discipline.

Sport Talent Identification - refers to recognizing the exceptional ability of an individual to outperform his or her peers in a particular discipline in sports.

Sports Talent Development-is the process of growing an exceptional ability into expert performance in sports.

Organization of the Study

This research was arranged in five interrelated chapters. The first chapter is concerned with the introduction, background of the study, statement of the problem, purpose of the study, research questions, significance of the study, delimitation, limitation, and organization of the study. The second chapter comprises the comprehensive appraisal of literature related to the investigation, whereas chapter three includes research design, study area, population, sampling technique, data collection instrument, data collection procedures, and data processing, and analysis. Chapter four focuses on results and discussion, while the fifth chapter comprises summary, conclusion, and recommendations.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

The purpose of this study was to examine sports talent identification and development in Senior High Schools in Upper East Region of Ghana. For this rationale, textbooks, scientific papers, journals, periodicals, newspaper articles, and basic research bulletins were explored and the literature reviewed under the following topics:

1. Talent Identification and Development Theories

2. Conceptual Base of the Study

3. Models of Sport Talent Identification and Development

4. Talent Identification and Development from Selected Countries

5. Talent Identification in Sports

6. Talent Identification Factors in Sports

7. Talent Development in Sports

8. Motivational Environment for Sport Talent Development

9. Role of Practice in Sports Talent Development

10. Role of Coaches in Sports Talent Development

11. Facilities and Equipment for Sports Talent Development

12. Role of the Family in Sports Talent Development

13. Role of Genes in Sports Talent Development

14. Issues in Identifying and Developing Talent in Sports

Theoretical Framework of the Study

Some theories that focus on identifying and developing sports talents are reviewed to assist in getting rich understanding on the methods of identifying talent, challenges facing talent identification and factors influencing talent identification and development. According to Salmela and Regnier (1983), these theories often describe talent identification as a mechanism relying on the separation and assessment of fundamental performance variables.

Bloom's staged theory of sports talent development

Talent development of 120 individuals which included artists, academicians, tennis players, and swimmers were investigated by Bloom in 1985. From his findings a conclusion was reached that high performers move through distinct phases of growth. Bloom identified three different phases of talent development to obtain elite performance. At the initial stage, parents play a very important role since they provide social, emotional and economic support as well as function as positive examples for discipline (Hedsstorm & Gould, 2004). Bloom asserted that at this most basic stage, parents and guardians should offer financial assistance and time as and when it is needed to aid the sports talent development of their wards. Since this stage begins at the onset of development, it is characterized with the aid of discovering or exploring the activity, having passion for the activity, getting others' inspirations, having fun and achieving success (Gould & Carson, 2004). At this stage, coaches do not teach techniques and tactics but cheers and encourages the athletes on successful performances.

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The second phase is precision. Bloom (1985) stated that individuals at this stage realize that they are now badminton players, not children who play badminton, no longer children who play football but footballers hence their levels of commitment and practice time increase while competition is used to measure progress. Here emphasis is laid on skills acquisition and mastery therefore coaches function as significant role players by making sure the right technique is taught, practiced and mastered (Gould & Carson, 2004).

The final phase where the activity is significant in the individual's life is perfection thus other pursuits are abandoned for the primary activity's sake. To perfect the technique learned, the athlete must deliberately practice regularly and this is done under high-level coaching whereas the parents' role reduces (Bloom, 1985). The athletes become fully aware that higher standards of performance are demanded from them.

Bompa's theory of sports talent identification

Bompa (1999) expounded that identifying talent thoroughly is not done in a single effort, but is performed across many years in different ways. He asserted that "natural selection" and "scientific selection" are currently predominant ways of identifying sports talents. According to Bompa, while the ability of coaches cannot be underestimated, the natural selection method is very subjective in nature and the probability of noticing children who have the potential of becoming accomplished adult performers is very low while "scientific selection" process may be thought of as a more forward-looking procedure because it involves assessing individuals on attributes related with their expertise within a certain sport.

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Conceptual Base of the Study

Based on these theories, natural and scientific selection were drawn as methods of sports talent identification and factors such as sufficient and top-notch infrastructure or amenities, competent trainers with the technical know-how and knowledge, regular training, adequate chances to engage in competitive events and support from family and friends as the favorable talent identification and development environment which forms the conceptual base of the study. Talent identification factors and challenges were drawn from literature.
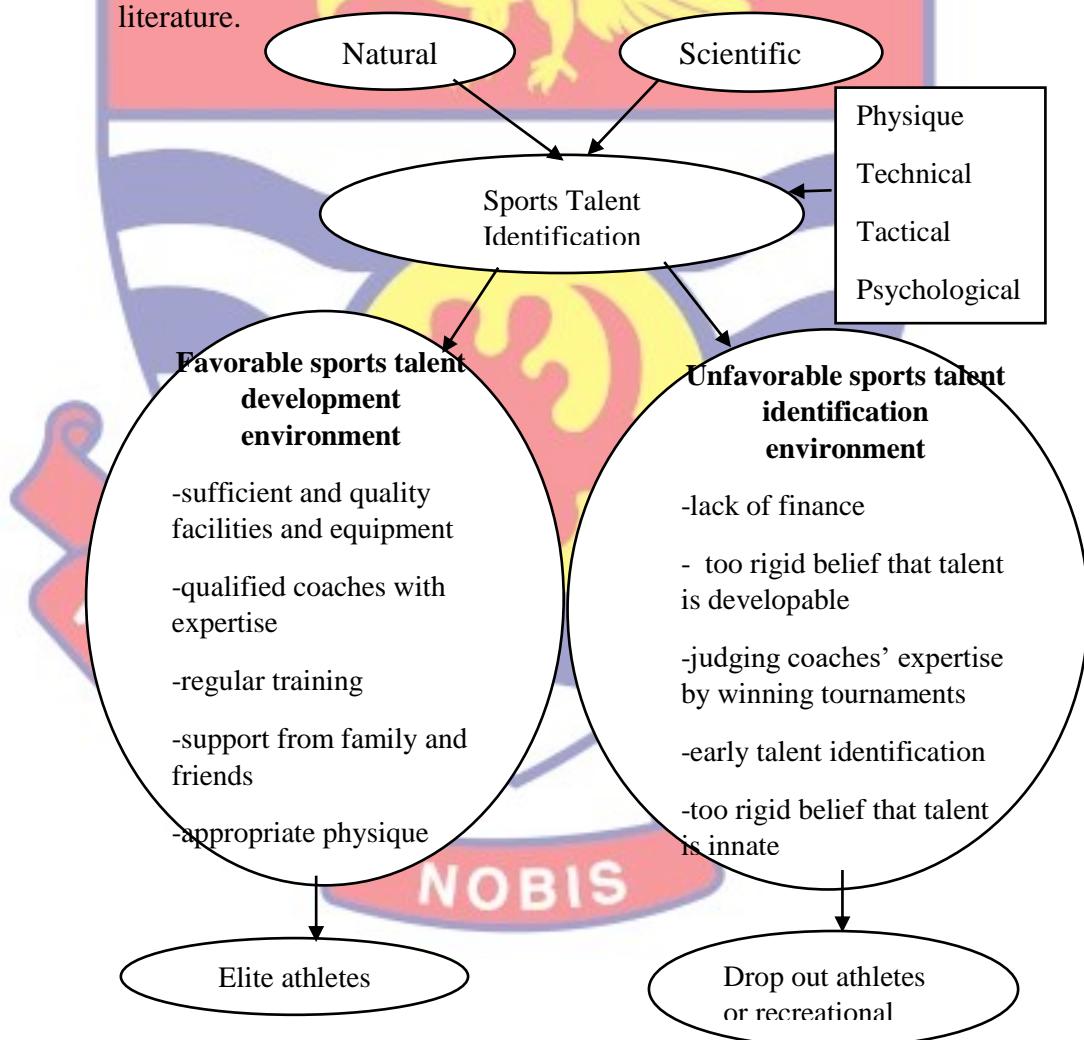
Figure 1: Conceptual Base of how sports talents are identified and developed.

Operationally, sports coaches use the natural selection or scientific selection to identify sports talents. During the sports talent identification process coaches may face challenges which may cause them to over-look the sports potential of some athletes thereby making these athletes end up as drop-out athletes or play the sport for recreational purposes only. Additionally, coaches consider the physique, technical skill level, tactical skill level and psychological abilities of athletes in recognizing sports potential. Last, student-athlete who are identified to be talented when provided with a favorable environment end up as elite athlete.

Models of Sports Talent Identification and Development

Sports talent identification and development has become more common across the world and there have been several attempts to create sports talent identification and development methods (Renshaw, Davids, Phillips, & Kerherve, 2012). Recently, the focus of such sports talent identification and development programmes have shifted away from sheer physiological and performance measures because sports talent is not easy to capture. In fact, reports has it that sports talent identification and development programmes are only moderately successful (Gullich, 2007). Despite considerable studies indicating early sports identification inadequacies (Vaeyens et al., 2009), it still remains important. The 10,000 hours regulation of "deliberate practice" (Ericsson et al., 1993) which means regular training to acquire expert sports performance is broadly recognized (Coyle, 2009; Gladwell, 2008; Syed, 2010), and results in argumentation for specializing in a sporting discipline early in life.

Sports talent identification and development models are further categorized as "multi-dimensional models", "staged models", and "dynamic models". Models characterized by interplay of numerous factors are termed multi-dimensional (Abbott & Collins, 2004). Staged models, in contrast, describe individuals experiencing diverse phases of sports talent development as they advance towards peak performance (Cote, 1999). Dynamic models are of the perspective that looking for mature athlete potentials in youth is an imperfect approach, as skills do not develop linearly (Phillips, Davids, Renshaw, & Portus, 2010).

Multi-dimensional models

Identifying and developing athletic talent is influenced by a variety of factors. The differentiated model of giftedness and talent (DMGT) is the prominent model that has been developed further over the years. Gagne (1985) proposed the DMGT with the purpose of bringing about a strict differentiation between giftedness and talent because there has been a lot of inconsistency about the terms giftedness and talent. In its original form, DMGT asserted that there were four main dimensions of human capacity (i.e., socio-emotional, sensorimotor, intellectuality and creativity), but leaves the possibility to identify other domains. Giftedness was constituted by natural abilities within these domains of human abilities. These gifts transform into sports talent through an array of catalysts. Environment, personality, and motivation are the three categories of catalysts through which gifts get transformed into talents.

Gagne (1985) developed the DMGT model further to include newly identified factors because it received much attention. Domains of natural abilities (giftedness) which can be developed into skill fields (talent)

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constituted the latest version of the DMGT (Van Rossum & Gagne, 2005). Intellectual, creative, socio-affective, and sensorimotor abilities formed the natural ability domains. The developmental process is seen as formal or informal learning and practicing which can be influenced by catalysts (Van Rossum & Gagne, 2005). The identified catalysts are environmental such as parents, social environment, encounters and accidents, - intrapersonal such as physical and mental characteristics, self-management, motivation, and chance.

Stage models

Though different factors identified to affect sports talents have been taken into account by multidimensional models, the importance of these factors are not equal throughout the lifespan of athletes. Developmental pattern is acknowledged to change with age in the stages models. Youth athletes develop differently in multiple aspects, such as physiologically and psychologically, than do teenage athletes. Therefore, distinct age groups have different importance for different factors.

One prominent stage model is the model of psychological characteristics of development excellence proposed by Abbott and Collins (2004). Abbot and Collins recognized four phases in developing sports talent. The model has two parts because the researcher differentiated between sports talent identification and sports talent development.

They described three components in the part of sports talent identification: transferable elements, psycho-behavioural elements, and sports specific elements. The proportion of these elements change over time. Skills that can be transferred from one activity to another, termed transferrable elements, diminish drastically. Sports specific elements become significantly

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more important with development but make up a small proportion in the beginning. Psycho-behavioural elements slightly diminish with advancement but are of importance throughout.

All the elements are determinants of potential in the beginning of the process but are later transformed through development to determinants of performance. Developing sports talent is included in the model's second part. The phases of sports talent development are separated into two categories: "getting there", which is the first step toward greater achievement, and "remaining there", which is the second step toward continued success.

The improving section is subdivided into three stages. Children participating in different sports and engaging more in deliberate play than deliberate practice (hard, focused practice that often is not enjoyable) is the first sampling stage. Skill development focuses on fundamental skills like balance, and the family is supportive. Specializing stage is the second stage. This stage is characterized by practicing and playing deliberately. Coaching instructions are more practical and the youngster focuses on his or her future sport. Skill development is geared towards achieving sports specific competencies. Finally, putting more time into practicing deliberately, and intense competitive training is essential at the investment phase (Abbott & Collins, 2004).

Abbott and Collins (2004) asserted that athletes move into the maintenance stage when they reach peak performance at their elite stage. At this level, effectively managing the greater expectations from press, media interviews, among others, and maintaining current performance is the focus.

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Notably, the models propounded by Van Rossum and Gagne (2005) and Abbott and Collins (2004) have big differences. While Abbott and Collins (2004) do not go into detail about the different factors that affect sports talent development, Rossum and Gagne (2005) ignore the possibility of changing effects and the importance of focusing on different components of sports talent. In Abbott and Collins' paradigm, all influencing elements are grouped together and have no influence on one another.

Dynamic model

Characteristics of both multidimensional and stages models are combined in a dynamic model. Dynamic model take into account the interactions and changes that occur in many different characters over time. Simonton (1999) presented a dynamic model for identifying and developing sports talent. Unlike the DMGT, Simonton focuses his "emergenic" and "epigenetic model" more on the mathematical construct and less on the actual influencing factors. Dynamic model proposed talent is a complex system not described in nature – nurture terms and emerges from multidisciplinary, multiplicative and dynamic processes.

Basically, the model consist of two parts; the epigenetic development, and the emergenic individual differences. Simonton (1999) asserted that potential talent is comprised of multiple genetic components, hence the term emergenic. These components might be weighted unevenly and include physical, physiological, cognitive, and dispositional traits. A true zero value is assumed for all the components. Thus, all of the components must be present for the individual difference to appear, because Simonton (1999) uses a multiplicative approach. No talent at all shows up (if you multiply any term, in

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this case, value of a component with zero, the outcome is zero), if a single one trait is missing. Simonton (1999) also incorporated the dynamics of epigenetics, apart from including individual differences in his model.

Epigenetic development is the second part. Simonton (1999) argues genes can develop and be expressed independent of each other at different points in time. Hence, components that make up talent depend on various underlying variable and can slowly appear and disappear over time. For this reason, different traits at different points in time, rates, and extents are developed by people (Simonton, 1999).

Obler and Fein (1988) defined gene appearance to be influenced by neurological, environmental, physical, musculo-skeletal, mental, cultural, and social elements. Nevertheless, Phillips, Davids, Renshaw and Portus (2010) asserted that during long-term interaction of the developing athlete and favourable environmental constraints, these components emerge gradually.

Apart from these two components, Simonton (1999) argues that energy, enthusiasm, persistence, independence and ego strength might be included to generic contributors to talent. Many previous research findings on talent and genetics, and environment are taken in by the emergenic and epigenetic model. It also recognizes that emergence is influenced by a number of factors, including the social environment, and that genes arise at varied rates throughout life.

Talent Identification and Development from Selected Countries

Different approaches have been attempted in various countries in the hunt for a viable model for identifying and developing talent. Several Australian sports have recently implemented a more structured procedure for

identifying outstanding student-athletes. When Sydney was awarded the 2000 Olympic Games, the government gave more funds and support for turning student-athletes into professional athletes (Hoare, 1995 & 1998; Australian Institute of Sport, 2003). According to Haore, the first step in identifying talent was to establish the physical and physiological needs of various sports and give suggestions on the kind of student-athletes who would be most prepared for competitive events. The Talent Search initiative in Australia was divided into three phases: 1. Screening at a school 2. Testing for certain sports. 3. Developing talent. A battery of eight basic physical examinations was used to examine pupils in schools during Phase 1. The assessments were usually administered by physical education (PE) instructors, and the results were sent to state supervisors, who reviewed them to a national standard. Phase 2 was open to student-athletes who scored in the top 3% of one of the eight assessments. Some Phase 1 tests were included in Phase 2, but sport-specific laboratory tests were also included. In phase 2 testing, student-athletes who were recognized as having potential for a particular sport were asked to join a "talented student-athlete programme" run by a national sport organization. Approximately 13 percent of student-athletes who took part in Phase 2 testing were asked to join these specialist training groups. Athletes who were not chosen for a talent development programme were urged to join in school-based sports in order to further improve their abilities.

Riordan (1988) concurred that, in Eastern European nations, there is a basic pattern for identifying and developing sporting potential. Stage 1 is a fundamental degree of selection. This occurs in PE classes at school or at other sports organizations. Height and weight, as well as speed, endurance,

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functional ability, strength, and athletic testing for performance level and technique efficiency, are usually monitored at this time. Step 2 is the preliminary selection stage, which happens 14 months after Stage 1. Assessment is based on factors such as progress achieved in physical ability and sport-specific examinations, pace of physical development, biological age, psychological aptitude, and so on. It is common at this age to steer youngsters toward a certain sport or sports organization. After the preliminary selection, some children will be eliminated, but they will be given another chance a year later. Those chosen at the second assessment join the school team's training squads. Stage 3 is the last stage of the selection process, which takes roughly 3 to 4 years after Stage 1. Final selection is based on standards achieved in a given sport, rate of advancement in the sport, performance stability, results of physical capacity tests, results of event/sport specific performance capacity tests, results of psychological tests, and anthropometric measures. If a person is regarded as having talent in sports, they may be given a spot in a residential sport boarding school. Many Eastern European nations, he said, see the regulated atmosphere of a sport school as the model for developing athletic potential since these institutions can give student-athletes with the greatest coaches and infrastructure, as well as specific meals and health professionals.

According to McClymont (1996), New Zealand adheres to the "pyramid concept," which states that if the foundation is broad, the apex will be high, and the student-athletes who reach the top will be the most gifted. Competitions are held at the novice level in the premise that if more young people participate in a particular sport, an exceptional student-athlete would be "found." The approach is built on the foundations of PE, leisure, and sport in

the educational system. Sport academies, national and provincial development teams, and training schools for outstanding student-athletes are all part of New Zealand's development system. Student-athletes get advanced coaching in athletic skills for which they have shown ability before being picked for a particular sport at the national level. The intricacy of the specialized skills and the time necessary for the performer to attain top performance will determine the development of these talents and the transition into a particular sport discipline at the national level.

The following is a summary of one route for outstanding student-athletes in China who used the school system, as provided by Rizak (1986). Talented pupils from basic and secondary schools are enrolled in athletic academies after their regular academic lessons and during their free time. The following methods are used to recruit student-athletes:

i.   Coaches who identify talented students in elementary and high school tournaments.

ii.   Suggestions from PE instructors.

iii.   Parents requesting admission for their wards.

Prior to getting accepted, students must pass a skills exam in certain instances. Children aged 12 to 18 may be chosen from the less rigorous junior sport educational institutions to enter the more difficult secondary sport educational institutions. Student-athletes stay, train, and learn together at this residence. Only those who are interested in sports are admitted to the institution. Other student-athletes from the community are welcome to attend training. Expenses are paid for by the government (Rizak, 1986).

Talent Identification in Sports

Talent identification is the process of screening youngsters using a set of physiological and skill criteria to identify people possessing the trait of accomplishing in a certain sporting discipline (Singh, 2007). Some studies support this description by describing sports talent identification as a strategy for identifying young athletes with the trait of excelling in top recreation and recruiting them into talent improvement initiatives (Vaeyens, Gullich, Warr, & Philippaerts, 2009). According to Regnier et al. (1993), sports talent identification is the process of identifying existing participants who have the potential to become great players. According to Williams and Reilly (2000), it entails forecasting performance over time by measuring physiological, mental, and social qualities, as well as technical abilities, either alone or together.

Due to the massive culture and situational uniqueness of sports talent identification, it is a complicated process. There has been a lot of study done on which approach is better for spotting exceptional athletes, with different results. According to Ziemainz and Gulbin (2002), while some studies advocate the use of natural selection, others advocate for the use of scientific selection.

Traditional talent identification procedures aimed at individuals' current abilities have been categorized as "natural selection" (Bompa, 1999). "Natural selection" starts early in one's life with coaches serving as recruiters and scientists functioning as assistants to run a few specific tests on many athletes in one sport or event (Krasilshchikor, 2010). Whilst National Governing Bodies of Sports (NGBs) recognize the essence of talent identification, very few have employed scientific processes (McNab, 1981).

To Burwitz, Moore and Wilkinson (1994), natural selection based on subjective assessment is currently the principle or approach employed by the NGBs. Badminton, for example, almost exclusively chooses talented youngsters based on merit, with achievement only possible via involvement in geographically scattered and "pay-as-you-enter" competitions. Countries with substantial human resources such as China, the United State of America and India use natural selection to identify sports talents (Krasilshchikov, 2010). When using the "natural" selection approach, individuals with skill are expected to battle their way up the ladder (Thompson, 1992). Nevertheless, an examination of natural selection procedure reveals that such a strategy may be causing many talented athletes to be ignored, since a twelve-month age gap in junior tournaments may make a huge difference in skill (Barnsley & Thompson, 1988). Against this backdrop, the scientific selection method was developed.

Currently, initiatives are aimed to undertake a more scientific selection process. Individuals who meet the necessary psychological and biological characteristics may be exposed to sporting events they would not have attempted otherwise (Bompa, 1999). Scientific selection is characterized by general tests and assessment of potentials for a group of sports, carried out by scientists with coaches as advisors (Krasilshchikor, 2010). Talent detection programmes across the world are not strongly based on scientific logic (William & Franks, 1998) and coaches rely on subjective assessment based on their "eye for talent" (Christensen, 2009) and their experience (William & Reilly, 2000). The scientific approach is used in countries with low human resource, such as Australia, South Africa, and Malaysia (Singh, 2007).

Some studies suggest that experienced coaches should conduct sports talent identification (Abbott & Collins, 2004; Helen et al., 2000). Trainers use coach-made approaches, which are centered on their own experience as well as defined norms, according to Hadavi et al.'s (2009) research which was carried out with the goal of establishing a model for identifying and developing talents in Iran. Harati et al. (2011) also conducted research among top female swimming coaches to find the most essential indices in talent identification. When it came to identifying and nurturing outstanding student-athletes, the research discovered that coaches valued the use of experimental, scientific, and observation methods. Despite the dearth of empirical research on the most effective way for identifying outstanding student-athletes in any sporting discipline (Falk et al., 2004), several investigations suggest that good sports talent identification involves a mix of coaches' expertise and scientific assessment (Moreno as cited by Rivas, 2009). According to Fernandez-Rio and Mendez-Gimenez's (2012) research work, despite the fact that many kids begin PE programmes at a young age, many outstanding student-athletes are underestimated owing to a lack of a structured system for identifying sports talent. Trainers must have adequate knowledge to not only recognize more important talent predictors (Vaeyens et al., 2008), but also to use both "objective" and "subjective" evaluation in selecting sport performers with high performance prospect. Any of these elements being overlooked might lead to inaccurate evaluations and interpretations of athletes' abilities (Trninic *et al.* 2008). According to Ghita (1994), identifying talent in sports is critical for reducing the stress of competing in a sporting discipline which does not fit one's abilities and expertise. Nigam (2010) submitted that with exposure to a

variety of sports, a specific sports talent identification system functions as a filter, directing those with few recognized vital attributes away from those who have a good chance of succeeding in that sport.

Talent Identification Factors in Sports

During the selection process, sport-specific competence or efficiency is very important and is determined by a variety of societal, anthropometric, and physical aspects, along with intellectual, tactical, and technical abilities (Christensen, 2009). Physical traits of outstanding athletes are linked to performance in important ways (Borms, 1996). Productive young athletes, for example, seem to have physiques that are comparable to those of older successful athletes (Abbot et al., 2005). A wealth of research suggests that exceptional athletes are biologically older (i.e., more physically developed) than their less talented peers, and trainers tend to prefer players who are farther along in their morphological development throughout the talent identification continuum (Panfil et al., 1997). In comparison to other players, successful players were physically fitter. Janssens et al. (1997) found that efficacious and less effective 11- to 12-year-old handball players may be distinguished by their performance in short (30m) and long (30m) "shuttle" running. Cugliari (2000) came to the same conclusion, claiming that physical measurements might be effective in forecasting skill in athletes. While it is understandable to assess anthropometrical and physical/physiological variables because of their undisputable reputation in several sports along with their relatively simple, verified, and appropriate evaluation strategies, the attention on such variables and the abandonment of several other antecedents appears striking and tends to leave huge potential wasted (Borms, 1996).

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Earlier studies have concentrated on measurement of physical variables (e.g., height, wingspan) and physical/physiological achievements (e.g., endurance, speed, agility, strength), which can be greatly impacted by discrepancies in maturation and development patterns, along with variety of learning magnitude (Gaston-Gayles, 2004), highlighting the versatile and personal characteristics of both athletic performance and sports talent. When evaluating both performance and talent determinants in developing athletes, this must always be taken into account. Even in the early stages of development, technical skills seem to be critical, given the very demanding and specific abilities necessary for high-quality performance in numerous sports (Gilbert & Jackson, 2004; Wilson, 2006). Some few studies utilizing a multidimensional method to measure sport-specific technical skills discovered that technical skills significant contributed to subsequent performance in a variety of sports disciplines (Nigam, 2010). This study emphasizes the value of technical abilities as part of a multifaceted skill set. This position specificity, when combined with commonly utilized group comparisons (e.g., selected vs. non-selected, elite vs. non-elite), in which all players of a team or group's performance/scores are merged, ignores variations across roles and positions, potentially leading to methodological issues and/or inconsistent findings. Additionally, it is critical to understand the interplay between technical and tactical abilities (e.g., game reading, anticipation, and decision-making) since the effective execution of a technical–tactical plan requires both ability sets. Because effective automation of technical abilities frees up attentional resources that may be spent to tactical and other goals, a player's ability to execute tactical plans improves (Lyle, 1997). According to other

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study, evaluating sport-specific technical abilities is a key component of good talent identification (Hadavi, 2000). Sport-specific technical skills assessments seem to have the ability to distinguish between gifted and untalented performance throughout pre-adolescence and adolescence (10–16 years of age), as well as to better predict future performance than other markers (Ghita, 1994). The foregoing results highlight the importance of sport-specific technical abilities in forecasting sports performance and, as a result, in talent scouting.

Psychological elements, according to Hahn (1990), differentiate successful athletes from unsuccessful ones. A skilled player is said to have personality traits that make training and competition easier. Recently, sports psychologists have looked into the significance of more transitory or adaptable personality variables, such as anxiousness, self-confidence, motivation, and attention style, using "state" (as compared to "trait") or "interactionist" (depending on subjective and contextual attributes) approaches, including sport-specific measures of anxiety, self-confidence, motivation, and attention style. Talented athletes are more devoted, self-assured, and less anxious both before and during competitive events, able to use diverse psychological coping techniques efficiently, more highly driven, and better at sustaining attention throughout performance, according to researchers (Ghita, 1994).

Both elements of the accomplishment motivation (i.e., anticipation for triumph and fear of failing) were shown to be linked to eventual sports success within psychological qualities (Hahn, 1990). When compared to athletes with high fear of failure value, these results indicated that athletes with high hope for success showed higher functional behaviors (e.g., greater endurance and

effort, and self-serving attributions). Administrators and coaches, according to Morris (2000), should devote resources to finding excellent athletes based on their psychological qualities.

Again, psychological factors comprise characteristics such as extroversion or resilience, and skills such as effective coping or imagery. If an individual wants to adhere to practicing physical activity that might pay off in long-term one has to have a drive. According to various researchers, commitment might be the most meaningful predictor for identifying talents in sports (Van Yperen, 2009). Without commitment, it is difficult to endure an intense amount of deliberate practice. Deci and Ryan (2004) modified the essential traits as perceived competence and self-determination. Several studies found determination and perceived competence high in elite athletes (Markland & Hardy, 1997). Furthermore, discipline, willingness to sacrifice, compelling reasons, and long-term career planning aims were found as important factors in top young soccer players' success (Holt & Dunn, 2004). In the participation history questionnaire on athletes, Ward, Hodges, Starkes, and Williams (2007) found talented players to have a higher motivation to reach their goal than sub-talented players. Talented players successfully used accumulated hours of practice to discriminate between performance levels. Furthermore, they realized athletes who were more motivated and trained their decision-making more were recorded high performance levels.

Other psychological factors playing a role in performance are focus and mental preparation like imagery. Orlick and Partington (1988) by looking at psychological characteristics of athletes were capable of distinguishing among medalists and non-medalists in hockey. They found out that for

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Olympic success, attentional focus and performance imagery were most important. These findings were replicated by Gould, Eklund, and Jackson (1992a, 1992b) in wrestling. Talented athletes were found to use more psychological skills in general (Thomas, Murhpy, & Hardy, 1999). More specifically, talented athletes employ psychological skills to enhance their learning and their focus (Freeman, 2001). Several researchers for instance Waskiewicz and Zajac (2001) also studied the repercussions of goal setting and imagery and found it to be useful in acquiring a new skill, lifting more weight on the bench press (Herrero & García, 2014), and competing successfully at major events (Gould, Finch, & Jackson, 1993). Being able to cope with adverse situations and overcome obstacles such as injury is also of importance. According to Holt and Dunn (2004), resilience is crucial to the performance of young athletes. They defined resilience as the capability to overcome adversities by successfully employing coping techniques. Accordingly, van Yperen (2009) argued that being able to cope with exhaustion might be important because it eases recovery from training. In addition, Abbot and Collins (2004) describe psycho-behavioural skills crucial to excel in top performance, but they also recognize that these skills are more important in early years. According to them, planning, goal setting, and honest evaluation are of utmost importance. Apart from these behavioural skills, Scalan, Carpenter, Schmidt, Simons, and Keeler (1993) recognized, especially for young people, enjoyment is crucial to stick to any one activity. To conclude, many mental or cognitive elements do play a noteworthy obligation in talent realization. Accordingly, Smith and Christensen (1995), who did research in baseball, presented substantial proof for the impact of a variety of

psychological elements. These authors found psychological skills, such as dealing with difficult situations, mental focus, self-belief, and achievement motivation, goal setting and mental toughness, reaching a peak under strain, and liberation from stress, were better predictors of athletic success than physical skills assessments, such as strength or running speed. Interestingly, contrary to personality traits (e.g. extraversion, conscientiousness) which are to a certain extent heritable, psychological skills are acquirable through specific training (Williams & Reilly, 2000). This is particularly useful for coaches and athletes alike and shows professionals should consider training such psychological skills to enhance their athletic output. A greater portion of investigation done on psychological factors for talent out of the domain of sport is less specific but in general, corresponds to findings within sports. Motivation, determination, and persistence have been found as significant elements in developing talent in many studies (Bloom, 1985; Csikszentmihalyi, 1997; Simonton, 1994). Looking at eminent psychologists, Feldhusen (2000) recognized motivation and determination, perseverance and tenacity, and goal setting techniques as basic characteristics for achieving greatness. Oswald (1973) studied outstanding musicians and acknowledged great determination to be a requirement for success.

Furthermore, Dweck (1986) found that motivation, energy, enthusiasm, persistence, independence, ego and strength influence progress towards greatness in education. In conclusion, there are a couple of universal psychological characteristics nurturing the advance to excellence. At the same time, the above mentioned psychological characteristics act as an interplay and influence one another. Abbott and Collins (2004) studied this interplay and

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found appropriate goal-setting can boost motivation and ease persistence. However, other research have found no significant relationship between psychological traits and talent identification (Figueiredo, 2009; Huijgen, 2014).

To Grehaigne and Godbout (1995), tactical abilities relate to a player's capacity to take the appropriate course of action at the appropriate time and swiftly adjust to changing practice or competitive situations. A solid grasp of the game is essential for a player to take the appropriate action at the appropriate time, resulting in a successful performance or outcome. As a result, tactical skills, in addition to well-developed physiological and technical attributes, are a crucial predictor in talent identification (Starkes, 1987). In many facets of tactical skills, studies have demonstrated that skilled athletes outperform untalented athletes. According to Thomas et al. (1986) and Williams et al. (1993), a competent athlete can choose the best answer for a circumstance within the framework of the game's objective structure with less knowledge and faster as against an untalented colleague. Previous research has revealed that tactical abilities and talent identification have a good link (McPherson, 1999; Ward & Williams, 2003).

Talent Development in Sports

Talent development is vital for athletes to succeed in progressing from the first level of performance to elite performance (Abbott, Collins, Sowerby, & Martindale, 2007; Gagne, 2004; Vaeyens, Lenoir, Williams, & Philippaerts, 2008). To Howe, Davidson, and Sloboda (1998), and Tranckle (2004), the foremost important assumption of talent development is that innate skills do not seem to be mechanically remodeled into top performers. As a result,

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players must develop essential traits through consistent training to give off extraordinary output in their sporting endeavors. In this light, talent development signifies that performers would like a lot of causative situations in order to fully realize their capacity and maintain productivity (Abbott & Collins, 2004; Durand-Bush & Salmela, 2002; Williams, 2000; Williams & Reilly, 2000). According to Martndale, Collins, and Daubney (2005), talent development environment is thought of as "all aspects of the coaching job situation" (p. 354). Apart from chance variables, the talent development technique is influenced by two sets of catalysts: intrapersonal and contextual influences (Gagne, 2004). David and Baker (2007), and Philips, David, Renshaw and Portus (2010) asserted that sports experience is gained through winning and adapting to a variety of environmental limits or circumstances, as well as coaching and competitive experiences. It is stressed that instead of considering only intrapersonal factors like athletes' physical traits, the talent development environment factors ought to be known and increased in order to successfully develop talented performers (Bailey et al., 2011).

Motivating Environment for Sport Talent Development

The magnitude and orientation of effort, according to McCullough (as cited in Wilson, 2006), is called "motivation". Motivation may be divided into two types: "intrinsic motivation" and "extrinsic motivation". Intrinsic motivation is defined by Wilson as a desire to feel proficient and proud of oneself. Extrinsic motivation, on the other hand, was explained by Ryan and Deci (2000) as doing something for the sake of achieving a certain goal. Athletes ought to have inherent drive to keep engaging in sports, according to Ryan (1997), since intrinsic motivation is the most prevalent reason for

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continuing in a sport. During preparation and competition, coaches play a critical role in motivating athletes (Fauzee et al., 2009). They noted that encouraging remarks boost a player's confidence, reduce tension, and maintain a positive attitude. Fauzee et al. discovered that friends' support, prizes, renowned players' role models, and environmental effects such as equipment and infrastructure all help people participate in sports.

Furthermore, according to a research by Holt and Dunn (2004), novice young soccer players were driven to play by their love for the sport and their goal to become great players. Again, opportunity to play at the national level is another reason to participate in collegiate athletics (Gaston-Gayles, 2004). Gibbon et al. (2003) determined the success factors and roadblocks which mostly affected the growth of Olympic athletes in the United States. The most important variables among success elements were the athlete's passion and tenacity, competent coaching, family support, enthusiasm for sport, outstanding training and competition possibilities, and solid financial assistance, according to the research.

Olympians, however, identified impediments to their athletic skill development as a lack of financial assistance, clash with life obligations, a lack of training/competition chances, an absence of professional backing, poor competition standards, and sub-standard infrastructure for training (Gibbon et al. 2003). Enoksen (2011) carried out a 25-year case study to determine the cumulative rate of attrition and causes of attrition for a cohort of excellent track and field athletes, and discovered that education expectations and a lack of desire were the most frequently cited reasons for discontinuation. Ryan et al. (1997) did research to see if athletic motivation and early motivation

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influenced commitment to a certain sport. Ryan et al. found out that extrinsic reasons were the most cited reason for an athlete's initial involvement in a sport, whereas intrinsic motives were the most common cause for an athlete's involvement in a sport. Medic et al. (2007) used a sport motivation measure to compare Canadian and American male and female non-scholarship athletes, and discovered that variations in motivation depended on scholarship status. The US Olympic Committee approached previous Olympians and requested them to fill out a questionnaire regarding various areas of their development (Riewald & Peterson, 2004). The Olympians were requested to indicate maximum five reasons that contributed the most to their accomplishment, as well as five challenges they had to face in their quest for glory. Commitment and perseverance, family and friends, instructors, passion for sports, training programs and infrastructure, raw ability, competitiveness, attention, work habits, and financial assistance were all cited as factors impacting their accomplishment. The Olympians identified the following challenges to their accomplishment: financial difficulties, strain with life obligation, absence of professional coaching backing, absence of psychological support, absence of training/competition prospects, medical complications, unavailable social support, failure and physical constraints.

Role of Practice in Sports Talent Development

For sports talent development of athlete's, training has been confirmed to be essential (Ericsson et al., 1993), but for every stage of the athlete the correct dose of training should be provided (Stotlar & Wonders, 2006). On the contrary, Ericsson (1996) stressed that the athlete's recuperation must be sufficient. According to Rodgers (2005) time and commitment are absolutely

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essential since training for international events necessitates a minimum of 25-35 hours a week for many years.

Nevertheless, Ericson et al. (1993) and Ericsson (1996) asserted that, in order to achieve higher levels of performance, training quality was just as crucial as the number of training hours. Rodgers (2005) emphasized that talented athletic performers need ample period aside from their schooling for their personal training; these talented performers may train for approximately three hours daily out of the days in a week, since there is the necessity of investing in one's sport considerable time and effort to achieve sports talent development (Thomas & Thomas, 1999).

Non-elite players accumulated less training hours as against elite players (Helsen et al., 1988; Hodge & Deakin, 1998; Starke et al., 1996). Similarly, Baker et al. (2003) observed that non-elite basketball, netball, and field hockey players gathered much less hours in video training, competition, structured team practices, and "one-on-one" coach teaching as against elite players.

Past research has distinguished general guidelines that lay out the movement from fledgling to master within an area. These incorporate the "10-year rule" according to Simon and Chase (1973) in addition to the "force law of training" as stated by Newell and Rosenbloom (1981). As indicated by the "10-year rule", a 10-year promise to significant stages of preparing is the base necessity to arrive at the master stage. The "10-year rule" has been bolstered Ericsson *et al*. (1993), Hayes (1981) and Sosniak (1985) in the music realm, Gustin (1985) in arithmetic, Kalinowski (1985) in swimming, Wallingford (1975) in distance running and Monsaas (1985) in tennis. The assumption of

conscious practicing by Ericsson, Krampe and Tesch-Romer (1993) expands on Simon and Chase's (1973) research by proposing that it was never simply any form of preparation, but rather dedication to "intentional practice" that was necessary for accomplishing aptitude. Deliberate practice activities, according to Ericsson et al. (1993), are methods of preparation that are not characteristically persuading, demand elevated amounts of exertion and consideration, and do not prompt quick public or money related prizes. Ericsson said in a review of research on ability acquisition and learning that the quality of execution seemed constrained by the proportion of period expended playing out an "overall portrayed errand with an appropriate difficulty level for the particular individual, instructive analysis, and open entryways for emphasis and corrections of missteps" (p. 21). In addition, a typical reason for dropout in competitive games is a lack of time as well as management of training protocols (Enoksen, 2002). Ericsson and Lehman (1996) saw practice as the most significant factor for talent development and Howe, Davidson, and Sloboda (1996) observed no individual accomplished elevated levels without standard and regular practice. Expanding on the past definition Ericsson, Roring, and Nandagopal (2007) asserted that "just through centering and improving explicit parts of execution, for example, the perspectives where the performer is most fragile, can a hopeful individual improve" (p. 104).

Then again, Baker and Cote (2003) found the hypothesis of "deliberate practice" not to be very well relevant to sports, as sports skills include components of different zones. McNamara, Hambrick, and Oswald (2014)

contended that training is a significant indicator of talent development yet not as solid an indicator as Ericsson and partners declared.

Though significant contributions to sports talent identification and development has been made through the proponents of deliberate practice in terms of making the desirable engagements in the effort of developing talents by motivating coaches and their athletes, the deliberate practice framework has been identified with certain limitations. Typically, while the requirement for specializing early in life needed (Ericsson et al., 1993) in sports that demand peak performance before puberty, it may be validated in the context of "deliberate practice" (e.g., in gymnastics). Some researchers (Cote & Jessica Fraser, 2008) reported that elite performance has been achieved by adult athletes who participated in a variety of sporting disciplines (e.g., volleyball, hockey, long distance running) in their youthful days (i.e., they did not focus on a single event during infancy). Therefore, the basis of "deliberate practice" warranted a re-look since it proposed the idea of early specialization.

Additionally, Ericsson et al. (1993) asserted that chances of achieving elite performance got better with early entry into sports participation and beginning of "deliberate practice". Thus, the authors suggest that in order for talented athletes to realize their sporting potentials they ought to adopt "deliberate practice" early in life.

Cote and Jessica-Fraser (2008) contended that adult-peak sports performance does not require beginning "deliberate practice" early in life. Therefore, only early peak sports performance (gymnastics) might require early specializing early and careful preparation. This is due to the fact that athletes have less time to acquire the quality and amount of practice required

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for top-notch performance. Therefore, in other disciplines where performing at peak is attained later in life (e.g., golf), specializing and entering in a discipline early and "deliberate practice" would not have mutual benefits. Similarly, the general wellbeing and the social and mental consequences of training physically are not taken into consideration in the "deliberate practice" framework, and the growth appropriateness of deliberate practice is given little concern (Cote, Baker, & Abernethy, 2007).

Role of Coaches in Sports Talent Development

A coach is anyone who oversees learning activities and regulates social situations while also identifying and correcting performance issues (Abraham & Collins, 1998). The primary goal of a coach is to help his or her team and individual players grow and improve their performance (Lyle, 1996). To do this, the coach must use a variety of problem-solving techniques and, in the end, make sound and timely judgments (Gilbert & Jackson, 2004). Coaches, like instructors, need expertise from a variety of sports areas, according to Gilbert and Trudel (2005). Furthermore, Trninić et al. (2009) discovered that coaches' professional knowledge and experience, as well as scientific accomplishments, allow them to encourage the development of players' athletic potential in a certain sporting discipline. This involves improving skills, increasing the quantity of motor programmes and raising the degree of motor programming, along with supporting the advancement of selected choices and response time. According to Baker, Horton, Robertson and Michael (2003), the capacity of a trainer to provide a conducive atmosphere for optimum learning is the utmost important factor in an athlete's sports skill development.

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Kirk (2005) concurs that the quality of coaching staff and instructors is critical to the success of any program aimed at improving an athlete's athletic skill. Exceptional coaches also promote consistency in acquiring and perfecting technical-tactical information and abilities, as well as the growth of experiences in competitive events and developing the athlete's mental and social attitude (Trninić et al., 2009). Pavlovic (2007) discovered that the capacity to provide high-quality practice is the most significant trait of a good coach. Furthermore, Williams and Reilly (2000), and Morris (2000) stated that, providing the greatest coaches and training to outstanding athletes improves their chances of becoming exceptional. Additionally, studies show that having a skilled coach who is familiar with the most up-to-date training approaches is beneficial to a gifted athlete's sports talent development (Roetert & Harmon, 2006). According to Baker and Horton (2004), having access to important resources throughout the learning process, such as qualified and experienced instructors, has an impact on the development of athletic potential. According to Ned (2004), a major coach's role in supporting incoming student-athletes in their institution's advancement from lower to higher education is crucial. He also said that a senior trainer ought to be familiar with the elements of the institutions and sports departments' transition models and build his or her personal changeover programme in order to enhance the likelihood of a well-balanced rookie student athletic performer.

Coaches and instructors, according to Corrinne (1998), are essential in teaching skills, giving chances, and cultivating athletic potential. In Douge and Hasties's (1993) perspective, productive coaches also regularly offer feedback and integrate multiple reminders and work hard, convey elevated amounts of

modification and reinstruction, utilize high levels of interrogations and clarification, largely participate in teaching, and control the training environment to attain substantial discipline. Skilled coaches' purpose, according to Samela (as cited in Durand et al. 2001), is to establish a favorable atmosphere that will increase performance by devoting a significant amount of time to organizing and arranging practices in order to achieve the best possible level of training. Through their Coaching Effectiveness Training (CET) programme, US scholars Smith and Smoll (1997) have done a lot of study on how to enhance coaching efficiency. According to their findings, qualified trainers are more helpful, provide more reinforcement and encouragement, and are less punishing than non-trained coaches. When compared to a control group, those who played for trained coaches had significantly higher self-esteem and lower anxiety throughout the season. According to Brustad et al. (2001), coaches have a considerable influence on participants' pleasure, contentment, personality, and self-esteem. The athlete's faith in a coach is eroded by the coach's lack of expertise and comprehension of the sport, as well as his or her failure to deal with pressure and distractions (Giacobbi, Whitney, Roper, & Butryn, 2002). Coaches are performers, and their work has a direct impact on their players' output (Gould et al., 1999). Professional athletes need a trainer who can really execute a clear and measurable plan, create an environment that fosters optimum learning, and is dedicated to assisting them in reaching their goals (Baker et al., 2003; Gould et al., 2002). Athletes are looking for a coach that can cater to their unique requirements (Giacobbi et al., 2002). Coaches that over-coach and set unreasonable goals

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for their athletes might have a detrimental impact on their performance (Gould et al., 2002).

Trainers are equally important in the development of athletes (Holt & Morley, 2004; Johnson et al., 2008; Morgan & Giacobbi, 2006). The major responsibility of a trainer is to provide advanced training programmes and workouts, as well as educational assistance. A coach's responsibilities may include giving practical assistance and fostering positive relationships with performers, in addition to delivering advanced instruction (Johnson et al., 2008; Morgan & Giacobbi, 2006). Particularly at the latter phases of growth, a strong "coach-athlete" connection should be created. A real coach-athlete connection is built on (a) reciprocal belief and honour; (b) appreciating an athlete's desires; and (c) providing adequate care and warmth for the person as opposed to merely considering or focusing on their performance (Gould et al., 2002). A group of support employees helps to ensure that advanced training regime is delivered (e.g., fitness trainer, sports psychologist, nutritionist, physical therapist, and exercise physiologist). Those five supporting staff members according to Durand-Bush and Salmela (2002) and Morgan and Giacobbi (2006) are quite useful, especially during later phases of talent development, such as during the investment era.

Bloom (1985) noted that being mentored by loving and competent trainers, particularly during developmental years, may make a significant impact. Exceptional trainers know when to challenge their sportsmen to put more effort, when to ease up on the intensity and tension, and how to mold their careers.

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Bloom, Crumpton, and Anderson (1999) found that exceptional coaches devote the majority of their time on mental or strategic variables, while beginner and intermediate coaches concentrate more on the fundamentals of the discipline. The researchers also noted that because of their own limitations, non-expert trainers may not be in the position to convey a great quantity of tactical information.

In an examination on volleyball coaching knowledge, Cobley (2001) observed that players were active in drills for 92% of the time allotted, and the severity was equal to that encountered in games. During training, the focus was on involving the players in exercises that closely replicated game conditions and had a high probability of happening against a prospective rival. Cobley observed that the experienced volleyball coach had an important role in establishing top-rated practice environments that demonstrated purposeful practice principles.

Bloom et al. (1999) proposed that in high-strength group sporting events, the trainer's specific skill expresses itself in knowledge of the game. If there is no longer any concord between the trainer and the sportsperson, Singer and Janelle (1999) believe that persistence, disengagement, or attrition will ensue.

Facilities and Equipment for Sports Talent Development

Having available training facilities is a huge benefit to talent development. The ability to get appropriate attire and facilities for certain activities adds to the motivation to succeed (Singer & Janelle, 1999). Creating the best surroundings where one can cultivate brilliance could also have a larger part in the advancement of technology than genetics does (Williams &

Reilly, 2000). Colleges need to assist and grow sporting events by giving funding for sports equipment purchases and assisting student-athletes in participating in nationwide collegiate athletics (Abbott, Collins, Martindale, & Sowerby, 2002). For instance, Tennis Australia believes that having a variety of infrastructure is important for meeting the demands of players' development (Sotiriadou, 2005).

Helsen, Hodges, Van Winckel, and Starkes (2000) asserted that expertise plays a confined function in the improvement of professional sports performers. The researchers emphasized that elements like amenities and equipment are essential for athletes with the capability becoming a professional in the sport discipline. These perspectives are reinforced by Gore (2004) who finished an investigation that intended to attain higher know-how of how outdoor obligations, access to precise infrastructure and the obligations of fellow team members impact the development of athletic capacity. The outcome of the investigation revealed that the availability of standard equipment and facilities was critical to all of the athletes, no matter their level.

Role of the Family in Sports Talent Development

The importance of the family in the process of transforming a child's capability of becoming a global athlete has been continually highlighted in research on talent discovery and development (Bloom, 1985; Cote, 1999; Durand-Bush & Salmela, 2002). Bloom stressed that experts' parents have been recognized as holding crucial positions and playing various responsibilities during their growth. Parents provided both financial and social/emotional help (e.g., regulated participation, encouragement, and hardships) to help their wards develop their athletic abilities (Carlson, 2011;

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Gould et al., 2002; Hayman et al., 2011; Wolfenden & Holt, 2005). In addition, according to previous research, parents provided a realistic sports guide (Gould, Lauer, Rolo, Jannes, & Pennisi, 2008; Holt & Morley, 2004; Pummel, Harwood, & Lavallee, 2008). There is a positive effect on talent development when parents exhibit desirable attributes (e.g., supplying logistics, economic, and moral backing; offering chances for involvement; and unwavering affection), whilst there is a detrimental impact on developing talent at instances where guardians and parents exhibit unhealthy sentiments (e.g., exaggerating triumph; possessing unreasonable standards, and condemning their ward) (Gould et al., 2006).

Parents played numerous key obligations and offered several forms of backing at the various phases of advancement, according to a longitudinal standpoint. Parents' responsibilities changed from leaders to followers over time, according to qualitative interviews conducted by Cote (1999) and Durand-Bush and Salmela (2002). Mother and father had various obligations in the development of athletes inside a family (Holt & Dunn, 2004; Wolfenden & Holt, 2005). Mothers were more engaged in giving sentimental and physical backing for professional tennis performers who were English as against fathers, according to the interview findings. In addition, the structure of one's family can have repercussions on one's willingness to participate in sports. According to an investigation done by Fallon and Bowles (1997), a family with an employed father and mother is more likely to encourage talent development as against household with only one employed parent.

Parents however, were at certain instances seen as an antecedent of stress, impeding athletes' progression, particularly in the final phases of talent

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development (Cote, 1999; Lauer, Gould, Roman, & Pierce, 2010). Tennis players generally reported greater adult stress throughout their middle years of development, according to Lauer et al. (2010), who interviewed nine outstanding tennis players, their parents, and trainers. Over-prioritizing advancement, stressing winning, and using dominating behavior to achieve goals are examples of these influences. Gould et al. (2006) added to this by stating that parents place an excessive emphasis on winning and place unrealistic expectations on their wards.

In comparison to parents, the influence of siblings on talent development has been studied less. This is likely owing to the fact that having brothers and sisters is not necessarily a good sign of skill development, and not every athlete has them. Siblings may also have an impact on the sports that are chosen throughout the formative days of engagement in sports (Holt & Morley, 2004). Athletic performers had a higher propensity of engaging in sporting disciplines that their elderly siblings had been taking part, according to Gulbin, Oldenziel, Weissensteiner, and Gagne's (2004) survey results. Cote (1999) used qualitative interviews to investigate the roles of siblings at various phases of development, using Bloom's (1985) stage model. He discovered that elder siblings had a strong influence on players' decision to concentrate in a particular sport between the ages of 13 and 15. However, he stated that throughout the financing era, anger and jealously among younger siblings may arise, having an undesirable influence on developing the skills of the performers.

In an athletic environment, an athlete is more likely to establish friends (Carlson, 2011). Athletes' counterparts or colleagues play an important role in

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sustaining their continuous or prolonged participation and passion in sporting events. Game engagement, according to Patrick et al. (1999), gave possibilities to establish friends, which boosted social enjoyment and led to game devotion. A number of studies have also shown that athletes gain informational, emotional, and self-esteem assistance from their colleagues (Holt & Morley, 2004; Henriksen, Stambulova, & Roessler, 2010; Johnson et al., 2008).

On the contrary, several studies have revealed that negative peer effects and teammate comparisons typically result in a slew of negative outcomes, including rage and a lack of game desire (Keegan, Spray, Harwood, & Lavallee, 2010; Vazou, Ntoumanis, & Duda, 2005). As a result, for successful skill development, positive peer assistance is required (Csikszentmihalyi, Rathunde, & Whalen, 1996; Holt, & Morley, 2004; Kay, 2000; Pummell et al., 2008).

Role of Genes in Sports Talent Development

Indeed, some researchers believe that there is a "sports gene" that might assist forecast skill at a young age (Kay, 2000). The heritage family study has shed much light upon genetics inquiry, as several academics have utilized it to derive new findings. An et al. (1999) research found in the heritage home survey data that although genetic factors no longer directly predict, however constrain resting heart rate. Similarly, Bouchard et al. (1998) used the same data and observed transportation and genetic usage of oxygen. Perusse et al. (2001) studied cardio ability and located maximal and submaximal cardio potential to be confined genetically. These findings and others made clear responses that training fluctuates based totally on a person's gene (Bouchard et al., 1999; Rice et al., 2002). Connected to this, the

COL5A1 gene (which codes for protein production) has been proven to have an impact on the difficulty of training athletes can maintain (Posthumus et al., 2009) and to a person's susceptibility to Achilles tendon injuries (Mokone et al., 2006). This can make a big difference in young athletes as those being able to train even a bit accumulate much more training rapidly and are more likely to get spotted and nurtured further (Baker, 2012). Gayagay et al., (1998) studied Olympic rowers and found the I-Allele more common than in the regular public, suggesting a connection of this allele to aerobic capacity. The same abundance of I-Allele was found in Ironman triathletes, and high-altitude mountaineers, all of which showed high aerobic functioning (Collins et al., 2004; Montgometry et al., 1998). The I-Allele is connected with low angiotensin-converting enzyme (ACE) activity which is showed to have a rather modest overall influence on athletic performance and was not usable for prediction of sports talent, thereby not contradicting previous findings but making them less impactful (William, & Wackerhage, 2009). Timmons et al. (2010) tried to predict VO2max with genes and found that using eleven single nucleotide polymorphism could explain fifty percent of the estimated variance.

Finally, the dominance of East African runners in marathons (especially Kenyans and Ethiopians) led human beings to count on a genetic predisposition (Pitsiladis, Onywera, Geogiades, O'Connell, & Boit, 2004). Genetic inheritance has been proven to impact numerous physiological parameters such as cardiac function, respiratory function, damage sensitivity, and training difficulty. These studies discussed earlier on show that some characteristics important for sports are inheritable.

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Issues in Identifying and Developing Talent in Sports

Various sport institutions are focusing on identifying and selecting potential throughout the early stages of development, since there is a rising interest in providing the most beneficial conditions for developing athletes. In a severe instance of this phenomena, a Dutch soccer club hired an 18-month-old to a 10-year "symbolic" agreement in 2011, garnering enormous international media attention (Barreiros & Fonseca, 2012).

This argument assumes that talent is a constant ability that (a) can be detected early in development and (b) does not vary with time (Howe, Davidson & Sloboda, 1998). In general, evidence in sport promoting early signs of talent is shaky (Brouwers, De Bosscher, & Sotiriadou, 2012), ostensibly because indicators of premature overall output success (e.g., height, weight) have little relation to the features recognizing accomplishment at the adult level (Barreiros & Fonseca, 2012). (i.e., such bodies are generally similar in quality terms).

The second hypothesis, that talent is a fixed capability that does not fluctuate through time, has been debunked as well (Simonton, 1999). Simonton posited a more genuine explanation of talent as a multi-faceted quality that reflects the relative contribution of personal, biological, intellectual, and attitudinal attributes that facilitate or hinder the knowledge acquisition in a domain in his emergence and epigenetic model of talent. These attributes arise at varying rates for different people at different times of their growth, according to this hypothesis. As a result, early detection of these features is difficult since they no longer compensate for these modifications. Early talent identification has been discussed as an issue in sports (Abbott *et*

al., 2005; Davids et al., 2013), highlighting the difficulties of identifying these traits early.

Individuals' attitudes of talent impact motivation, behavior, and performance, according to empirical investigations over the previous 30 years (Dweck, Chiu, & Hong, 1995; Wulf & Lewthwaite, 2009). This study, dubbed the "Growth Mindset" (Dweck, 1999), reveals that individuals have either inherent ability beliefs or acquirable skill development views regarding the origins of their skills (Wulf & Lewthwaite, 2009). These views show whether a person feels that their overall performance is the result of intrinsic and unchanging features or is the result of experiences and hence changeable. Dweck (1999) stressed that individuals who believe talents have intrinsic origins typically ascribe anybody else's performance, whether desirable or terrible, to their innate degree of potential, whereas those who believe competencies are "developable" frequently attribute others' total performance to their level of effort. Such ideas according to Dries (2013) also influence whether practitioners have a singular impression about talent (i.e., just a small quantity of people are born with it) or if they recognize talent in every person and use an elaborative strategy in managing talent. In this light, it has a big impact on how trainers make predictions. When a trainer determines somebody has potential for further growth, they are projecting a variety of future sporting results. Importantly, research shows that firmly adhering to one notion or method of thinking is linked to worse prediction accuracy (Tetlock, 2005). When people feel that ability is either intrinsic or developable, they might make Type I and Type II mistakes when it comes to identifying and improving skill. That is, thinking that genius exists and can be cultivated when

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it does not, and thinking that talent no longer exists and cannot be created when it does.

Moreover, after an athlete has been picked for a squad, the beliefs of others, such as a coach, might affect them (Dweck, 2003; Jourden, Bandura, & Banfield, 1991; Wulf & Lewthwaite, 2009). This is critical in the athlete's stage; newcomers who believe talents are natural and ultimately unchangeable are more likely to respond to defeat and bad reviews with less effort, tenacity, and unpleasant sentiments (Dweck, 1999; Dweck, Chiu, & Hong, 1995). Such perceptions may also increase the likelihood of having sense of helplessness [i.e., self-handicapping attitudes] (Ommundsen, 2001), or apathy [i.e., the crown prince syndrome], in which athletes believe their talent guarantees them future success and thus reduce their effort and motivation to improve (Dries, 2013). These reactions are incompatible with expertise and competence, and as a consequence, talent discovery and advancement may be jeopardized. Those who believe skill is mostly developable, on the other hand, are more likely to react to poor performance with more effort and tenacity. Whereas these motivational and cognitive reactions according to Dweck (1999) may seem to be more positive, over-persistence may be a maladaptive response and a type of helpless behaviour in and of itself; thinking that talent can be produced with enough effort or practice is no longer healthy or practical. In summary, strictly trusting in both points of view may be harmful (Wattie & Baker, 2017).

In conclusion, classifying high-performing athletic children as gifted might lead to the assumption that they will succeed later in their development path because their skill is intrinsic (natural). According to research, a beginner

must put in a lot of effort and get a lot of coaching in order to become a high-performance athlete (Baker & Young, 2014). Furthermore, since there is a poor association among accomplishment at one activity's phase and triumph at a later higher degree of competition, establishing false expectations may be detrimental to younger athletes (Barreiros & Fonseca, 2012). Likewise, increasing the assumption that hard work and perseverance would invariably lead to success may put undue pressure on sportsmen. Practice is important, but it may not be enough: genetic traits, logistics, and luck are all likely to be important (Baker & Horton, 2004).

Systematic biases were also discovered in previous study on the improvement of high-performing athletes. The use of yearly age category in children sport, for instance, has been shown to boost relative age adverse effects, with those born early in the shortlisting year (i.e., the significantly older) being more likely to be selected to sport teams and achieve elite levels of play than their exceedingly youthful peers born later in the shortlisting year. Over the past 10 years, researchers have discovered discrepancies in participation and achievement as a consequence of yearly age grouping techniques in a variety of sports (Wattie, Schorer, & Baker, 2015). In general, kids born early in the selection year (e.g., the first three months) have a selection and achievement advantage over their noticeably younger counterparts born later in the preference year. Baker and colleagues (2010) found that 35 percent of players in two volunteer development ice hockey league were born during first three months of the choosing year (January-March), whereas fewer than 10% were born in the last three months of the selection year (October-December). In rugby league, researchers found that

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athletes' representation was high (60 percent) in the first three months of the selection year among 13 to 15-year-olds (Tills et al., 2010). In a number of sports, there has continuously been an over-representation of comparatively elder athletes (Cobley, Baker, Wattie, & McKenna, 2009; Musch, & Grondin, 2001). Surprisingly, Cobley et al. found that, even though over-representation of relative older players exists at leisure levels of the activity, it is most prominent at higher competitive levels of involvement. Within sport systems that employ two or more-year age bands, these impacts may be magnified (Schorer, Wattie, & Baker, 2013). This was recently confirmed using data from the Under-17 World Cup in soccer and German basketball (Steingrover, Wattie, Baker, Helsen, & Schorer, 2017).

It is also clear that having access to economic materials and having a high socioeconomic status (SES) might thwart the person's capacity to become a high performer. In general, evidence suggests that family wages are strongly linked to athletic involvement. According to Heritage Canada (2013), while 58 percent of Canadian kids from families earning below $40,000 participate in sports, 85 percent of students from families earning above $80,000 do so. Erstwhile study in this field shown that SES constraints to involvement in high-performance sports are consistent (Beamish, 1992).

Discovering and selecting talent necessitates making forecasts regarding which athletes possess the greatest chance of future accomplishment. While this technique is a good way to understand today's top accomplishments, exceptional overall performance in the future might look drastically different. Many people would probably say that being taller than average is a drawback in sprint events 10 years ago, but Bolt has shown that

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this is not the case (Thomas, 2016). Until now (before Usain Bolt's period), talent recruitment in sprint was mostly based on step frequency, with height being seen as a disadvantage. Now that data exists showing both "step length" and "step frequency" influence elite achievement in the 100m sprint, identifying and selecting talent has shifted to include both goals (Salo, Bezodis, Batterham, & Kerwin, 2011). To assume how the competencies and abilities supporting profitable overall output will change and/or alternate among selecting and exhibiting professional competence, effective talent identification demands accurate forecast of how activities will alternate in the future. This is, without a doubt, relatively cumbersome than it seems. Sports no longer adhere to a regular pattern (Baker, Wattie, & Schorer, 2015). Baker and colleagues looked at how athletes adjusted over time in Olympic sports and reported overall output for athletic and aquatic events, noting the wide range of advancement in various sports activities after some period.

The difficulty of reconciling short and long-term objectives is one of the obstacles in conventional athletic talent identification techniques. In the United States, this contradictory reality may be seen in a variety of high school and college sports (Pearson, Naughton, & Torode, 2006). Coaches in such systems are judged on their team's short-term performance, such as their win-loss record or how well they do in a crucial event (Barreiros, Cote, & Fonseca, 2014; Barreiros & Fonseca, 2012). Coaches and scouts no longer choose players only on the basis of skill, especially reachable talent, throughout this process. They are looking for those who can do well in a short amount of time.

Summary

"Natural selection" and "Scientific selection" were currently predominant ways of identifying sports talent but "natural selection" was most commonly used. Additionally, an assessment of the literature indicated that greater volumes of investigation have identified some challenges of talent identification to be; lack of finance, belief about talent matter, early talent identification, talent identification not been done on a level playing field and the difficulty balancing acute and long-lasting admirations. Furthermore, physical qualities, technical skills, tactical abilities and psychological traits were identified as talent identification predictors in the relevant literature reviewed. Again, factors such as sports equipment and facilities, family support, coaching, practice, and genes were identified to influence sports talent development of athletes. It is based on these revelations that called for the examination of identifying and developing talent in Senior High Schools in Upper East Region. The researcher believes that findings of this study may agree or fail to agree with finding of the relevant literature reviewed above.
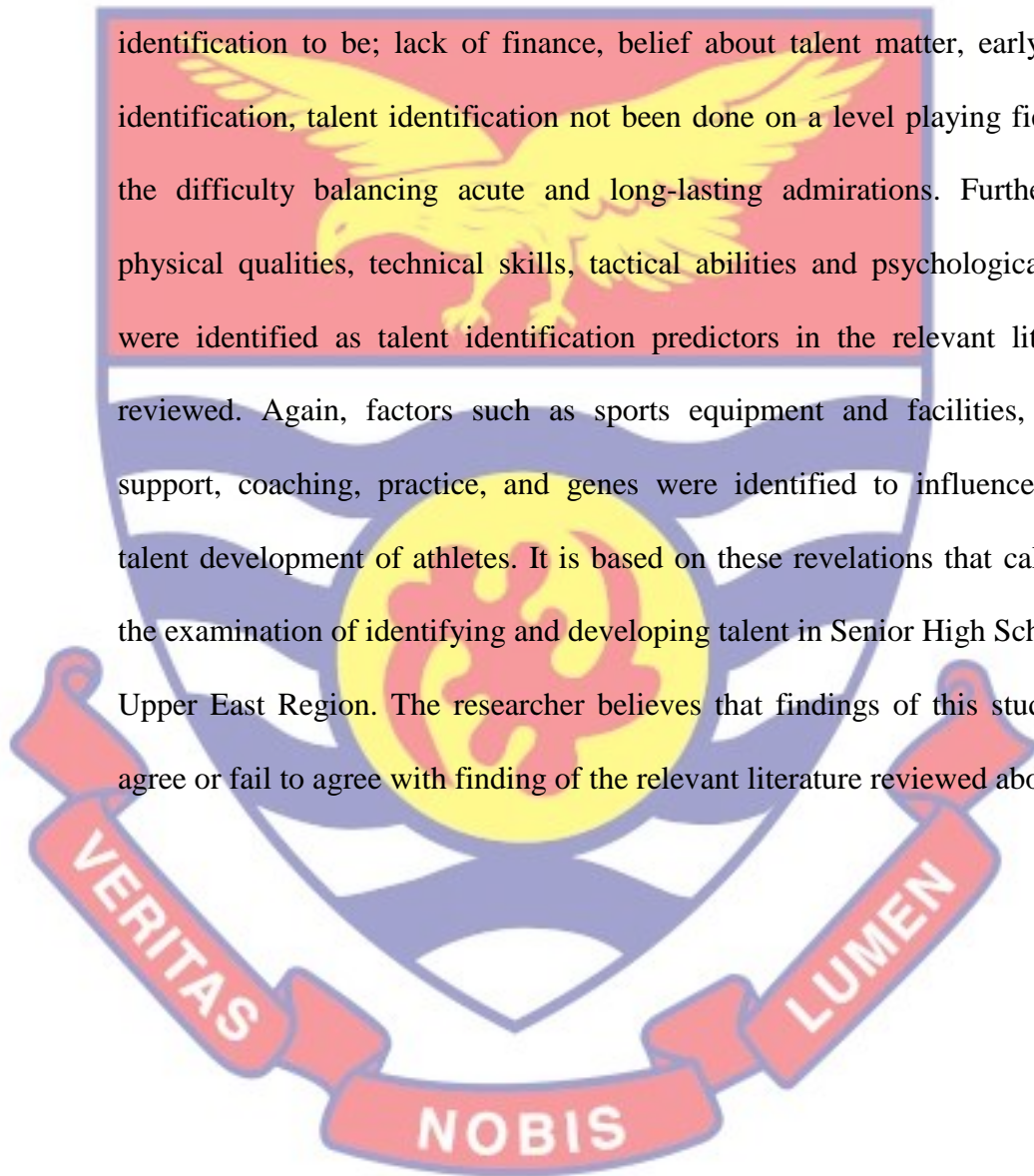
CHAPTER THREE

RESEARCH METHODS

The purpose of this study was to examine sports talent identification and development in Senior High Schools in the Upper East Region. This chapter covered the following sub-headings; the research design, study area, population, sampling procedure, data collection instrument, data collection procedures, and data processing and analysis.

Research Design

Though there are different research paradigm and design alternatives, a quantitative descriptive survey design was employed in this study. The study sought to answer different types of research questions which included how sports talents were identified (descriptive), what challenges faced sports talent identification (descriptive), and which factors predicted sports talent identification and development in Senior High Schools in Upper East Region (relationship). Hence, a quantitative descriptive survey design was used because it is versatile and applicable for answering various types of questions in research (describe, explain, and relationship) (Ogah, 2013). Also, it helped to accentuate objective measurement through record of opinions using computational techniques (Bouma, Finke, Hoosbeek, & Breeuwsma, 1998). Participants providing responses that are considered desirable or in line with social norms is a weakness of the quantitative descriptive survey (Creswell, 2008). In addressing this problem, participants were not required to provide their names on the instrument.

Study Area

The Upper East Region was the focus of the investigation. The area is situated in Ghana's north-eastern part, which is otherwise called the "Kingdom of Dagbon", and is bordered to the north by Burkina Faso and to the east by Togo. It is located between the longitudes of 0° and 1° west, and the latitudes of 10°30 north and 11° north. The Upper West Region is to the west, and the Northern Region is to the south of the Upper East Region.

It was the second smallest of Ghana's 16 administrative regions, with 8,842 square kilometers (2.7%) of the country's total land area. The region's capital, Bolgatanga, is also known as "Bolga". Navrongo, Paga, Bawku, and Zebilla were some of the region's other prominent towns. There were 15 districts in the Upper East Region, each with its own district chief executive.

Population

The population for the study were 203 coaches in all the 31 Senior High Schools in the Upper East Region (Upper East Regional Physical Education Unit, 2020). There were 23 females and 180 male coaches at the Senior High School level in the region (Upper East Regional Physical Education Unit, 2020). These group of individuals were chosen for the investigation since the core responsibility of identifying and developing sports talents lies with them.

Sampling Procedure

The sample size for the study was 203 coaches. It comprised 23 females and 180 males (Upper East Regional Physical Education Unit, 2020). Census sampling technique was used to include all members of the population

in the study because the population was small hence it was possible to collect data from each member (Ogah, 2013; Best, & Kahn, 1993).

Data Collection Instrument

The instrument (i.e., questionnaire) for gathering data was designed by the researcher. A questionnaire was used for the study because of its effectiveness in collecting data from many people within a short possible time. Additionally, the questionnaire was used because research participants were literates and could thus read and write (Koul, 2001).

To develop the instrument, relevant literature was reviewed and ten test items were selected from Li et al. (2015) Talent Development and Environment Questionnaire (TDEQ), seven were selected from Abisai (2014) "Assets and Modes of sports talent identification and development" and four were chosen from Montgomery (2009) Talent identification and Development Methods Questionnaire which enabled the researcher to develop the instrument. A copy of the instrument was sent to few colleagues to ensure it measured what it intended to measure and that it was easy to understand when read for face validity. A copy was sent to an expert in sports management from the Department of Health, Physical Education and Recreation (HPER) of the Cape Coast University (UCC) to make sure that it could execute the work for which it was designed, this ensured content validity after which the opinions of colleagues and the expert were employed in revising the instrument as needed. The investigator and research assistants administered copies of the instrument to randomly chosen smaller sample of coaches at tertiary level in the Upper East Region after which the stability of the instrument's items was ascertained with Cronbach's Coefficient Alpha. The

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instrument's reliability coefficient stood at .84. The instrument was further revised as needed and finalized.

The questionnaire was segregated into five parts. Section A consisted of two items on how sports talents are identified with two categorical responses anchored 1 (agree) and 2 (disagree). Item sample included "Talented student-athletes are selected through observation by coach during competitions" and "Talented student-athletes are selected through measurement and testing of attributes that affect overall performance in a particular sport". Section B had five items and entailed challenges that face the identification of sports talent utilizing a 2-point scale anchored 1 (agree) and 2 (disagree). Item samples included "Access to financial resources restricts the identification of talented-student athletes" "Believing too rigidly that talent is innate hinders the identification of talented student-athletes" "Early talent identification hinders the identification of talented student-athletes", "Believing too rigidly that talent is developed hinders the identification of talented student-athletes", and "Judging coaches' expertise by their teams' performance in essential tournaments is a challenge to the identification of talented student–athletes". Section C had four items and solicited information on factors that influence talent identification utilizing a four-point Likert scale anchored 1 = "strongly agree" to 4 = "strongly disagree" and item samples included "I do take into account the physique of the athlete when identifying sports talent", "I do take into account the athletes' technical ability when identifying sports talents", "I do take into account the athletes' tactical ability when identifying talents", and "I do take into account the athletes' psychological ability when identifying sports talent". Section D had five items

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and solicited information on factors that influence talent development utilizing a four-point Likert scale anchored 1 = "strongly agree" to 4 = "strongly disagree" and item samples included "Expert coaching influences sports talent development of student-athletes", "Support from family and friends influences sports talent development of student-athletes", "Regular training influences sports talent development of student-athletes", "Genes influences sports talent development of student-athletes" and "Adequate sports facilities and equipment influences sports talent development of student-athletes". Section E had five items which solicited information on talent development utilizing a four-point scale anchored 1 = "strongly agree" to 4 "strongly disagree" and sample item included "My training is specifically designed to help athletes develop effectively in the long term", "I give my athletes good opportunities even if they dip in performance", "I involve my athletes in most decisions about their sports development" "I emphasize that what athletes do in training and competition is far more important than winning" and "I review athletes' progress and personal performance regularly on an individual basis". The questionnaire contained closed-ended items.

Data Collection Procedures

To ensure that the study, research instrument, and techniques for collecting data did not infringe on participants' rights, an ethical approval was needed. As a result, the Head of the Department of HPER wrote an introduction letter for this purpose. The introductory letter was used to apply for ethical clearance from the University of Cape Coast Institutional Review Board (UCCIRB) by going through the necessary protocols involved. Hence,

the ethical clearance (ID: UCCIRB/CES/2021/52) and introductory letter (See Appendix B) helped in gaining entry into the schools.

Data were collected at the various schools by the investigator and research assistants. As compliance to covid-19 protocol measures the investigator and research assistants wore face masks and each participant was provided with one before any interaction. The investigator and research assistants carried along hand sanitizers which were used by the investigator, research assistants, and participants before and after touching any writing material or object during data collection. Again, a distance of at least 2 meters was maintained between the investigator, research assistants and participants.

Data collection took place at the various schools with help from three trained research assistants (RAs) from 7th-30th September, 2021. RAs were trained on the purpose of the study, entry protocols into the various schools and how to administer the consent form. The RAs shared the questionnaire to the participants face-to-face at the various facilities. Inform consent forms were made available to the participants. The participants were made aware that participating in the study was optional. Participants who filled their questionnaire on time were retrieved on the spot, but those who seem busy were collected after a week. Before data collection began, the purpose of study was explained to the participants.

Coaches were assured of confidentiality and anonymity. Before data collection began, all coaches were required to sign consent forms. Data were collected by the researcher and his assistants within a period of twenty-three days.

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Data Processing and Analysis

The data collected were screened for missing values and extreme scores to verify completeness for accurate frequencies and percentages analysis, and to meet the assumptions of linearity, normality and multicollinearity for multiple regression analysis. After the assumptions have been met, research questions one and two were analyzed with frequencies and percentages while research question three and four were analyzed using multiple regression.

Research Question 1: How are sports talents identified in Senior High Schools?

Since data was at the nominal level, frequencies and percentages were used for data analysis to find out how sports talents were identified in Senior High Schools.

Research Question 2: What are the challenges faced in identifying sports talents in Senior High Schools?

Frequencies and percentages were used in analyzing research question two to reveal the challenges that faced sports talent identification in Senior High Schools by counting the number of participants who held similar opinions.

Research Question 3: Which factors predict sports talent identification in Senior High Schools?

Multiple regression was used in analyzing research question three to examine which of the independent variables predicted sports talent identification. The choice of multiple regression was made because it is the statistical tool for modeling and investigating the relationship between a response variable that is measured at a continuous level (sport talent

identification) and two or more predictor variables (factors) measured on a continuous scale (Fox, 1984).

Research Question 4: Which factors predict sports talent development in Senior High Schools?

Multiple regression was used in analyzing research question four to examine which of the independent variables predicted sports talent development. The choice of multiple regression was made because it is the statistical tool for modeling and investigating the relationship between a dependent variable (sports talent development) measured on a continuous scale and two or more predictor variables (factors) measured on a continuous scale (Menard, 1995).
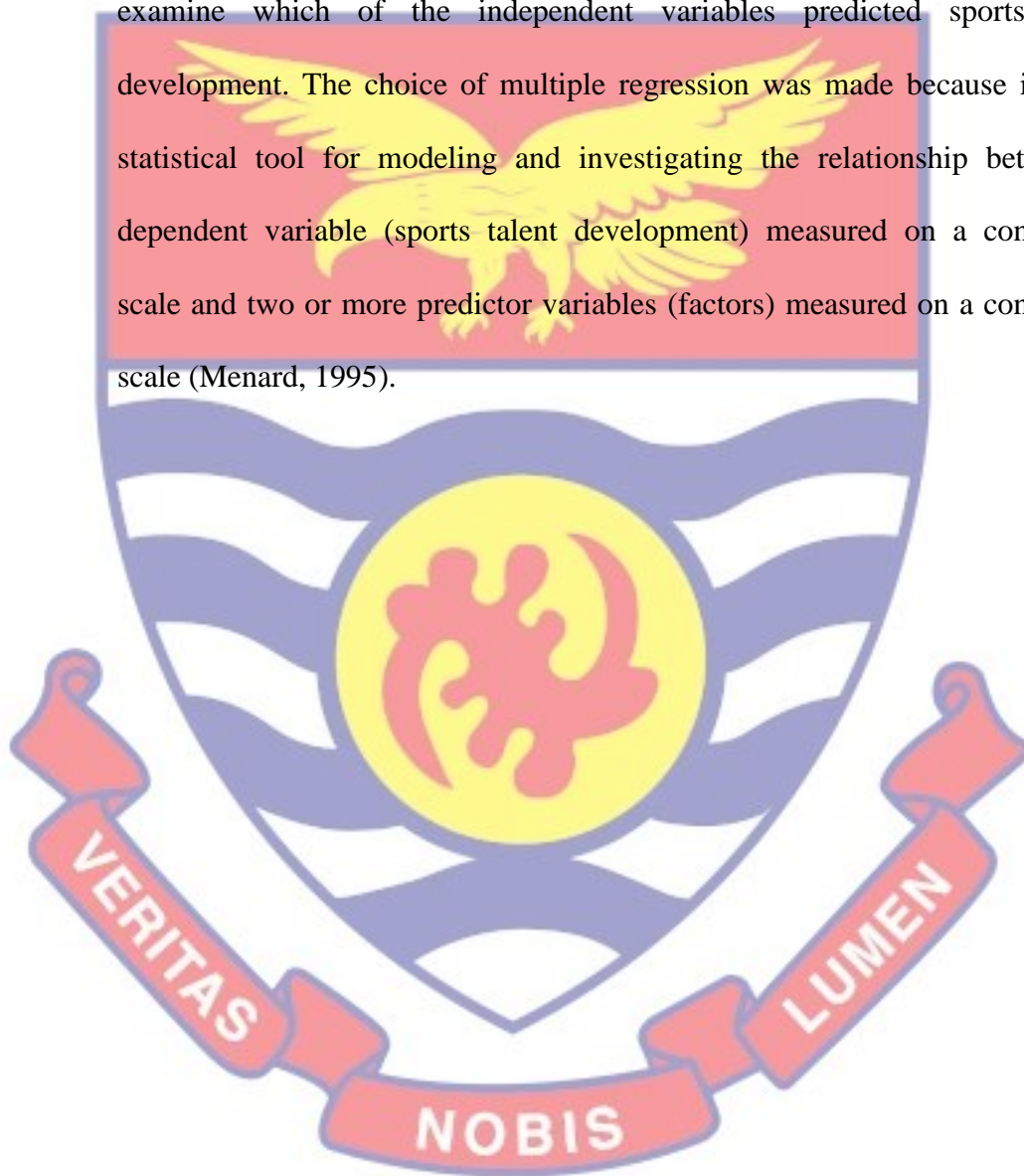
CHAPTER FOUR

RESULTS AND DISCUSSION

The purpose of this study was to examine sports talent identification and development in Senior High Schools in the Upper East Region. The investigation adopted a quantitative descriptive survey design. Also, frequencies and percentages and multiple regression were used as statistical tools for analysis. All 203 sports coaches in the Upper East Region made up of 108 male and 23 female coaches participated in the study. This part of the research report outlines results of the analysis along with their discussions in relation to the research questions.

Research Question 1: How are sports talents identified in Senior High Schools?

Two items were used to find out how talented student-athletes were identified in Senior High Schools in Upper East Region. These statements were answered using items 1 and 2 on the questionnaire under section A. Frequencies and percentage were conducted to determine the mode by which coaches identify talented student-athletes in Senior High Schools in Upper East Region. Each of these items were coded as Agree = 1, and Disagree = 2. All the 203 participants responded to all the items. Their responses are indicated in Table 1.

Table 1: Modes of Identifying Talented Student Athletes in Senior High School

Items	Agree	%	Disagree	%	Total	% of Total
Talented student-athletes are selected through observation by coaches during competition	184	90.6	19	9.4	203	100
Talented student-athletes are selected through measurement and testing of attributes that affect overall performance in a particular sport.	28	13.8	175	86.2	203	100

Source: Field Survey (2021)

Result in Table 1 showed that, 184 (90.6%) of the participants agreed that talented student-athletes were identified through observation by coaches during competitions while 19 (9.4%) disagreed. Additionally, 28 (13.8%) of the participants agreed that talented student-athletes were identified through testing and measuring of attributes that affect overall performance in a particular sport while 175 (86.2%) disagreed.

The results of the study indicates that identification of talented student-athletes in Senior High Schools in Upper East Region is mainly based on observation by the coach during competitions. This may be done during intramural competitions such as inter-class, inter-department, inter-house competition or during extramural sports competitions such as inter-schools and zonal competitions. The probable reason for employing natural selection in identifying sports talents in Senior High Schools in Upper East Region may be because there are few coaches and many athletes in these schools. This

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suggest that the mode of identifying talented student-athletes in Upper East Region could be likened to that of China, the United States of America, India (Krasilshchikov, 2010), and the National Governing Bodies of Sports (NGBs) (Burwitz, Moore, & Wilkinson, 1994) since the principal approach employed by these previous studies in identifying sports talent was natural selection. The finding in this study is in line with that of Christensen (2009) who observed that identifying sports talents heavily relies on subjective assessment based on the coach's "eye for talent". The finding also agrees with William and Reilly (2000) who found out that coaches rely on their experience through sports to identify sports talents. Additionally, results of this study indicate that scientific method of measuring and testing of physical, physiological, psychological, and social attributes as well as technical was the less used mode of identifying sports talents in Senior High Schools in Upper East Region. This means that Senior High Schools in Upper East Region are yet to embrace the use of scientific methods which involves testing of attributes associated with success in a particular sport. The probable reason may be that Senior High Schools in Upper East Region are not equipped with instruments that coaches can use to measure physiological attributes of athlete. It may also be because there are few coaches in the Senior High School as against the large number of students in the schools. Therefore, measuring and testing physical, physiological, psychological and social attributes from a large number of individuals by a coach was time consuming and tiring. This finding is consistent with Williams and Franks (1998) who observed that globally, programmes that are adopted in identifying sports talents do not use scientific approaches. The practical implication of this finding is that a student would have to be a participant for

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his/her sports talent to be recognized by a coach, the sports talent of students who do not compete may be over looked.

Research Question 2: What are the challenges faced in identifying sports talents in Senior High Schools?

Five items were used to find out challenges faced by coaches in identifying talented student-athletes in Senior High Schools in Upper East Region. These statements were answered using items 3-7 on the questionnaire under section B. Frequencies and percentages were calculated to determine the challenges faced by coaches in identifying student-athletes in Senior High Schools in Upper East Region. Each of these items was coded as Agree = 1, and Disagree = 2. All the 203 participants responded to all the items. Their responses are indicated in Table 2.

Table 2: Challenges in Identifying Talented Student Athletes in Senior High School

Items	Agree	%	Disagree	%	Total	% of Total
Limited financial resources	167	82.3	36	17.7	203	100
Too rigid belief that talent is innate	38	18.7	165	81.3	203	100
Judging coaches expertise by their team's performance	150	73.9	53	26.1	203	100
Early talent identification	140	69.0	63	31.0	203	100
Too rigid belief that talent is developed	45	22.2	158	77.8	203	100

Source: Field Survey (2021)

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Table 2 clearly shows that most of the participants indicated that limited financial resource (82.3%) was a challenge in identifying talented student athletes. This was followed by judging coaches' expertise by their team's performance in essential competitions (73.9%), then early talent identification of talented-student athletes (69%). However, majority of the participants indicated that too rigid belief that talent is innate (81.3%) was not a challenge in identifying talented student-athletes, this was followed by proportions of participants who indicated that too rigid belief that talent is develop was not a challenge in identifying talented student-athlete (77.8%).

The current investigation revealed that identifying student-athletes who are exceptional was hindered by lack of finance in Senior High Schools in the Upper East Region. The probable reason may be that parents with limited financial resources were not able to purchase basic sport equipment such as boots, jerseys and running shoes for their wards to use hence some students had potential to be great sports performers but coaches could not recognize these potentials since such students did not participate at all or participated using improper attires. Previous investigations in this field stressed the consistency of economic limitations to participation in high-performance sports (Beamish, 1992). This observation agrees with earlier observations from investigations made by Heritage Canadian (2013) which concluded that whilst 58% of Canadian students from households that earn over $40,000 take part in Sport, 85% of Canadian students from households that earn over $80,000 take part in sport. Practically, the findings implies that student-athletes at the Senior High School level in Upper East Region do not get

financial support from significant others to enable them participate or perform well in sports.

The results of this study also suggested that judging coach's expertise by their team's performance in essential competitions is a challenge in identifying talented student-athletes at the Senior High School level in Upper East Region. Sports talent identification is a long-term process and one of the challenges in traditional athlete talent identification systems is the difficulty balancing short and long-term goals. Previous research acknowledges that this conflicting reality plays itself out in several other sports at the high school level and the collegiate level in the United States (Pearson, Naughton, & Torode, 2006). In such systems, coaches maintain their reputation based on their team's temporary success: their win-loss report or how their team does in an essential tournament (Barreiros et al., 2014; Barreiros & Fonseca, 2012). Practically, the findings implies that during this process, trainers at the Senior High School level in Upper East Region are no longer choosing based totally on talent, nor attainable talent. They are selecting based totally on performance, and who will function best in a relatively brief timeframe.

Again, the study found out that early talent identification was a challenge in identifying talented student-athletes at the Senior High School level in Upper East Region. The probable reason may be that early talent identification suggests that talent is a fixed capacity and does not change over developmental time (Howe, Davidson, & Sloboda, 1998). Basically, the proof in sports supporting early symptoms of talent is susceptible (Barreiros & Fonseca, 2012; Brouwers et al., 2012). Simonton (1999) proposed a more legitimate clarification of talent as a multi-faced quality that reflects the

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relative contribution of physical, physiological, cognitive, and dispositional features that facilitate or hinder the acquisition of knowledge in a domain. He emphasized that these qualities emerge at different rates for different individuals throughout their development, thus emphasizing the difficulty of early talent identification of these qualities. Similar discussions concerning early talent identification as a challenge in identifying talented performers have occurred in sports (Abbott et al., 2005; David et al., 2013). Practically, this finding implies that coaches at the Senior High School level in Upper East Region find it difficult identifying talented student athletes early since later developments may differ from current observations.

However, the study found out that coaches' belief about whether talent is innate or developed is not a challenge to identifying talented student-athletes at the Senior High School level in Upper East Region. The plausible reason may be that coaches at the Senior High School level in Upper East Region rely heavily on their eyes to make judgement about sports talent. Therefore, too stringent belief that talent is either innate or developable, has no significant implication for the prediction choices made by coaches. When a coach decides who has the potential for future development, they are ultimately predicting a range of future sports outcomes. Findings in this study contradicts research findings of Tetlock (2005) which found out that too stringent belief that talent is either innate or developable is related to diminished accuracy in talent identification.

Research Question 3: Which factors predict sports talent identification in Senior High Schools?

A multiple regression analysis helped in determining variables that predict sports talent identification. Items 1-2 under section A were computed to form a composite variable "sports talent identification" and items 8-11 under section C were used as the predictor variables. Table 3 presents the results from the regression analysis.

Table 3: Predicting Sports Talent Identification from Physical Qualities, Technical Abilities, Tactical Qualities, and Psychological abilities.

VARIABLE	B	BETA	T	Sig	CS	
					T	VIF
Constant	3.074		37.173	.000		
Physical Qualities	-.035	-.088	-1.274	.204	.960	1.042
Technical Qualities	.064	.153	2.254	.025	.993	1.007
Tactical Qualities	-.085	-.276	-3.851	.000	.893	1.120
Psychological Qualities	.012	.047	.662	.509	.918	1.089
R	.305					
R^2	.093					

Source: Field Survey (2021)   F= 5.065   df= (4, 198)   P<.05

Initial correlation analysis showed low to moderate inter-correlations among variables. The regression analysis indicated Variance Inflation Factor (VIF) of more than one and tolerance of less than one, indicating no collinearity. Data met assumption of normal distribution and had no outliers. The analysis revealed that the general model was significant, $F_{(4, 198)}$ = 5.065, P< .05. The sample multiple correlation was .305 with an adjusted R^2 of .075 and R^2 of .093, indicating that approximately 9.3% of the variance of sports talent identification can be accounted for by the linear combination of the independent variables. It was found that technical ability was a significant

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predictor of sports talent identification (β = .153, p<.05) while tactical ability was a negative and significant predictor of sports talent identification ((β = -.276, p<.05). However, physical ability and psychological ability only made small and not significant contributions as presented in Table 3.

A linear correlation revealed that technical ability was a significant predictor of sports talent identification at the Senior High School level in Upper East Region and accounted for about 15.3% of variance in sports talent identification of talented student-athletes. This implies that an athlete's level of technical ability was relevant in recognizing the athlete's potential to excel in that particular sport at the Senior High School level in Upper East Region. The plausible reason may be that while evaluating both sports performance and sports talent determinants in training athletes, the dynamic and individual character of both sports performance and sports talent must constantly be taken into account. Given the very demanding and specific proficiencies necessary for high quality performance in numerous sports (Gibert & Jackson, 2004), technical abilities seem to be particularly important, especially in the early stages of development (Gibert & Jackson, 2004; Wilson, 2006). A few studies utilizing a multi-dimensional method to measure sports-specific technical abilities discovered that technical skills predicted subsequent success in a variety of sports (Nigam, 2010). Other research has revealed that assessing sports-specific abilities is a key component of efficient sports talent identification (Hadavi, 2000), which is in accordance with the results of this study. When compared to other indications, sports-specific technical skill tests show to have the ability to distinguish between gifted and untalented athletes throughout pre-adolescents and adolescence (10-16 years of age) and to better

predict future performance (Ghita, 1994). These results highlight the importance of sports-specific technical abilities in predicting sports performance and, as a result, in identifying sports potential at the Senior High School level in Upper East Region.

The results showed that tactical ability was a significant and negative predictor of sports talent identification at the Senior High School level in Upper East Region and that when the score of tactical ability increases by one standard deviation (all other independent variables held constant) there was a corresponding decrease in sports talent identification by -.276 (27.6%). The probable reason may be that tactical skills refer to the ability of an individual athlete to perform the right action at the right moment and quickly adapt to new configurations of practice or competition (Grehaigne & Godbout, 1995). Hence, for a student-athlete at the Senior High School level in Upper East Region to perform the right action at the right moment, with a successful performance or outcome, a combination of his/her physical qualities, technical skills, psychological abilities and a proper understanding of the sports is required. Therefore, the focus on tactical ability only for recognizing potential in sports performers and the neglect of other determinants at the Senior High School level in Upper East Region appears striking and leaves great potential untapped. In contrast, previous studies found evidence of tactical skill as a positive predictor of talent identification (McPherson, 1999; Ward & Williams, 2003). Talented athletes outperform untalented athletes in many aspects of tactical skills, according to research. A talented athlete is better able to choose the right answer for a circumstance within the setting of the sports

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goal structure, based on less information, and can do so faster as against an untalented athlete (Thomas et al., 1986; Williams et al., 1993).

Physical ability was not found be to a significant predictor of sports talent identification at the Senior High School level in Upper East Region. The probable reason may be that while anthropometrical and physical variables are understandable due to their undeniable importance in many sports as well as their relatively simple, proven, and handy evaluation techniques, these anthropometrical (e.g., height) and physical/ physiological (endurance, speed, agility, etc.) measures could be greatly impacted by discrepancies in maturation and growth processes along with varying learning magnitudes (Gaston-Gayles, 2004). Therefore, the focus on these factors and the neglect of other predictors at the Senior High School in Upper East Region left a great potential untapped. Hence, coaches do not consider physical ability when identifying sports talent in Senior High Schools in Upper East Region.

However, research suggests that physical traits of skilled athletes are linked to performance in significant ways (Borms, 1996). Successful young athletes, for example, seem to have physiques that are comparable to those of older successful athletes (Abbot et al., 2005). A chunk of data suggests that exceptional athletes are biologically older (i.e., more physically mature) than their less talented peers, and trainers tend to prefer players who are farther along in their morphological development throughout the talent discovery process (Panfil et al., 1997). In comparison to other players, successful players were physically fitter. Janssens et al. (1997) found that efficacious and less efficient 11- to 12-year-old handball players may be distinguished by their performance in short (30m) and long (30m) "shuttle" running. Cugliari (2000)

came to the same conclusion, claiming that physical measurements might be effective in forecasting skill in athletes.

Psychological traits was not found be to a significant predictor of sports talent identification at the Senior High School level in Upper East Region. The possible reason may be the difficulty in capturing such latent variables by the coaches at the Senior High School level in Upper East Region. Appropriate diagnostic instruments are often very time-consuming and complex, especially in sports-specific context. In line with research findings of this study, other research have found no significant relationship between psychological traits and talent identification (Figueiredo, 2009; Huijgen, 2014).

Hahn (1990), on the contrary, asserted that psychological characteristics distinguish good players from less successful ones. A talented player is thought to have personality traits that make training and competition easier. Recently, sports psychology experts have looked into the importance of more transitory or adaptable personal attributes, such as anxiety, self-confidence, motivation, and attention style, using "state" (as opposed to "trait") or interactionist (based on personal and situational factors) approaches, including sport-specific measures of anxiety, self-confidence, motivation, and attention style. Talented athletes are more devoted, self-assured, and less anxious both before and during competition, able to use diverse psychological coping techniques efficiently, more highly driven, and better at sustaining attentiveness throughout performance, according to researchers (Ghita, 1994). Within psychological traits, both components of the achievement motive (i.e., hope for success and fear of failure) proved to be associated with future

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success in sports (Hahn, 1990). These findings showed that athletes with high dispositions toward hope for success demonstrated more functional behaviors (e.g., more endurance and effort, and self-serving attributions) compared with the athletes with high fear of failure value. Morris (2000) argues that administrators and coaches are advised to allocate resources to identifying talented athletes by their psychological abilities.

Research Question 4: Which factors predict sports talent development in Senior High Schools?

A multiple regression analysis helped in determining variables that predict sports talent development. Items 17-21 under section E were computed to form a composite variable "sports talent development" and items 12-16 under section D were used as the predictor variables. Table 4 present the results from the regression analysis.

Table 4: Predicting Sports Talent Development from Genetics, Sports Equipment, Expert Coaching, Regular Training, and Family Support

VARIABLE	B	BETA	T	Sig	CST	VIF
Constant	4.693		6.971	.000		
Expert coaching	.939	.271	4.224	.000	.934	1.070
Genes	-.212	-.085	-1.232	.219	.798	1.253
Sports Equipment	.801	.300	4.425	.000	.832	1.202
Regular training	1.050	.260	3.848	.000	.838	1.193
Family	.440	.151	2.318	.021	.909	1.100
R	.494					
R^2	.244					

Source: Field Survey (2021)   F= 12.716   df= (5, 197)   P<.05

Initial correlation analysis showed low to moderate inter-correlations among variables. The regression analysis indicated VIF of more than one and tolerance of less than one, indicating no collinearity. Data met the assumption

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of normal distribution and had no outliers. The analysis revealed that the general model was significant, $F_{(5, 197)} = 12.716$, $P < .05$. The sample multiple correlation was .494 with an adjusted R^2 of .225 and R^2 of .244, indicating that approximately 24.4% of the variance of talent development can be accounted for by the linear combination of the independent variables. It was found that adequate sports facilities significantly made the largest contribution ($\beta = .300$, $p<.05$), followed by expert coaching ($\beta = .271$, $p<.05$), next was regular training ($\beta = .260$, $p<.05$), and family support ($\beta = .151$, $p<.05$). However, genetics made only small and not significant contribution as presented in table 4.

A linear correlation revealed that adequate sports facilities was a significant predictor of sports talent development and accounted for about 30% of variance in talent development of talented student-athletes at the Senior High School level in Upper East Region. Therefore, as talented student-athletes gain access to adequate sports facilities and equipment, their sport talent development increases. Specifically, the findings mean that talented student-athletes in the Upper East Region who find themselves in an environment where there are adequate sports facilities develop their talents faster. The plausible reason may be that the talented student-athletes at the Senior High Schools in Upper East Region through the use of these facilities refine their skills in performance using standard equipment to excel in competitions. For example, a talented player who trains on a grass football field would feel more comfortable playing a match on the said field than a player who has never played on one.

This finding is consistent with previous research findings from Singer and Janelle (1999) who found out that an extra impetus for attaining achievement is the capacity to acquire suitable clothing and equipment related to a particular sport. Similarly, Williams and Reilly (2000) found out that creating the best surrounding in which to nurture talent may additionally play a more widespread role inside the development of talent than does heredity. Also, Helsen et al. (2000) asserted that elements such as facilities and equipment are essential for athletes with the capacity to come to be an expert in the sport. Again, a study by Gore (2004) also found out that the availability of standard equipment and facilities was critical to all the athletes, no matter their level. Practically, the findings imply that a great advantage of talent development is having convenient and available facilities in which to train. Therefore, Senior High Schools in Upper East Region need to assist and develop sports activities by providing the finance to buy sports activities equipment and helping student-athletes to take part in national college sports. For instance, Tennis Australia believes that having a variety of facilities is important for meeting player development demands (Sotiriadou, 2005).

The results showed that expert coaching was a significant predictor of sports talent development and that when expert coaching increases by one standard deviation (all other independent variables held constant) there is a corresponding increase in sports talent development by .271 (27.1%). The probable reason may be that providing high-quality training programme and sessions including informational support at the Senior High School level in Upper East Region is the main task for a coach. A coach's responsibilities may include giving tangible assistance and developing positive relationships with

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athletes in addition to delivering effective training (Johnson et al., 2008; Morgan & Giacobbi, 2006). At the late developmental stages, a strong "coach-athlete" relationship should be established. A true "coach-athlete" relationship is built on (a) mutual belief and respect; (b) understanding an athlete's needs; and (c) caring about an athlete as a person rather than just a performer (Gould et al., 2002). A group of support employees helps to ensure that a high-quality training program is implemented (e.g. fitness trainers, sports psychology experts, nutritionist, physiotherapist, and exercise physiology practitioners). These five support staff members are extremely valuable assets, especially during later stages of talent development, such as during the investment era (Durand-Bush & Salmela, 2002; Morgan & Giacobbi, 2006).

Bloom (1985) asserted that being mentored by caring and knowledgeable coaches, particularly during developmental years, can make a significant difference. Great coaches know when to push their athletes to work harder, when to ease up on the intensity and pressure, and how to mold their careers. According to the conclusions of this study, coaches play an important influence in the development of sports potential (Holt & Morley, 2004; Johnson et al., 2008; Morgan & Giacobbi, 2006). Hence in order to aid sports talent development there is the need to employ expert coaches and help other coaches develop professionally in the Upper East Region.

Furthermore, regular training was also found be to a significant predictor of sports talent development and was accountable for about 26% of the variance in talent development of talented student-athletes at the Senior High School level in Upper East Region. The plausible reasons may be that as talented student-athletes at the Senior High Senior level in Upper East Region

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train regularly, their skill levels increase and become refined through exercises they engage in. Regular training helps them develop and control their motor skills and abilities making them more skilled and successful in a particular sports performance. In a sense, the errors in their sports performance becomes very few and can generally be detected and corrected by them if they occur. Their sports ability therefore becomes automatic and habitual.

This finding is in line with past investigation from Simon and Chase (1973) who proposed that regular training was important for the accomplishment of aptitude. Also, the absence of time and coordination of time for regular training is a common explanation behind dropout in competitive games (Enoksen, 2002) and Howe, Davidson, and Sloboda (1996) observed no individual accomplished elevated levels without standard and regular training. The findings in this study however contradict Ericsson and Lehman (1996) assertion that regular practice is the most significant factor for talent development but supports McNamara, Hambrick, and Oswald (2014) who concluded that regular training is a significant predictor of talent development yet not as solid an indicator as Ericsson and partners declared.

The results of the analysis again showed that family was a significant predictor of sports talent development at the Senior High School level in Upper East Region and that when family support increases by one standard deviation (all other independent variables held constant) there is a corresponding increase in sports talent development by .151 (15.1%). The reason may be that parents have been mentioned to occupy the key positions and played differing roles within the development trajectory of experts (Bloom, 1985). Parents of student athletes at the Senior High School level in

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Upper East Region furnished tangible (e.g., monetary aid and transportation) and social/emotional help (e.g., disciplined involvement, encouragement, and setbacks) to assist and expand the sports activity talents of their children. Also, other research indicated that parents supplied a realistic guide in sports (Gould et al., 2008; Holt, & Morley, 2004; Pummel et al., 2008). There is a positive effect on talent development when parents exhibit positive behaviors (e.g., providing logistical, financial, and emotional support; providing opportunities for participation; and unconditional love), whereas there is a negative effect on talent development when parents exhibit negative attitudes (e.g., overemphasizing winning; having unrealistic expectations, and criticizing the child) (Gould et al., 2006). The importance of the family in the process of transforming a child's potential to become a world-class athlete has been continually highlighted in research on talent discovery and development (Bloom, 1985; Cote, 1999; Durand-Bush, & Salmela, 2002). In addition, the structure of one's family can influence one's willingness to participate in sports at the Senior High School in Upper East Region. According to an investigation by Fallon and Bowles (1997), a family with an employed father and mother is more likely to encourage talent development than a household with a single-earner.

Parents were in certain instances viewed as antecedents of pressure, restricting athletes' growth, contrary to the findings of this study (Cote, 1999; Lauer et al., 2010). Tennis athletes frequently reported increasing adult pressure during their middle years of growth, according to a study conducted by Lauer et al. (2010) in which nine elite tennis players, their parents, and coaches were interviewed. Over-emphasis on development, a focus on

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winning, and the use of controlling behavior to achieve goals are examples of these pressures. Gould et al. (2006) added to this by stating that parents place too much emphasis on winning and place unrealistic expectations on their children. Practically, the findings of this study implies that for coaches to help develop the talents of their student athletes faster, they will have to cooperate effectively with the family of the athlete.

Genetics was not found be to a significant predictor of sports talent development at the Senior High School level in Upper East Region. The probable reason may be that though several physiological factors associated with heart functioning, aerobic functioning, injury susceptibility, and training intensity have shown that some characteristics important for sports are inheritable, coaches at the Senior High School level in Upper East Region are constrained in terms of equipment and expertise in testing for these qualities. Indeed some researchers believe that a "sports gene" exists that can help predict talent from a very early age (Kay, 2000). The findings of this study however contradicts An et al. (1999) who located that genes contain resting heart rate. Similarly, Perusse et al. (2001) asserted that maximal and submaximal cardio potential is confined genetically. These findings and others made clear responses that sports talent is based totally on a person's gene (Rice et al., 2002). Research findings in this study implies that talented student-athletes in Senior High Schools in Upper East Region do not depend on some features they inherited from their parents to develop their sports talents.

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CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was to examine sports talent identification and development in Senior High Schools in Upper East Region. The following research questions guided the study; how are talented student-athletes identified in Senior High Schools, what are the challenges faced in identifying talented student-athletes in Senior High School, what factors predict sports talent identification, and what factors predict sports talent development.

Summary

Some theories such as Bompa model and Bloom's Staged Developmental model that deal with talent identification and development were reviewed to help gain clarity on the methods of identifying talent, challenges facing talent identification and factors influencing talent identification and development. A conceptual framework was drawn from the Bompa model and Bloom's Staged Developmental Model. Again literature was reviewed under the following headings; nature of sports, talent identification in sports, talent identification factors in sports, role of practice in sports talent development, role of coaches in sports talent development, facilities and equipment for sports talent development, role of the family in sports talent development, role of genes in sports talent development etc.

A quantitative descriptive survey design was employed in this study. Census sampling technique was used to include all 203 sports coaches in Senior High Schools in the Upper East Region in the study. A questionnaire was used for collecting data. Also, frequencies and percentages and multiple regression were used as statistical tools for analysis.

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The key findings of the study are as follows:

1. Majority of the participants indicated that talented student-athletes were identified through observation during competitions.

2. Majority of the participants indicated that limited financial resources, judging coaches expertise by their team's performance and early talent identification were challenges to identifying talented student-athletes.

3. The study further revealed that technical ability was significant in predicting sports talent identification and that tactical skill was a significant negative predictor of sports talent identification, while physical qualities and psychological traits were not significant in predicting sports talent identification.

4. Adequate sports facilities, expert coaching, regular training and family support were significant in predicting sports talent development while genetics was not significant. In addition, adequate sports facilities and equipment reportedly made the largest contribution to sports talent development, followed by expert coaching, next was regular training and family support.

Conclusions

The following conclusions were drawn from the study findings:

1. Many sports talents in Senior High Schools in Upper East Region are over looked because they are not currently participating in the sports.

2. Adequate financial resources are not allocated for sports talent identification of student-athletes in Senior High Schools in Upper East Region. Much focus is placed on winning Senior High School

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competitions to the detriment of recognizing potential for future success in sports performance among student athletes.

3. Technical skill level of a student athlete is necessary in determining whether the athlete will become an expert performer. Again, the little consideration given to tactical ability leads to a corresponding increase in sports talent identification. This finding is unexpected but the probable reason may be that tactical skill is a combination of physical qualities, technical skills, psychological traits and a proper understanding of the game. Hence, the focus on tactical ability only for predicting potential for future success in sports meant athletes who show one of these qualities only were over looked.

4. Increase in adequate sports facilities and equipment, expert coaching, regular training and family support will lead to a corresponding increase in the number of elite athlete in Senior High Schools in the Upper East Region of Ghana.

This study has revealed insights on how sports talents are identified, challenges faced in identifying sports talents and factors that predict sports talent identification and developed in Senior High Schools in Upper East Region, Ghana. Now there is a clear understanding of how to improve upon identifying talented student-athlete and what is needed to be done in order to help develop these sports talents after they have been identified.

Recommendations

From the findings of this study, the following recommendations are made:

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1. Coaches in Senior High Schools in the Upper East Region should include scientific methods of measuring physical, physiological and social attributes of student-athletes in identifying athletes with potential of becoming elite performers.

2. The Director of Education Service and Heads of Senior High Schools in Upper East Region should allocate adequate financial resources to sports development so that a sufficient portion can be used by coaches to enhance sports talent identification. Again, Senior High Schools in Upper East Region should focus more on identifying and developing sports talents rather than winning Senior High School sports competitions.

3. Coaches when identifying sports talents in Senior High Schools should look out for athletes who are technically skilled and provide them with regular training to help develop their talents.

4. Senior High Schools should provide talented student-athletes with adequate sports facilities and equipment, and qualified coaches to help them develop their sports talent. Also, parents, siblings, and friends should provide support to talented student-athletes in any way possible.

Suggestions for Further Research

The following areas were suggested for further research:

1. The study focused on only Senior High Schools in Upper East Region. It is therefore suggested that the study be replicated in Senior High Schools in other regions in Ghana.

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2. Quantitative research design was employed in this study. It is recommended that the study should be replicated using a qualitative research design.

REFERENCES

Abbott, A., & Collins, D. (2004). Eliminating the dichotomy between theory and practice in talent identification and development: Considering the role of psychology. *Journal of Sports Sciences*, *22*, 395-408.

Abbott, A., Button, C., Pepping, G. J., & Collins, D. (2005). Unnatural selection: Talent identification and development in sport. *Nonlinear Dynamics, Psychology, and Life Sciences, 9,* 61 –88.

Abbott, A., Collins, D., Martindale, R. & Sowerby, K. (2002).Talent identification and development: *An Academic Review*: Sportscotland.

Abbott, A., Collins, D., Sowerby, K., & Martindale, R. J. J. (2007*). Developing the potential of young people in sport: A report for sportscotland by The University of Edinburgh.* Edinburgh: Sportscotland.

Abisai, J. (2014). *Assets and modes of identification and development of talented student-athletes in selected sport disciplines in Kenyan universities*. (Kenyatta University, Kenya) Retrieved from library. ku.ac.ke/handle/123456789/11954.

Abraham, A., & Collins, D. (1998). Examining and extending research in coach development. *Quest, 50*(1), 59-79.

Ajiduah, A. (2001). *Revitalizing sport in Nigeria: practices, problems and prospects* (pp. 47-57). National committee on Problems of sport development in Nigeria.

An, P., Rice, T., Gagnon, J., Borecki, I. B., Pérusse, L., Leon, A. S., & Rao, D. C. (1999). Familial aggregation of resting blood pressure and heart rate

in a sedentary population: The heritage family study. *American Journal of Hypertension, 12*(3), 263-70.

Australian Institute of Sport, 2003.

Bailey, R., Toms, M., Collins, D., Ford, P., MacNamara, Á., & Pearce, G. (2011). Models of young player development in sport. In I. Stafford (Ed.), *Coaching children in sport 22* (pp. 38-56). London: Taylor & Francis Group.

Baker, J. (2012). Do Genes Predict Potential? Genetic Factors in Athletic Success. In Baker, J., Cobley, S., & Schorer, J. (Eds.), *Talent Identification and Development in Sport. International Perspectives (pp 13-24).* Oxon, UK: Routledge.

Baker, J., & Côté, J. (2003). Sport-specific practice and the development of expert decision-making in team ball sports. *Journal of Applied Sport Psychology*, *15*, 12-25.

Baker, J., & Horton, S. (2004). A review of primary and secondary influences on sport expertise. *High Ability Studies, 15,* 211–228.

Baker, J., & Young, B. (2014). 20 years later: Deliberate practice and the development of expertise in sport. *International Review of Sport and Exercise Psychology, 7,* 135–157.

Baker, J., Cobley, S., Montelpare, W. J., Wattie, N., Faught, B., & the Ontario Hockey Research Group. (2010). Exploring mechanisms of the relative age effect in Canadian Minor Hockey. *International Journal of Sport Psychology*, *41*, 148–159.

Baker, J., Horton, S., Robertson-Wilson, J., & Micheal, M. (2003). Nurturing sport   expertise: Factors influencing the development of elite athletes. *Journal of Sports Science and Medicine, 2*(1), 1-9.

Baker, J., Wattie, N., & Schorer, J. (2015). Defining expertise: A taxonomy for researchers in skill acquisition and expertise. In J. Baker, & D. Farrow (Eds.), *The Routledge handbook of sport expertise* (pp. 145–155). London, England: Routledge.

Barnsley, R. H., & Thompson, A. H. (1988). Birthdate and success in minor hockey: The key to the NHL. *Canadian Journal of Behavioural Science*, *20*, 167-176.

Barreiros, A. N., & Fonseca, A. M. (2012). A retrospective analysis of Portuguese elite athletes' involvement in international competitions. *International Journal of Sport Science and Coaching, 7,* 593–600.

Barreiros, A., Côté, J., & Fonseca, A. M. (2014). From early to adult sport success: Analysing athletes' progression in national squads. *European Journal of Sport Science, 14(*sup1), 178–182.

Beamish, R. (1992). Towards a socio-cultural profile of Canada's high performance athletes. *International Review for Sociology of Sport, 27,* 279–288.

Best, J. W., & Khan, J. Y. (1993). *Research in education (7th ed.)*. Boston: Allyn and Bacon.

Bloom, B. S. (1985). *Developing Talent in young people*. New York: Ballentine Books.

Bloom, G. A., Crumpton, R. and Anderson, J. E. (1999). A systematic observation study of the teaching behaviors of an expert basketball coach. *The Sport Psychologist 13,* 157-170.

Bompa, T. (1999). *Periodization: The theory and methodology of training* (4th ed.). Champaign, IL: Human Kinetics.

Borms, J. (1996). *Early identification of athletics talent keynote address to the international pre-Olympic scientific congress*, dallas, USA.

Bouchard, C., An, P, Rice, T., Skinner, J. S., Wilmore, J. H., Gagnon, J., & Rao, D. C. (1999). Familial aggregation of VO2max response to exercise training: Results from the heritage family study. *Journal of Applied Physiology*, *87,* 1003-8.

Bouchard, C., Daw, E. W., Rice, T., Pérusse, L., Gagnon, J., Province, M. A., Leon, A. S., Rao, D. C., Skinner, J. S., & Wilmore, J. H. (1998). Familial resemblance for VO2max in the sedentary state: The heritage family study. *Medicine & Science in Sports and Exercise, 30*(2), 252-58.

Bouma, J., Finke, P.A., Hoosbeek, M.R., and Breeuwsma, A. (1998). Soil and water quality at different scales: concepts, challenges, conclusions and recommendations. *Nutrient Cycling in Agro-ecosystems, 50*, 5-11.

Brouwers, J., De Bosscher, V., & Sotiriadou, P. (2012). An examination of the importance of performances in youth and junior competition as an indicator of later success in tennis. *Sport Management Review, 15,* 461–475.

Brown, J. (2001). *Sport talent: How to identify and develop outstanding athletes*. Champaign, IL: Human Kinetics.

Brustad, R., Babkes, L., & Smith, Alan L. (2001). Youth in sport: Psychological considerations. *Handbook of Sport Psychology, 2*, 604-635.

Burwitz, L., Moore, P. M., & Wilkinson, D. M. (1994). Future directions for performance-related sports science research: An inter-disciplinary approach. *Journal of Sport Sciences*, *12*, 93-109.

Carlson, R. (2011). Talent detection and competitive progress in biathlon: A national example. *Polish Journal of Sport & Tourism, 18,* 290-295.

Christensen, M. (2009). An eye for talent: Talent identification and practical sense of top-level soccer coaches. *Sociology of Sport Journal, 26*, 365-382.

Cobley, S. P. (2001) *Evaluating the microstructure of practice: The relationship between coach expertise and practice structure.* Unpublished master's thesis. Queen's University, Kingston, Ontario, Canada.

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,* 235–256.

Collins, M., Xenophontos, S. L., Cariolou, M. A., Mokone, G. G., Hudson, D. E., Anastasiades, L. A., & Noakes, T. D. (2004). The ace gene and endurance performing during the South African Ironman Triathlons. *Medicine and Science in Sports and Exercise, 36,* 1314-20.

Corrine, V.S. (1998). How does heredity affect athletic performance? *The Physician and Sportsmedicine, 15*, 134-140.

90

Côté, J. (1999). The influence of the family in the development of talent in sport. *The Sport Psychologist*, *13*(4), 395-417.

Cote, J., & Fraser-Thomas, J. (2008). Play, practice and athlete development. In D. Farrow, J. Baker & C. MacMahon, *Developing sport expertise: Researchers and coaches put theory into practice* (1st ed., pp. 17-28). New York: Routledge.

Cote, J., Baker, J., & Abernethy, B. (2007). From play to practice: A developmental framework for the acquisition of expertise in team sports. In J. Starkes & K. Ericsson, *expert performance in sports: advances in   research on sports expertise* (1st ed., pp. 89-110). Champaign: Human   Kinetics.

Council of Europe. (2001). *The European Sports Chapter (revised)*. Brussels: Council of Europe.

Coyle, D. (2009). *The talent code*. London, UK: Random House Books.

Crewell, J.W. (2008*). Education Research*. Berkely: Carisle Communication Limited.

Csikszentmihalyi, M. (1997). *Creativity*. New York, USA: Harper Perennial.

Csikszentmihalyi, M., Rathunde, K., & Whalen, S. (1996). *Talented teenagers: The roots of success and failure*. N.Y.: Cambridge University Press.

Cugliari, G. (2000). Group players by ability. *Soccer Journal, 45*(8), 19-20.

Davids, K., & Baker, J. (2007). Genes, environment and sport performance: Why the nature-nurture dualism is no longer relevant. *Sports Medicine, 37*, 961-980.

Davids, K., Araújo, D., Vilar, L., Renshaw, I., & Pinder, R. (2013). An ecological dynamics approach to skill acquisition: Implications for development of talent in sport. *Talent Development & Excellence, 5,* 21 –34.

Deci, E. L., & Ryan, R. M. (2004). *Intrinsic Motivation and Self-determination in Human Behaviour*. New York, USA: Plenum.

Douge, B., & Hastie, P. (1993).Coaching effectiveness. *Sport Science Review, 2*, 14- 29.

Dries, N. (2013). The psychology of talent management: A review and research agenda. *Human Resource Management Review, 23,* 272–285.

Du Randt, R.; Headley, N., Loots, J.M., Potgieter, J.R., De Ridder, J.H., Van der Walt, T.S.P. (1992). *Sport talent Identification and Development and related issues in selected countries*. Port Elizabeth: University of Port Elizabeth.

Durand-Bush, N., & Salmela, J. H. (2001). Talent development and management   of expert athletic performance: *Journal of Applied Sport Psychology, 14*, 154-171.

Durand-Bush, N., & Salmela, J. H. (2002). The development and maintenance of expert athletic performance: Perceptions of world and Olympic champions. *Journal of Applied Sport Psychology, 14*, 154-171.

Dweck, C. S. (1999). *Self-theories: Their role in motivation, personality, and development.* Philadelphia, PA: Psychology.

Dweck, C. S. (2003). Ability conceptions, motivation and development. *Development and Motivation, 2*, 13 –27.

Dweck, C. S., Chiu, C., & Hong, Y. (1995). Implicit theories and their role in judgments and reactions: A world from two perspectives. *Psychological Inquiry, 6,* 267–285.

Dweck, C.S. (1986). A social-cognitive approach to motivation and personality. *Psychological Review, 95*, 256-273.

Enoksen, E. (2002) drop-out rate and drop-out reasons among promising Norwegian track and field athletes; A 25 year case study. *Scandinavian Sport Studies Forum, 2,* 19-43.

Enoksen, E. (2011) drop-out rate and drop-out reasons among promising Norwegian track and field athletes; A 25 year case study. *Scandinavian Sport Studies Forum*, *2*, 19-43.

Ericsson, K. (1996). Expert and exceptional performance: Evidence of maximal adaptation to task constraints. *Annual Review of Psychology, 47*(1), 273-305.

Ericsson, K. A., & Lehmann, A. C. (1996). Talent and development principles. *Annual Review of Psychology*, *5, 25-57.*

Ericsson, K. A., Krampe, T., &Tesch-Römer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review*, *100*(3), 363.

Ericsson, K. A., Roring, R. W., & Nandagopal, K. (2007). Misunderstandings, agreements, and disagreements: Toward a cumulative science of reproducibly superior aspects of giftedness. *High Ability Studies*, *18*(1), 97-115.

Falk, B., Lidor, R., Lander, Y., & Lang, B. (2004). Talent identification and early development of elite water-polo players: A 2-year follow-up study. *Journal of Sports Sciences, 22*(4), 347-355.

Fallon, B., & Bowles, T. (1997). The effect of family structure and family functioning on adolescents' perceptions of intimate time spent with parents, siblings and peers. *Journal of Youth and Adolescence, 26,* 25-43.

Fauzee, M., Daud, N., Kamarudin, K., Yusof, A., Soh, K., Nazarudin, M., & Salikon, R. (2009). What make university students participate in sports? *European Journal of Social Sciences, 8*(3), 449-458.

Feldhusen, J. F. (2000). From talent recognition and development to creative achievement and expertise. *Mensa Research Journal, 43*, 10-13.

Fernández-Río, J., & Méndez-Giménez, A. (2012). The role of physical education on sport talent detection: A proposal. *Journal of Sport and Health Research, 4*(2), 109-118.

Figueiredo A., (2009). Characteristics of youth soccer players who drop out, persist or move up. *Journal of Sports Science. 27*, 883-91.

Fox, J. (1984). *Linear statistical models and related methods*: With applications to social research. New York: Wiley.

Freeman, J. (2001). Teaching for talent: Lessons from the research. In van Lieshout, C. F. M., & Heymans, P. G. (Eds.), *Developing Talent Across the Life Span*, pp. 231– 248. Hove, UK: Psychology Press.

Gagné, F. (1985). Giftedness and Talent: Reexamining a Reexamination of the Definitions. *Gifted Child Quarterly, 19*(3), 103-12.

Gagné, F. (2004). Transforming gifts into talents: The DMGT as a developmental theory. *High Ability Studies, 15*, 119-147.

Gaston-Gayles, L. (2004). Examining academic and athletic motivation among student athletes at a Division I university. *Journal of College Student Development, 45*(1), 75-83.

Gayagay, G., Yu, B., Hambly, B., Hoston, T. T. T., Hahn, A., Celermajer, D. S., & Trent, R. J. (1998). Elite endurance and the ace i allele: The role of genes in athletic performance. *Human Genetics 103,* 48-50.

Ghita, M. (1994).Talent identification Model in Track Events. *Modern Athlete and Coach, 32*(4), 37-39.

Giacobbi, A., Whitney, T., Roper, M.A., & Butryn, G. (2002). The costs of expertise. In K. A. Ericsson (Ed.). The road to excellence: *The acquisition of expert performance in the arts and sciences, sports, and games* (pp. 347–354). Mahwah, NJ: Erlbaum.

Gibbons, T., McConnel, A., Forster, T., Riewald, S.T., & Peterson, K. (2003). Reflections on success: US Olympians describe the success factors and obstacles that most influenced their Olympic development. Report phase II: United States Olympic Committee (USOC).

Gilbert, D., & Trudel, P. (2005). Learning to Coach through Experience: Conditions that Influence Reflection. *Physical Educator, 62*(1), 32-43.

Gilbert, W., & Jackson, R. (2004). In search of an effective coaching style. *Olympic Coach, 16*(4), 16-17.

Gladwell, M. (2008). *Outliers: The story of success*. Camberwell, UK: Penguin Group.

Gore, D.H. (2004). *Factors that contribute to talent development in elite female track and field athletes.* Unpublished Master of Science thesis submitted to the Graduate Faculty of North Carolina State University.

Gould, D., Eklund, R. C., & Jackson, S. A. (1992a). 1988 U.S. Olympic wrestling excellence: II. Thoughts and affect occurring during competition. *The Sport Psychologist, 6,* 383–402.

Gould, D., Eklund, R. C., & Jackson, S. A. (1992b). U.S. Olympic Wrestling Excellence: Mental preparation, precompetitive cognition, and affect. *The Sport Psychologist, 6,* 358-82.

Gould, D., Finch, L. M., & Jackson, S. A. (1993). Coping strategies used by national champion figure skaters. *Research Quarterly for Exercise and Sport, 64*(4), 453-468.

Gould, D., Greenleaf, C., Chung, Y., & Guinan, D. (2002). A survey of U.S. Atlanta and Nagano Olympians: Variables perceived to influence performance. *Research Quarterly for Exercise and Sport, 73*(2), 175-187.

Gould, D., Guinan, D., Greenleaf, C., Medbery, R., & Peterson, K. (1999). Factors affecting Olympic performance: Perceptions of athletes and coaches from more and less successful teams. *The Sport Psychologist, 13,* 371-394.

Gould, D., Lauer, L., Rolo, C., Jannes, C., & Pennisi, N. (2006). Understanding the role parents play in tennis success: A national survey of junior tennis coaches. *British Journal of Sports Medicine*, *40*, 632-636.

Gould, D., Lauer, L., Rolo, C., Jannes, C., & Pennisi, N. (2008). The role of parents in tennis success: Focus group interviews with junior coaches. *The Sport Psychologist, 22,* 18-37.

Gould, G. & Carson, S. (2004). Myths surrounding the role of youth sports in developing Olympic champions. *Youth Studies Australia, 23*(1), 19-26.

Grehaigne, J. F., & Godbout, P. (1995). Tactical knowledge in team sports from a constructivist and cognitivist perspective. *Quest, 47*, 490–505.

Gulbin, J. (2001). From novice to national champion. *Sports Coach*, *24*(1), 24-26.

Gulbin, J. P., Oldenziel, K. E., Weissensteiner, J. R., & Gagné, F. (2004). A look through the rear view mirror: Developmental experiences and insights of high performance athletes. *Talent Development & Excellence, 2*, 149-164.

Güllich, A. (2007). *Training – Support – Success: Control-related assumptions and empirical findings*. Saarbrücken, Germany: University of the Saarland.

Gustin, W.C. (1985). The development of exceptional research mathematicians. In: *Developing talent in young people*. Ed: Bloom, B.S. New York: Ballantine. 139-192.

Hadavi, F. (2000). *The standards of talent identification in sports*. Printed by Physical Education Organization of I.R. Iran. Tehran.

Hadavi, F., & Zarifi, A. (2009). Talent identification and development model in Iranian athletics. Torabiat Moallem University of Iran. *Journal of Sport Sciences, 2(4)*, 248-253.

Hahn, A. (1990). Identification and selection of talent in Australian Rowing. *Excel, 6*(3), 5-11.

Harati, S.H., Azizmasouleh M., Dana, A., & Mirzaianshanjani, S. (2011). An investigation of important indices in talent identification for swimming based on a survey among elite women's swimming coaches. *International Journal of Sport Studies, 1*(3), 98-103.

Hayes, J.R. (1981). *The complete problem solver*. Philadelphia, PA: Franklin Institute Press.

Hayman, R., Polman, R., Taylor, J., Hemmings, B., & Borkoles, E. (2011). Development of 4 elite adolescent golfers. *Talent Development & Excellence, 3,* 249-261.

Hedstrom, R., & Gould, D. (2004). Research in youth sport. *Critical Issue Status*. Retrieved from http://edweb3.Educ,msu.edu/ysi/project/CriticalIssueYouthSports.pdf.

Helsen, W. F., Starkes, J. L., & Hodges, N. J. (1988). Team sports and the theory of deliberate practice. *Journal of Sport & Exercise Psychology, 20,* 12.34.

Helsen, W.F., Hodges, N.J., Van Winckel, & Starkes, J.L. (2000). The role of talent physical precocity and practice in the development of soccer expertise. *Journal of Sport Sciences, 18,* 727-736.

Helsen, W.F., Hodges, N.J., Van Winckel, & Starkes, J.L. (2000). The role of talent physical precocity and practice in the development of soccer expertise. *Journal of Sport Sciences, 18,* 727-736.

Henriksen, K., Stambulova, N., & Roessler, K. (2010). A holistic approach to athletic talent development environments: A successful sailing milieu. *Psychology of Sport and Exercise, 11*, 212-222.

Heritage Canada. (2013). *Sport participation 2010 research paper*. Retrieved from http://publica tions.gc.ca/site/eng/434212/publication.html.

Herrero Alonso, J. A. & García López, D. (2014). Influencia del trabajo con visualización sobre la fuerza máxima isométrica en press de banca. *Entrenamiento Psicológico,* 271-9.

Hoare, D. (1995). Talent search, the national talent identification and development program, *13*, 10-12.

Hoare, D. (1998). Talent search. *Sports Coach, 21*(3), 32-33.

Hodge, T., & Deakin, J. (1998). Deliberate practice and expertise in the martial arts: The role of context in motor recall. *The Journal of Sport & Exercise Psychology, 20*, 260.279.

Holt, N. L., & Dunn, J. G. H. (2004). Toward a grounded theory of the psychosocial competencies and environmental conditions associated with soccer success. *Journal of Applied Sport Psychology, 16,* 199-219.

Holt, N. L., & Morley, D. (2004). Gender differences in psychosocial factors associated with 24 athletic success during childhood. *The Sport Psychologist*, *18,* 138-153.

Howe, M. J. A., Davidson, J. W., & Sloboda, J. A. (1996). Innate gifts and talents: Reality or myth? *Behavioural Brain Science*, *21*(3), 399-419.

Howe, M. J. A., Davidson, J. W., & Sloboda, J. A. (1998). Innate talents: Reality or myth? *Behavioral and Brain Sciences*, *21*, 399-407.

Huijgen, BCH. (2014). Multidimensional performance characteristics in selected and deselected talented soccer players. *European Journal of Sport Science*, *14*, 2-1.

Janssens, M., Van Renterghem, B., Bourgois, J., & Vrijens, J. (1997). *Physical fitness and specific motor performance of young soccer players aged 11-12 years.* In Proceedings 2nd Annual Congress of the European College of Sports Science: Sport Science in a Changing World, Manchester, UK.

Johnson, M. B., Castillo, Y., Sacks, D. N., Cavazos Jr, J., Edmonds, W. A., & Tenenbaum, G. (2008). "Hard work beats talent until talent decides to work hard": Coaches' perspectives regarding differentiating elite and non-elite swimmers. *International Journal of Sports Science & Coaching*, *3*, 417-430.

Jourden, F. J., Bandura, A., & Banfield, J. T. (1991). The impact of concepts of ability on self-regulatory factors and motor skill acquisition. *Journal of Sport & Exercise Psychology, 8,* 213–226.

Kalinowski, A. G. (1985). The development of Olympic swimmers. In: *Developing talent in young people*. Ed: Bloom, B.S. New York: Ballantine. 139-192.

Kay, T. (2000). Sporting excellence: A family affair? *European Physical Education Review, 18,* 151-169.

Keegan, R., Spray, C., Harwood, C., & Lavallee, D. (2010). The motivational atmosphere in youth sport: Coach, parent, and peer influences on motivation in specializing sport participants. *Journal of Applied Sport Psychology, 22,* 87-105.

Kirk, D. (2005). Physical education, youth sport and lifelong participation: The importance of early learning experiences. *European Physical Education Review, 11*(3), 239-255.

Koul, L. (2001). *Methodology of educational research (3rd ed.)*. New Delhi: Vikas Publishing House Ltd.

Krasilshchikov, O. (2010). Talent Identification and Development: International trends and principle models. *Buletin Kejurulatihan Majlis Sukan Negara Malaysia*, *1*, 5-15.

Krasilshchikov, O. (2011). Talent Recognition and Development: Elaborating on a Principle Model. *International Journal of Developmental Sport Management* [online], 2011, Volume 1, Issue 1. [Updated December 2011], [citied 15.01.2013]. Accessible from http://www.internationaljournalofdevelopmentalsportmanagement.com/resources/Alexno1.pdf >. ISSN: 2162-892X.

Lambert, M. (2002). Six steps to sporting excellence in South Africa. *The South African Journal of Sports Medicine, 9*(2), 1.

Lauer, L., Gould, D., Roman, N., & Pierce, M. (2010). How parents influence junior tennis players' development: Qualitative narratives. *Journal of Clinical Sport Psychology, 4,* 69-92.

Li, C., Wang, C. K. J., Pyun, D. Y., & Martindale, R. (2015, in press). Further development of the Talent Development Environment Questionnaire for sport. *Journal of Sports Science*. doi: 10.1080/02640414.2015.1014828.

Lyle, J. (1996) A conceptual understanding of the sports coaching process, Scottish Centre Research Papers in Sport, *Leisure and Society, 1*, 15-37.

Lyle, J. (1997). Managing excellence in sport performance. *Career Development International, 2*(7), 314-323.

Markland, D., & Hardy, L. (1997). On the Factorial and Construct Validity of the Intrinsic Inventory: Conceptual and Operational Concerns. *Research Quarterly for Exercise and Sport, 68*(1), 20-32.

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

McClymont, J. (1996). Managing excellence in sport performance. *Career Development International, 2(7)*, 314-323.

McNab, T. (1981). Cash in the shoe-1: It's got to come. Former national coach Tom McNab puts the case for professional athletes. *Sport and Leisure, 22*, 36-37.

McNamara, B. N., Hambrick, D. Z., & Oswald, F. L. (2014). Deliberate practice and performance in music, games, sports, education, and professions: A meta-analysis. *Psychological Science, 25*(8), 1608-18.

McPherson, S. L. (1999). Expert–novice differences in performance skills and problem representations of youth and adults during tennis competition. *Research Quarterly for Exercise and Sport, 70*, 233–251.

Medic, N., Mack, D.E., Wilson, P.M., & Starkes, J.L. (2007). The effects of athletics scholarship on motivation in sport. *Journal of Sport Behavior, 30*(3), 292-306.

Menard, S. (1995). *Applied Logistic regression analysis*. Thousand Oaks, CA: Sage.

Mokone, G. G., Schwellnus, M. P., Noakes, T. D., & Collins, M. (2006). The COL5A1 gene and achilles tendon pathology. *Scandinavian Journal of Medicine and Science in Sport, 16,* 19-26.

Monsaas, J. A. (1985) Learning to be a world-class tennis player. In: *Developing talent in young people*. Ed: Bloom, B.S. New York: Ballantine. 211-269.

Montegomery (2009). *Talent identification methods within Scottish footballs elite performance*. Unpublished master's thesis, School of Life Sports and Social Science, Edinburgh Napier University, Scotland.

Montgomery, H. E., Marshall, R., Hemmingway, H., Myerson, S., Clarkson, P., Dollery, C., & Humphries, S. E. (1998). Human gene for physical performance. *Nature, 393,* 221-22.

Morgan, T. K., & Giacobbi, J. P. R. (2006). Toward two grounded theories of the talent development and social support process of highly successful collegiate athletes. *The Sport Psychologist*, *20*, 295-313.

Morris, T. (2000). Psychological characteristics and talent identification in soccer. *Journal of Sport Sciences, 18*, 715-726.

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

Ned, T. S. (2004). *A Case Study of Freshmen Swimmers College Transition Experiences*. Dissertation. Virginia Polytechnic Institute and State University.

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Newell, A. and Rosenbloom, P.S. (1981) Mechanisms of skill acquistion and the law of practice. In: *Cognitive skills and their acquisition*. Ed: Anderson, J.R. Hillsdale, NJ: Erlbaum. 1-55.

Nigam A. K. (2010). Talent identification in soccer: A critical analysis of contemporary psychological Research. *International Referred Research Journal, 2*(19), 532-541.

Obler, L. K., & Fein, D. (1988). *The Exceptional Brain: Neuropsychology of Talent and Special Abilities.* New York, USA: Guilford Press.

Ogah, J. K. (2013). *Decision making in the research process*. Accra: Adwinsa Publications.

Ommundsen, Y. (2001). Self-handicapping strategies in physical education classes: The influence of implicit theories of the nature of ability and achievement goal orientations. *Psychology of Sport and Exercise, 2,* 139–156.

Orlick, T. D., & Partington, J. (1988). Mental Links to Excellence. *The Sport Psychologist, 2*, 105-30.

Ostwald, P. F. (1973). Musical behavior in early childhood. *Developmental Medicine & Child Neurology, 15*(3), 367-375.

Panfil, R., Naglak, Z., Bober, T., & Zaton, E.W.M. (1997). Searching and developing talents in soccer: A year of experience. In Proceedings of 2nd Annual Congress of the European College of Sports Science: Sport Science in a Changing World, Manchester, UK.

Patrick, H., Ryan, A. M., Alfeld-Liro, C., Fredricks, J. A., Hruda, L., & Eccles, J. S. (1999). 25 Adolescents' commitment to developing talent:

The role of peers in continuing motivation for sports and the arts. *Journal of Youth and Adolescence, 28,* 741-763.

Pavlovic, S. (2007). Ten qualities of a successful coach. *Coach and Athletic Director, 76*(9), 58–59. Retrieved from the Gale General One File database.

Pearson, D. T., Naughton, G. A., & Torode, M. (2006). Predictability of physiological testing and the role of maturation in talent identification for adolescent team sports. *Journal of Science and Medicine in Sport, 9,* 277–287.

Pérusse, L., Gagnon, J., Province, M. A., Rao, D. C., Wilmore, J. H., Leon, A. S., Bouchard, C., & Skinner, J. S. (2001). Familial Aggregation of Submaximal Aerobic Performance in the heritage Family Study. *Medicine & Science in Sports and Exercise, 33,* 597- 604.

Phillips, E., Davids, K., Renshaw, I., & Portus, M. (2010). Expert performance in sport and the dynamics of talent development. *Sports Medicine, 40*, 271-283.

Posthumus, M., September, A. V., Keegan, M., O'Cuinneagain, D., van der Merwe, W., Schwellnus, M. P., & Collins, M. (2009). Genetic risk factors for anterior cruciate ligament uptures: COL1A1 Gene Variant. *British Journal of Sports Medicine, 43,* 352-56.

Pummell, B., Harwood, C., & Lavallee, D. (2008). Jumping to the next level: A qualitative examination of within-career transition in adolescent event riders. *Psychology of Sport & Exercise, 9,* 427-447.

Regnier,G., Salmela, J., & Russel, J. (1993). Talent detection and development in sport. In *A handbook of research on sports psychology*. New York, NY: Macmillan.

Renshaw, I., Davids, K., Phillips, E., & Kerhervé, H. (2012). Developing talent in athletes as complex neurobiological systems. In Baker, J., Cobley, S., & Schorer, J. (Eds.), *Talent Identification and Development in Sport. International Perspectives* (pp. XXXX). Oxon, UK: Routledge.

Rice, T., Despres, J. P., Pérusse, L., Hong, Y., Province, M. A., Bergeron, J., & Rao, D. C. (2002). Familial aggregation of blood lipid response to exercise training in the health, risk factors, exercise training and genetics (HERITAGE) family study. *Circulation, 105,* 1904-8.

Riewald, S.T., & Peterson, K. (2004). Sports Psychology: Understanding and Influencing the Road to Success. *High-Performance Coaching, 5*, 4.

Riordan, K. S. (1988). Intrinsic motivation and exercise adherence. *International Journal of Sport Psychology, 28,* 355-354.

Rivas, S. (2009). Environmental influences on early development in sports experts. In Moreno, J., (Eds.), *Talent Identification and Development in Sport. International Perspectives* (pp 39-50). Oxon, UK: Routledge.

Rizak, D. (1986). Physical education, youth sport and lifelong participation: the importance of early learning experiences. *European Physical Education Review, 11(3)*, 239-255.

Roetert E. P., & Harmon, R. (2006). Coaching talented player. Issue 39 of the ITF *Coaching and Sport Science Review*.

Rogers, J. (2005) *Sport Administration Manual*. Retrieved from

http://*www.sailing*. Org/ sailors/ 1882. Php

Ryan, R.M., & Deci, E.L. (2000). Self- determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68-78.

Ryan, R.M., & Salmela, J.H., & Reigner, G (1997). Intrinsic motivation and exercise adherence. *International Journal of Sport Psychology, 28*, 355-354.

Ryan, R.M., (1997). Intrinsic motivation and exercise adherence. *International Journal of Sport Psychology, 28*, 355-354.

Salmela, J.H., & Reigner, G. (1983). A model for sport talent detection. *Science Periodical on Research and Technology in Sport*, GY-1.

Salo, A. I., Bezodis, I. N., Batterham, A. M., & Kerwin, D. G. (2011). Elite sprinting: Are athletes individually step-frequency or step-length reliant? *Medicine and Science in Sports and Exercise, 43,* 1055–1062.

Scanlan, T. K., Carpenter, P. J., Schmidt, G. W., Simons, J. P. & Keeler, B. (1993). An introduction to the sport commitment model. *Journal of Sport and Exercise Psychology*, 15, 1–15.

Schorer, J., Wattie, N., & Baker, J. (2013). A new dimension to relative age effects: Constant year effects in German youth handball. *Plos ONE, 8,* e60336.

Simon, H.A. & Chase, W.G. (1973). IN: Helsen, W.F., Starkes, J.L. & Hodges, N.J. (1998). Team sports and the theory of deliberate practice. *Journal of Sport and Exercise Psychology*, *20*, 2-34.

Simonton, D. K. (1994).*Greatness*: Who Makes History and Why? New York, USA: Guilford.

Simonton, D. K. (1999). Talent and its development: An emergenic and epigenetic model. *Psychological Review, 106,* 435–457.

Singer, R. N. and Janelle, C. M. (1999) Determining sport expertise: From genes to supremes. *International Journal of Sport Psychology, 30,* 117-150.

Singh, A. S. (2007). Conducting case study research in non-Profit organisations. Qualitative market research: *An International Journal, 17*, 77–84.

Smith, R. & Christensen, J. (1995). Development and validation of a Multidimensional Measure of Sport-Specific Psychological Skills: The Athletic Coping Skills Inventory-28. *Journal of Sports and Exercise Psychology, 17,* 379-398.

Smith, R.E. & Smoll, F.L. (1997). Coaches the coaches: Youth sports as a scientific and applied behaviour setting. *Current Directions in Psychological Science, 6*(1), 16-21.

Sosniak, L. A. (1985) Learning to be a concert pianist. In: *Developing talent in young people.* Ed: Bloom, B.S. New York: Ballantine. 19-67.

Sotiriadou, K. (2005). *The Sport Development Processes in Australia.* Published Doctor of Philosophy thesis. University of Technology, Sidney.

Starkes, J. L. (1987). Skill in field hockey: The nature of the cognitive advantage. *Journal of Sport Psychology, 9*, 146–160.

Starkes, J. L., Deakin, J. M., Allard, F., Hodges, N. J., & Hayes. A. (1996). Deliberate practice in sports: What is it anyway? In K. A. Ericsson (Ed.),   the road to excellence: The acquisition of expert performance in the arts, sciences, sports and games (pp. 81.106). Mahwah, NJ: Erlbaum.

Steingröver, C., Wattie, N., Baker, J., Helsen, W., & Schorer, J. (2017). Geographical variations in the interaction of relative age effects in youth and adult elite soccer. Frontiers in psychology: *Movement Science and Sport Psychology, 8,* 278.

Stotlar, D. K., & Wonders A. (2006). Developing elite athletes: A content Analysis of US National Governing Body Systems University of Northern Colorado, US, *international Journal of Applied Sports Sciences, 18*(2), 121-144.

Syed, M. (2010). *Bounce: How champions are made*. London, UK: Forth Estate. Van Rossum, J. H. A., & Gagné, F. (2005). Talent Development in Sports. In: Dixon, F.A., & Moon, S.M. (Eds.). *The Handbook of Secondary Gifted Education* (pp. 281-316). Waco, USA: Prufrock Press.

Tetlock, P. E. (2005). *Expert political judgment: How good is it? How can we know?* Princeton, NJ: Princeton University Press.

Thomas, C. (2016, August 20). Built for speed: What makes Usain Bolt so fast?   *The Telegraph.* Retrieved from http://www.telegraph.co.uk/usain-bolt-worlds-fastest-man/0/built-for-speedwhat-makes-usain-bolt-so-fast/.

Thomas, J. R., French, K. E., & Humphries, C. A. (1986). Knowledge development and sport skill performance: Directions for motor behavior research. *Journal of Sport Psychology*, 8, 259–272.

Thomas, K. & Thomas, J. (1999). What squirrels in the trees predict about expert athletes. *International Journal of Sport Psychology, 30*, 221-234.

Thomas, P. K., Murphy, S. M. & Hardy, L. (1999). Test of performance strategies: Development and preliminary validation of a comprehensive measure of athletes' psychological skills. *Journal of Sports Sciences*, *17*, 697–711.

Thomson, I. (1992). *Giftedness, excellence and sport*. Edinburgh: Scottish Sports Council.

Till, K., Cobley, S., Wattie, N., O'Hara, J., Cooke, C., & Chapman, C. (2010). The prevalence, influential factors and mechanisms of relative age effects in UK Rugby League. *Scandinavian Journal of Medicine & Science in Sports, 20*, 320–329.

Timmons, J. A., Knudsen, S., Rankinen, T., Koch, L. G., Sarzynski, M., Jensen, T., & Bouchard, C. (2010). Using molecular classification to predict gains in maximal aerobic capacity following endurance exercise training in humans. *Journal of Applied Physiology, 108*(6), 1487-1496.

Tranckle, P. (2004). Understanding giftedness and talent in sport. *The Coach, 21*, 61-73.

Trninić, S., Papić, V., & Vukičević, D. (2008). Scientific Approach to a Selection of a Game Tactics Model in Team Sports, *Acta Kinesiologica, 2*(2), 16-21.

Trninić, V., Papic, V., & Marko, T. (2009): Role of expert coaches in development of top-level athletes' careers in individual and team sports, *Acta Kinesiologica, 3*(1), 99-106.

Upper East Regional Physical Education Unit, 2020.

Vaeyens, R., Gullich, A., Warr, C., & Philippaerts, R. (2009) Talent identification and promotion programmes of Olympic athletes. *Journal of Sport Science, 27*(13), 1367-1380.

Vaeyens, R., Lenour, M., Williams, A. M., & Philippaerts, R. M. (2008). Talent identification and development programmes in sport: Current models and future directions. *Sports Medicine, 18*(9), 703-714.

Van Rossum, J. H. A., & Gagné, F. (2005). Talent Development in Sports. In: Dixon, F.A., & Moon, S.M. (Eds.). *The Handbook of Secondary Gifted Education* (pp. 281-316). Waco, USA: Prufrock Press.

Van Yperen (2009). Talent Identification and Development Programmes in Sport. *Sports Medicine, 38*(9), 703-714.

Wallingford, R. (1975) Long distance running. In: *The scientific aspects of sport training*. Ed: Tayler, A.W. and Landry, F. Springfield, IL: Charles C. Thomas. 118-130.

Ward, P., & Williams, A. M. (2003). Perceptual and cognitive skill development in soccer: The multidimensional nature of expert performance. *Journal of Sport and Exercise Psychology, 25*, 93–111.

Ward, P., Hodges, N. J., Williams, A. M., & Starkes, J. L. (2007). Deliberate Practice and Expert Performance. In Williams, A. M., & Hodges, N. J. (Eds.), *Skill Acquisition in Sport*. London, UK: Routledge.

Waskiewicz, Z., & Zajac, A. (2001). The imagery and motor skills acquisition. *Biology of Sport, 18*(1), 71-83.

Wattie, N., & Baker, J. (2017). Why conceptualizations of talent matter. In J. Baker, S. Cobley, J. Schorer, & N. Wattie (Eds.), *The Routledge handbook of talent identification and development in sport (pp. 69–79)*. London, England: Routledge.

Wattie, N., Schorer, J., & Baker, J. (2015). The relative age effect in sport: A developmental systems model. *Sports Medicine, 45,* 83 –89.

Williams, A. M. (2000). Perceptual skill in soccer: Implications for talent identification and development. *Journal of Sports Sciences, 18*, 737-750.

Williams, A. M., & Franks, A. (1998). Talent identification in soccer. *Sports Exercise and Injury*, *4,* 159-165.

Williams, A. M., & Reilly, T. (2000). Talent identification and development in soccer. *Journal of Sports Sciences*, *18*, 657-667.

Williams, M., Davids, K., Burwitz, L., & Williams, J. (1993). Cognitive knowledge and soccer performance. *Perceptual and Motor Skills, 76*, 579–593.

Wilson, G.V., (2006). *The effects of external rewards on intrinsic Motivation.* Retrieved from htt//www.abcbodybuilding.com.

Winner, E. (2000). The origins and ends of giftedness. *American Psychologist, 55*, 159-169.

Wolfenden, L. E., & Holt, N. L. (2005). Talent development in elite junior tennis: Perceptions of players, parents, and coaches. *Journal of Applied Sport Psychology, 17,* 108-126.

Wulf, G., & Lewthwaite, R. (2009). Conceptions of ability affect motor learning. *Journal of Motor Behavior, 41,* 461–467.

Ziemainz, H., & Gulbin, J. (2002). Talent selection: identification and development exemplified in the Australian talent search program. *New Studies in Athletics, 17*, 27-3.

APPENDICES

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APPENDIX A

QUESTIONNAIRE

DATA COLLECTION INSTRUMENT
UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
FACULTY OF SCIENCE AND TECHNOLOGY EDUCATION
DEPARTMENT OF HEALTH, PHYSICAL EDUCATION, AND RECREATION
QUESTIONNAIRE

Dear Coach,

I am an M. Phil student at the Department of Health, Physical Education and Recreation of the University of Cape Coast. I am conducting a study titled **"Sports Talent Identification and Development in Senior High Schools, Upper East Region of Ghana"**.

This study is meant to identify modes by which talented student-athletes are identified, challenges facing sports talent identification, and factors that predict talent development.

I shall be grateful if you could spare some time to complete this questionnaire for me. Completing the questionnaire will take you just about 10 minutes.

If you agree to participate in this study, please sign and indicate the date in the column provided below. Be assured that any information you provide will be used solely for academic purposes. Your confidentiality is also very important, hence you are not required to indicate your name on the questionnaire. You are also at liberty to withdraw from the study at any stage if you strongly feel so. You may contact me or my supervisor on the numbers below if you have questions regarding your participation.

Researcher: Mr. Akubah Christopher: 0246749830

Supervisor: Dr. Apaak Daniel: 0208587866

Signature ……………………..

Date …………………..

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SECTION A

INSTRUCTION: This statement describes how talented student-athletes are identified. Read and tick the appropriate response to indicate **how you select talented student-athletes in your school**. There are no wrong or right answers.

Keys: **A**-agree, **D**- disagree

No.	STATEMENT	A	D
1.	Talented student-athletes are selected through observation by coach during competitions.		
2.	Talented student-athletes are selected through measurement and testing of attributes that affect overall performance in a particular sport.		

SECTION B

INSTRUCTION: These are a number of statements that describe challenges faced in the identification of talented student-athletes. Read each statement and tick the appropriate response to your right **to indicate the challenges you face in identifying talented student-athletes.** There are no wrong or right answers.

Keys: **A**-agree, **D**- disagree

No.	STATEMENT	A	D
3.	Access to financial resources restricts the identification of talented-student athletes.		
4.	Believing too rigidly that talent is innate hinders the identification of talented student-athletes.		
5.	Judging coaches' expertise by their teams' performance in essential tournaments is a challenge to the identification of talented student–athletes.		
6.	Early talent identification hinders the identification of talented student-athletes.		
7.	Believing too rigidly that talent is developed hinders the identification of talented student-athletes.		

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SECTION C

INSTRUCTION: Below are a number of statements that describe factors that influence sports talent identification of student-athletes. Read each statement and tick the appropriate response to your right **to indicate factors that influence sports talent identification in your school.** There are no wrong or right answers.

Keys: **SD**-strongly agree, **A**-agree, **D**- disagree, **SD**- strongly disagree.

No.	STATEMENT	SA	A	D	SD
8.	I do take into account the physique of the athlete when identifying sports talent				
9.	I do take into account the athletes' technical ability when identifying sports talent				
10.	I do take into account the athletes' tactical ability when identifying talents				
11.	I do take into account the athletes' psychological ability when identifying sports talent				

SECTION D

INSTRUCTION: Below are a number of statements that describe factors that influence sports talent development of student-athletes. Read each statement and tick the appropriate response to your right **to indicate factors that influence sports talent development in your school**. There are no wrong or right answers.

Keys: SD-strongly agree, A-agree, D- disagree, SD- strongly disagree.

No.	STATEMENT	SA	A	D	SD
12.	Adequate sports facilities and equipment influences sports talent development of student-athletes.				
13.	Expert coaching influences sports talent development of student-athletes.				
14.	Support from family and friends influences sports talent development of student-athletes.				

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		SA	A	D	SD
15.	Regular training influences sports talent development of student-athletes.				
16.	Genes influences sports talent development of student-athletes.				

SECTION E

INSTRUCTION: Below are a number of statements on **sports talent development** of student-athletes. Read each statement and tick the appropriate response to your right. There are no wrong or right answers.

Keys: SD-strongly agree, A-agree, D- disagree, SD- strongly disagree.

No.	STATEMENT	SA	A	D	SD
17.	My training is specifically designed to help athletes develop effectively in the long term.				
18.	I give my athletes good opportunities even if they dip in performance.				
19.	I involve my athletes in most decision about their sports development				
20.	I review athletes' progress and personal performance regularly on an individual basis.				
21.	I emphasize that what athletes do in training and competition is far more important than winning.				

Thank you for participating in this research