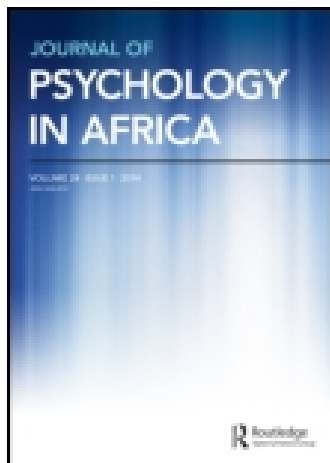


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Sport Psychological Characteristics of Talented 13-Year Old Adolescents

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The objective of this study was to determine whether the sport psychological profiles of talented 13-year-old sport participants differ from less talented participants. 162 grade 8 learners with a mean age of 13.2 ± 0.33 years voluntarily participated in the study. The participants were subjected to the Australian Talent Search protocol and completed the Athlete Coping Skills Inventory for Sport (ACSI-28). The group was categorized according to the median of all the tests of the talent identification protocol (TID) in a talented (TG) and a less talented group (LTG). The TG obtained higher means in all seven sport psychological characteristics: coping with adversity, peaking under pressure, goal setting, confidence, coachability and the average coping profile, concentration and freedom from worry. The results indicate that talented adolescents exhibit specific sport psychological characteristics compared to less talented adolescents.

Keywords: adolescent; athletes; elite; talent identification; sport performance

Sport plays an important role in modern society and is a cultural phenomenon, irrespective of ethnicity, geographical location or politics (Headly, 1993). The important role of sport in South Africa is evident from its prominence in newspapers, sports channels and television programmes and also from the high attendance rate of spectators at sport events, irrespective of television broadcasting of the games. The South African Government, in collaboration with the Department of Basic Education, Sport and Recreation South Africa and the National Sport Council (NSC), emphasize talent identification (TID) in sport.

Performance in sport depends on physical, morphological, environmental, perceptual-motor factors, as well as psychological factors (Booyesen, 2007). Various sport psychological skills (SPSSs) are associated with performance in sport such as goal setting, coachability, freedom from worry, confidence, motivation and anxiety control (Woodman & Hardy, 2003; Silva, 2006; Andrew, Grobbelaar, & Potgieter, 2007; Gill & Williams, 2008; Geczi et al., 2009; Katsikas, Argeitaki, & Smirniotou, 2009; Cox, Shannon, McGuire, & McBride, 2010). Various researchers furthermore indicated that a mastery achievement orientation is crucial for overcoming difficult motor tasks (Duda, 2001; Roberts, 1992) and a competitive ego achievement orientation may improve enjoyment in practice and the drive to continue activity (Sarrazin & Guillet, 2001; Sage & Kavussanu, 2007).

From the above mentioned literature it is clear that psychological factors play an important role in physical activity and sport performance. Despite the fact that literature emphasizes the importance of sport psychological aspects for sport performance and development, only a few studies on TID have taken sport psychological skills into consideration in their TID models (Pienaar & Spamer, 1995, 1996, 1998; Badenhorst, 1998 & Nieuwenhuis, Spamer, & Van Rossum, 2002). The aim of this study is therefore to determine the possible differences in the sport psychological characteristics of talented and less talented youth sport participants. Therefore, the following research question is posed: Do talented adolescents exhibit different

sport psychological characteristics compared to their less talented counterparts?

Methods

Participants

A convenience sample of 162 sport participating learners (105 boys and 99 girls) with a mean age of 13.2 ± 0.33 years, from a High School in Potchefstroom in the North-West province of South Africa, whose parents gave consent, voluntarily participated in the study. The group was categorized into a talented (TG) and less talented group (LTG) according to the median of all the physical and motor tests of the TID protocol. Participants who were above the median in all eleven of the physical and motor tests were regarded as the more talented group. The median split resulted into a TG of 16 adolescents (7 girls and 9 boys) and a LTG of 188 (98 girls and 90 boys). The participants had the right to withdraw from the research project at any time without an explanation.

Data Collection

For the purpose of this study, only the baseline data of the first year (2010-2012) of a 3 year longitudinal study was used. The test procedure was conducted in January 2010 during school hours. The tests took place at the Human Movement Science Building at the Potchefstroom campus of the North-West University. Two questionnaires (a demographic, general information, sport and training habits, physical activity and maturity determination and sport psychological questionnaire (Smith, Schutz, Smoll, & Ptacek, 1995) were completed in approximately 30-45 minutes. Upon completion of the questionnaires the participants were subjected to the 'Australian Talent Search Protocol'. This is an existing Australian protocol used for the identification of general sports talent (Australian Sports Commission, 1995). This protocol consists of 10 tests which includes anthropometrical (body mass, stature, sitting height; arm span)

physical and motor ability tests. The physical and motor tests in this protocol included: basketball throw, throw and catch, vertical jump, 40m sprint, agility run and aerobic endurance. Cricket ball throw has been added to the protocol.

Test Procedures

Permission for this study was granted by headmaster of the school, the parents of the learners as well as the individual learners. Ethical approval for this study was also obtained from the Ethical Committee (NWU-00142-11-A1) of the Potchefstroom Campus: North-West University.

Statistical Procedures

The descriptive statistics (standard deviations, mean, minimum and maximum values) of each test variable was calculated using Statistica for Windows computer programme (StaSoft, 2010). The group identified as talented was compared with the less talented group according to the SPS by means of an independent t-test using SPSS for Windows (Version 15.1). The practical significance of differences between the talented and less talented group was determined by means of effect sizes (ES). Effect sizes were expressed as Cohen's d-value and can be interpreted as follow: ES of ± 0.8 is large, an ES of ± 0.5 is moderate and an ES of ± 0.2 is small (Thomas & Nelson, 2001). The gender difference was taken into account by calculating each gender's median split separately to determine the talented subjects in each gender group.

Results

It is clear that the talented boys and girls had a significantly higher physical activity level than their less talented counterparts. Furthermore, none of the less talented boys and girls recorded top performances in any sport. The participants underneath the 'Did not participate' heading were the subjects that did not participate in sport and were removed from further data analysis.

The results in Table 2 show that the talented adolescents outscored their less talented counterparts in all seven sport psychological variables. The talented group obtained statistically significant better scores in 5 of the subscales *coping with adversity*, *peaking under pressure*, *goal setting*, *confidence*, *coachability* and in the *average coping ability*. Furthermore a small effect size was revealed in freedom from worry (0.19), the effect size revealed medium practical significance for four of the

seven sport psychological variables namely *peaking under pressure* (0.63), *goal setting* (0.62), *concentration* (0.46) and *confidence* (0.68). Three of the sport psychological variable differences revealed a large practical significance namely *coping with adversity* (0.95), *coachability* (1.00) and *average coping ability* (1.03).

Discussion and Conclusions

The main findings in this study are that the talented group outscored the less talented group in all seven sport psychological variables as well as in average coping ability. Coping with adversity refers to when an athlete can stay emotionally stable and positive during competition despite changing situations (Weinberg & Gould, 2003). From the results it is clear that the talented group coped significantly better with adversity compared to the less talented group. Various research findings agree with the results of the current study by indicating that coping with adversity as a sport psychological skill is associated with talented athletes and performance, and can be regarded as a predictor of success in elite athletes (Gould, Eklund, & Jackson, 1992a; Gould, Guinan, Greenleaf, Medbery, & Peterson, 1999). Peaking under pressure is of great value to reach top performance in sport and will help athletes to cope in specific stressful situations. In this study peaking under pressure differs statistically significantly between the talented and less talented adolescents and is therefore in line with the results of previous studies.

Goal setting is an important SPS that might influence sport participants' performance and also has a positive effect on confidence, motivation and anxiety control independent of the age and skill level of the participant (Cox, 2007; Gould, 2010; Leuens, 2008). A goal is defined by Locke, Shaw, Saari, and Latham (1981) as 'the object or aim of an action that an individual is trying to achieve'. The difference that was found with regard to goal setting is supported by the literature which indicated a significant difference between successful and less successful athletes (Cox et al., 2010; Katsikas et al., 2009; Weinberg & Gould, 2003;).

Concentration is important when unexpected situations occur and the athlete can focus on the task at hand and not be distracted (Bourgeois, Loss, Meyers, & Leuens, 2003). Although concentration statistics did not differ significantly, the talented group revealed a higher mean score compared to the less talented group and it corresponds with previously reported results

Table 1

Demographic Information and Sport Participation Characteristics of the Group

Group	N	Mean PA Level	Participated in organized t sport for last 6 months	Top performance* (first/inter)
Talented Boys	9	4.67	9 Participated	7
Less Talented Boys	91	3.87	79 Participated 12 Did not participate	No top performance in this group
Talented Girls	7	4.43	7 Participated	6
Less Talented Girls	98	3.49	83 Participated 15 Did not participate	No top performance in this group

Note. PA = Physical activity level: 1=Inactive 2=Not very Active 3=Moderately active 4=Active 5=Very active; *Top performance was defined as being part of a first team of the chosen sport or competing in inter-high school competition.

Table 2

Descriptive Statistics and Effect Size Results of the Talented and Less Talented Adolescent Sport Participants

Variable	Group	N	Mean	SD	t-value	df	p-value	ES
Coping with adversity	A	16	82.81	12.72	-3.68	160	0.0003*	0.95***
	B	146	65.98	17.77				
Peaking under pressure	A	16	70.83	26.35	2.53	160	0.0123*	0.63**
	B	146	54.28	24.65				
Goal setting	A	16	68.75	19.12	2.37	160	0.0190*	0.62**
	B	146	55.31	21.77				
Concentration	A	16	77.08	21.19	-1.96	160	0.0513	0.46**
	B	146	67.35	18.56				
Freedom from worry	A	16	56.25	20.97	-0.71	160	0.4805	0.19*
	B	146	52.23	21.67				
Confidence	A	16	86.98	17.20	-2.59	160	0.0106*	0.68**
	B	146	74.49	18.45				
Coachability	A	16	91.15	8.32	-3.93	160	0.0001*	1.00***
	B	146	73.52	17.69				
Average coping ability	A	16	76.26	8.83	-3.99	160	0.0001*	1.03***
	B	146	63.31	12.64				

Note. $p \leq 0.05$ = statistically significant; ES=effect size: (*= small; **= medium; ***= large); Group A=Talented group; Group B=Less talented group

by Dosil (2006) which regarded concentration as an important SPS for top performance.

According to Dosil (2006) freedom from worry is a sport psychological skill that will ensure top performance in sport because an athlete is able to focus on his or her own ability which will eliminate the external pressure. Freedom from worry did not differ statistically significant but the talented group outscored the less talented group with regard to the mean score obtained. This is substantiated by Mummery, Schofield, and Perry (2004) who found that successful adolescent swimmers scored slightly higher in freedom from worry compared to their less successful counterparts.

Self-confidence can overcome the barriers that keep an athlete from performing and is regarded as a very important sport psychological skill (Karageorghis & Terry, 2011). Confidence levels that are low will lead to tiredness and low energy levels which are required for performance (Karageorghis & Terry, 2011). From the results of our study, the talented sport participating adolescents exhibit a significantly better level of confidence compared to their less talented counterparts.

Coachability is defined as the ability to handle constructive criticism and not take it personally, as well as the ability to listen to instructions and learn skills (Bourgeois et al., 2003). According to Cox et al. (2010) coachability is a significant predictor of performance in sport and substantiates this with the results of this study in which the talented group obtained a statistical significantly higher score in coachability than the less talented group.

This study confirm that sport psychological skills are important for successful performance in sport, even among adolescents, and that a difference exists between talented and less talented sport participants' sport psychological characteristics.

Limitations of this study are that since the subject group was not randomly selected, caution should be exercised when comparing the results of this study to other adolescent sport participants. The study was also confined to no specific community or culture so the findings can also not be generalized to all cultures since it was not represented by all cultures in equal manner. It is therefore recommended that future research on adolescents should include different cultures, genders, and different sporting codes and that the participants should be randomly selected. It is also recommended that longitudinal studies must be executed on adolescents to investigate the development of sport psychological skills.

Findings from this study can, however, enable coaches, sport psychological consultants and Sport Scientists to identify talented adolescents based not just on anthropometrical, physical and motor abilities, but also on sport psychological abilities, which play a significant role in sport performance and support a holistic approach in the development of talented athletes. This study supports the importance of sport psychological skills and provides a foundation for further investigation into the contributing factors for excellence during adolescent sport participation.

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