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Talent Identification of Youth Track and Field Athletes, Employment of the Multivariate Approaches in Hagereselam Training Center in Sidama Zone, Southern Ethiopia

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Abstract
The purpose of this study was to assess the employment of multivariate approaches in talent identification of youth track and field athletes in Hagereselam training center in Sidama zone. For the execution of the study, a descriptive survey study design with retrospective approach was employed. The study subjects were selected as whole/census/. In this endeavor, data were collected through questionnaire consisting of Yes(1)/No(2)/Not known(3) alternatives to recall the way athletes were selected into the training center. The data collected through questionnaire was analyzed by SPSS version 25. Descriptive statistics was conducted; it was used to show the frequency and percentage of background information of the respondents. Means and standard deviations were also computed to assess the employment of different variables in multivariate approach of talent identification among the event group, age, sex, and the year spent in the center. Consequently, the study demonstrated the average mean scores M=1.90 of the physical variables, M=1.98±.04 of psychological variables, M=1.97±.10 of sociological variables respectively across both groups, both sexes, all age categories and all years of experiences which assured that the physical, psychological and sociological variables were not employed to identify talented athletes in to the training center. Whereas, the average mean score M=1.33 of competition variables assured that talent identification of the training center was almost solely depends on competition results only.
Keywords: Competition result, Multivariate approach, Physical variables, Psychological variables, Sociological variables, Talent identification, Training center.

1. Introduction

In recent years, many national and regional governing bodies of sport in the world have initiated developmentally oriented programs that identify and then retain performers for an extended period (Wolstencroft, 2002). Pienaar & Spamer (1998) underlines the importance of talent identification in viewing that talent identification is a priority in modern sport. These explanations are further confirmed by those who refer to talent identification and development as being priorities to sporting bodies, associations and elite programs (Abbot & Collins, 2004).

In addition to these, Harre (1999) stated that the basic premise underlying talent opportunity program is that the development of the youthful athlete can be best served if the athlete is selected and trains in a sport discipline for which he/she is best suited.

Furthermore; the advantage of talent identification and development is that these can assist sporting organization to effectively allocate valuable but scarce resources toward the development of those showing the most promise. Hence, an effective talent identification system is an essential precursor to talent development, as it will direct support to those individuals who have the greatest potential to achieve senior international success in sport (Abbott & Collins, 2002).

Talent identification have been practiced throughout the world in different models: Performance Model stressed on the screening criterion applied most frequently in Germany, Canada, USSR, Sweden and Brazil, for selection into development squads and sport schools, is competition results (Ferreira, 1986, Kozel, 1996, Thomson, 1992) in Wolstencroft (2002), Anthropometric Model was initiated within East and central European countries (Bompa, 1994) cited in WolstenCroft (2002). These models were based almost exclusively on identifying the physical and anthropometrical characteristics of elite in younger athletes, and Sporting Culture of the Communist Nations which was initiated by the then socialist countries found in Eastern Europe (Russia, Poland, Bulgaria, Czechoslovakia and to a lesser degree, Hungary & Romania),where sport was developed under direct central control as highlighted in Riordan (1990) in Wolstencroft (2002) . However , these models were all accompanied with several down-sides as the over-emphasis at all age levels on winning is thought to contribute to the high dropouts from the competitive programs, anthropometric and physical factors are unstable during adolescence so that recent researches into anthropometrical difference of successful athletes in different sports or specific events has been inconclusive.

Consequently, talent identification currently has got multivariate approaches/ perspectives involving physical variables that include physiological, physical-motor variables, anthropometric variables, & technical variables, psychological variables and sociological variables. Up on these, Ethiopian Athletics Federation(EAF)

has launched youth development projects in collaboration with regional federations for the identification and development of young athletes of the future who will follow the steps of the existing ones in quality and number. Beside this, Ethiopian Athletics Federation , having based on the document on youth training projects founded in 1996 Ethiopian Calendar , have further established four training centers in Tigrai (Maichew), Oromia (Bekoji), Amhara (Debre Birhan) and Southen regions (Hagereselam) respectively to deliver scientific training for youth talented athletes selected from the projects and schools for development (EAF, 2000).

Hence, it has been found very important to assess the employment of multivariate approaches of talent identification in Hagereselam training center as it is an ingredient of multidimensional talent development.

Research question

1. Has the training center employed physical variables in selecting the talented trainees?
2. What is the employment level of psychological variables in talent identifications?
3. Has the training center employed sociological variables in selecting the talented athletes?
4. What is employment level of competition result in talent identification?

2. Materials and Methods

2.1. Study design and sampling

The researcher used retrospective study approach in descriptive survey study design. The retrospective study was used for checking the practice of multivariate talent identification procedure through athletes' former experience. This is because, as Kumar indicates, the study was usually conducted either on the basis of data available for that period or on the basis of respondents' recall of the situation (Kumar, 1996).

The study subjects (17 track and 5 field athletes) were selected as whole by using census survey. Hence, 22 subjects were included in the study.

2.2 Data collection tools and procedures

Data were collected through questionnaire consisting of Yes(1)/No(2)/Not known(3) alternatives to recall for employment of tests on selected physical Variables(age, height, somatotype, body mass, arm & leg girth, speed, anaerobic power, aerobic power, agility and technical ability), psychological variables(coping to distraction, self confidence, mental toughness, accepting role, concentration, anxiety control, anticipation,& decision making), competition result(the first four only, and up to the first eight winners) and sociological variables(athletes relation with the coach, athletes relation with peer, family interest, and family support) when they were selected into the center. This questionnaire was piloted at Addis Ababa training center to identify fit falls and possible misunderstandings and translated in to Amharic to avoid language barriers in understanding the questions that helps to find clear and pertinent information.

2.3. Data analysis method

The data collected through questionnaire was analyzed by SPSS version 25. Descriptive statistics was used to show the frequency and percentage of background information of the respondents. Means and standard deviations were computed to judge the employment of different variables in multivariate approaches of talent identification among the event group, age, sex, and the year spent in the center.

3. Results

Questionnaires distributed for the respondents were received with a response rate of 100%. Hence, the data were analyzed and the findings were presented as follows:

Descriptive statistics of the respondents' characteristics

Table: 1:- Frequency and percentage of age, sex, and the year spent in the center, and the type of event groups

No	Item		Frequency	Percent
1	Age	<17 yrs	10	45.5
		17-18 yrs	11	50.0
		>18 yrs	1	4.5
		Total	22	100.0
2	Sex	Female	11	50.0
		Male	11	50.0
		Total	22	100.0
3	The year spent in the center (experience)	0ne year	4	18.2
		two years	18	81.8
		Total	22	100.0
4	Group	Track events	17	77.3
		Field events	5	22.7
		Total	22	100.0

As it can be seen in table one , 11(50%) of the respondents were under the age category of 17-18 years followed by 10(45.5%) of the respondents responded as under 17 years old. Regarding the sex composition, female and male respondent athletes are equal 11(50%) each. As far as the year athletes stayed in the training center is concerned, the large majority of the respondents 18(81.8%) responded they stayed for two years. Finally, 77.3% of the athletes categories themselves as track events athletes whereas the remaining 22.7% were field events athletes.

Table 2: Distribution of Mean and standard deviation of major variables across group, sex, age and the years spent in the center.

			Physical variables	psychological variables	Competition variables	Sociological variables
Group	Track events	Mean	1.90	1.98	1.33	1.97
		Std. Deviation	.00	.04	.00	.12
	Field events	Mean	1.90	1.97	1.33	2.00
		Std. Deviation	.00	.05	.00	.00
	Total	Mean	1.90	1.98	1.33	1.97
		Std. Deviation	.00	.04	.00	.106
Sex	Female	Mean	1.90	1.96	1.33	1.95
		Std. Deviation	.00	.05	.00	.15
	Male	Mean	1.90	2.00	1.33	2.00
		Std. Deviation	.00	.00	.00	.00
	Total	Mean	1.90	1.98	1.33	1.97
		Std. Deviation	.00	.04	.00	.10
Age	<17 yrs	Mean	1.90	1.97	1.33	1.95
		Std. Deviation	.00	.05	.00	.15
	17-18 yrs	Mean	1.90	1.98	1.33	2.00
		Std. Deviation	.00	.03	.00	.00
	>18 yrs	Mean	1.90	2.00	1.33	2.00
		Std. Deviation	.	.	.	.
	Total	Mean	1.90	1.98	1.33	1.97
		Std. Deviation	.00	.04	.00	.10
The Years spent in the center	0ne year	Mean	1.90	2.00	1.33	2.00
		Std. Deviation	.00	.00	.00	.00
	two years and above	Mean	1.90	1.97	1.33	1.97
		Std. Deviation	.00	.04	.00	.12
	Total	Mean	1.90	1.98	1.33	1.97
		Std. Deviation	.00	.04	.00	.10

In the table two, the average mean scores M=1.90 of the physical variables, M=1.98±.04 of psychological variables, M=1.97±.10 of sociological variables respectively revealed across both groups, both sexes, all age categories and the three types of experience groups of the athletes assured that these variables were not employed when they were selected into the training center. Whereas, the average mean score M=1.33 of

competition variable across both groups, both sexes, all age categories and the three types of experience groups of the athletes assured that talent identification of the training center was almost conducted by competition result only.

4. Discussions and conclusion

The objective of the present study was to assess the employment of multivariate approach of talent identification of youth track and field athletes in Hagereselam training center. Hence, the findings revealed that the physical, psychological and sociological variables were not employed to select talented athletes into the training center. Furthermore, it was indicated in the finding that talent identification of the training center was almost solely depends on the competition result of athletes. This finding is in contrary to the results reported by Bompa, (1985) where he forwarded comprehensive assessment of physiological, anthropometrical, and psychological parameters should be conducted in the secondary phase of talent identification(9-17 yrs) which is nearly appropriate to the age categories in selected to Hageselam training center and researchers such as Morgan, WP,.(1979) , Abbot & collins(2004) cited in Vaeyens,R., Lenoir. M., Williams A.M, and Philippaerts M.R (2008). An important issue in talent identification is that excellence in sport is not idiosyncratic to a standard set of skills or physical attributes; it can be achieved in individual or unique ways through different combinations of skills, attributes and capacities-called 'compensation phenomenon' and suggests that deficiencies in one area of performance may be compensated for by strengths in others. A potential confound when using a single variable approach in talent identification is that individuals who score low on one specific variable may be deselected from the talent pool and vice versa(Vaeyens, Lenoir, Williams, and Philippaerts, 2008). In line with this WolstenCroft (2002) stressed that in performance based or competition result based selection approach, athlete continue only if they can 'produce the goods' and there is an over-emphasis at all age levels in training that contribute the high dropouts from the competitive progra

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