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PSYCHOLOGICAL SKILLS, PLAYING POSITIONS AND PERFORMANCE OF AFRICAN YOUTH SOCCER TEAMS

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ABSTRACT

The purpose of this study was to investigate the psychological skills of African youth soccer players in different playing positions. The role of psychological skills and overall team performance was also determined. The sample consisted of male soccer players (N=152) between the ages of 14 and 18 years from 10 African countries competing in the 2010 Copa Coca-Cola soccer tournament. A cross-sectional survey design was used to determine the players' psychological skills by means of the Bull's Mental Skills Questionnaire and the Athletic Coping Skills Inventory-28 (ACSI-28). Results yielded insignificant differences between the subscale scores of the players in different playing positions. Concentration was the only psychological variable associated with performance. The middle four-ranked teams outscored the most successful and least successful teams in relaxation. Findings from this study could not confirm the widely acclaimed research assumption that psychological skill demands differ among players in different playing positions, nor the positive correlation between psychological skills and team success. Future research should investigate the perceptions and extent of psychological skills training among African youth soccer players, as well as the efficiency of psychological skills interventions aimed at enhancing overall team performance.

Key words: Athletic Coping Skills Inventory-28 (ACSI-28); Bull's Mental Skills Questionnaire; Psychological skills; Playing positions; Youth soccer.

INTRODUCTION

Soccer is rated one of the most popular sports in the world (Kurt *et al.*, 2012). Success and consistent performance in soccer is not just archetypal to the physical and tactical modalities employed, but also the psychological skills incorporated into practice and competition (Cox & Yoo, 1995). Research findings indicate a positive association between psychological characteristics and elite sport performance (Orlick & Partington, 1988). William and Krane's (2006) study buttressed this proposition by indicating that psychological skills encompassing imagery, focussing attention and maintaining concentration, controlling anxiety, positive self-talk and goal setting are antecedents of peak performance. Behncke (2004) highlighted the importance of these psychological skills in implementing cognitive-somatic interventions aimed at enhancing performance. It is also argued that psychological skills are essential for maintaining expert performance (Durand-Bush & Salmela, 2002).

A number of studies have investigated psychological factors and their respective influence on soccer players' performance. Salmon *et al.* (2008) examined the motivational and cognitive use of imagery by soccer players of various skill levels. They found that soccer players use imagery as a motivational tool in competition more effectively than any other form of cognitive training. It was also revealed that soccer players competing at national level use imagery more than players competing at provincial and local levels. It can thus be assumed that players from different competitive levels differ in their usage of psychological skills.

Lowther *et al.* (2002) found that self-efficacy was also positively correlated with the performance of soccer players participating in the Amputee World Cup. They indicated that psychological skills, such as activation and relaxation ability increased the self-efficacy levels of participants, resulting in improved performance.

Self-talk was highlighted by Hardy (2006) as an important self-instructional and motivational tool to improve performance. In agreement with this, Johnson *et al.* (2004) found that self-talk lead to an improvement in specific performance subcomponents in soccer. This particular study revealed that the majority of female soccer players' low-drive shooting performances improved following a cognitive-specific self-talk intervention. This emphasised the importance of the usage of psychological skills in improving performance-related factors in soccer.

In the refinement of research on psychological skills, it has become apparent that intervention programmes are tailored to address the specific demands of the sport and the different playing positions (Cox & Yoo, 1995; Sewell & Edmundson, 1996; Andrew *et al.,* 2007; Eloff *et al.*, 2011). Thelwell *et al.* (2006) assessed the efficacy of a psychological intervention on the technical skills pertinent to soccer midfielders, such as their ability to bring the ball under control, completing successful passes and making successful tackles. It was found that the psychological skills training plan, comprising relaxation, imagery and self-talk, led to improvement and consistency in each of the dependent variables deemed specific to the midfield position among all the participants. Such findings suggest that psychological skills training have a facilitative effect on position-specific performance components in soccer. However, a recent study maintains that there is no meaningful difference between position-specific play in soccer and various psychological attributes, such as loneliness, self-esteem, trait anger and anger expression (Kurt *et al.,* 2012).

As mentioned, there have been various studies examining the efficacy of psychological skills interventions on performance subcomponents in soccer. However, Sadeghi *et al.* (2010) have emphasised the need to look into the mental attributes associated with overall soccer performance. These researchers gathered qualitative information from a sample of college soccer players to determine which psychological skills are needed to perform optimally. Their findings revealed that imagery, goal setting, self-talk and relaxation were the psychological skills most needed in soccer. These results are in line with the findings of Coetzee *et al.* (2006), who identified psychological skills, such as concentration, performing optimally under pressure, achievement motivation, goal setting and arousal control, as important discriminators between successful and less successful soccer players.

PURPOSE OF THE RESEARCH

Although the development of sport psychology has been documented for more than a century (Norman Triplett published the first sport psychology paper in 1898), it is still maturing when it comes to on-the-field support to enhance athlete performance, especially in soccer (Junge *et al.,* 2000). Regardless of the existing findings pertaining to the role of psychological factors in soccer, knowledge about psychological skills usage within a competitive soccer environment is limited. There still remains a need to assess the psychological antecedents of overall performance scores in this open-skill sport, as well as determining its suitability for the applied practitioner (Reilly & Gilbourne, 2003).

The purpose of this study was subsequently to investigate the psychological skills and positional differences among African youth soccer players. It was hypothesised that this study could provide useful insights into identifying position-specific psychological characteristics for the purpose of developing individualised psychological skills training programmes in soccer. It could also demonstrate the relevance of the usage of psychological skills in achieving success in youth soccer tournaments.

METHODOLOGY

Participants

The sample consisted of African soccer players (N=152), who competed in the 2010 Copa Coca-Cola soccer tournament. The participating countries were: Botswana, Kenya, Malawi, Namibia, Nigeria, South Africa, Tanzania, Uganda, Zambia, Zimbabwe, and an invitational team, Ecabu, which consisted of individual players from the participating countries. The ages of the players ranged between 14 and 18 years with a mean age of 16.2±1.13 years. Almost half (43.9%) of the players had been playing soccer at an international level for one year. This was followed by a third (33.3%) who indicated that they had participated internationally for two years. The remainder of the players had participated for longer than two years, with one respondent reporting that he had participated at an international level for six years. A large number (n=65) of the players were midfielders, followed by defenders (n=44), forwards (n=26) and goal keepers (n=17).

Based on the criteria of winning matches and the eventual log placement, the respective teams were categorised into 3 groups, namely the top 4 teams (n=53), the middle 4 teams (n=55) and the 3 least successful teams (n=44).

Testing procedure

The study was approved by the organisers of the 2010 Copa Coca-Cola tournament and ethical approval was granted by the Tshwane University of Technology (Number 2010/07/005). An information letter explaining the aims of the study was given to all the players and coaches, after which informed consent were given by the players before they were allowed to participate in the study.

The players were tested on the days set aside for psychological and physical evaluations during the tournament. The purpose of the study and the confidentiality of each individual

player's information were explained to the participants and coaches. Coaches could, if requested, get access to their team's overall results, but not to individual players' results. The reason for this restriction was to reduce the occurrence of 'socially desirable' responses from participants and to limit the influence it might have on team selection. All the players from the participating countries were included in the survey. The questionnaires, which included demographic information and measures of psychological skills, were employed in this study and were administered with the assistance of supervisors and coaching staff.

Measuring instruments

The demographical information consisted of the following: country represented, age, number of years playing soccer at a national level and playing position.

Psychological skills were measured by means of 2 valid and reliable questionnaires: the Athletic Coping Skills Inventory-28 (ACSI-28) (Smith *et al.*, 1995) and the Mental Skills Questionnaire of Bull *et al.* (1996). The rationale for using 2 different psychological skills questionnaires was to target a broader range of skills and to uncover the multidimensional nature of skills that are employed by young soccer players at this level of performance. The Mental Skills Questionnaire and the ACSI-28 in combination measured a total of 15 psychological skills and partially overlapped on 5 subscales (concentration, confidence, motivation, goal setting, and mental preparation). The remaining 10 subscales measure a broad spectrum of psychological skills relevant to this particular level of soccer participation.

ACSI-28

The ACSI-28 (Smith *et al.*, 1995) measures coping with adversity, peaking under pressure, goal setting and mental preparation, concentration, freedom from worry, confidence and motivation, and coachability. These constructs are composed of items that are measured on a 4-point Likert-type scale ranging from 0 (*almost never*) to 3 (*almost always*). Each of the 7 construct scores can range from 0 to 12, and are summated to yield a general coping skills score that can range from 0 to 84. The results are expressed as percentage values, with higher values indicating better skill levels. Each statement in the questionnaire describes experiences of other athletes, which prompts the participant to indicate the frequency of similar experiences. The ACSI-28 was used in a one-week study on 97 male and female college athletes that yielded a test-retest reliability for a personal coping resource score of r=0.87 and a total internal consistency reliability score of r=0.86 (Smith *et al.*, 1995).

Mental Skills Questionnaire

The Mental Skills Questionnaire (Bull *et al.*, 1996) measures imagery, mental preparation (goal setting), self-confidence, anxiety and worry management, concentration, relaxation and motivation. The questionnaire consists of 28 items that assess respondents on a 6-point Likert scale ranging from 1 (*strongly disagree)* to 6 *(strongly agree)*. Bull *et al.* (1996) standardised the questionnaire by using 219 athletes to establish generally high Cronbach's alpha levels of 0.59 to 0.80 for the 7 subscales. The 7 subscales have also been translated into Dutch and have yielded generally similar Cronbach's alpha levels of 0.59 to 0.80 (Snauwaert, 2001). South African norms for the questionnaire have recently been established in a study by Edwards and Steyn (2011), using the data of 419 male and female university students, that

demonstrated test-retest reliability levels that concurred with those of 3 other South African studies (Danariah, 2007; Edwards & Edwards, 2007; Edwards & Steyn, 2008).

Statistical analysis

The data were analysed by means of the SPSS (*Statistical Product and Service Solutions*) package. Frequency analysis was used to describe the sample. Descriptive statistics were used to give an indication of mean scores on the psychological skill indices according to playing position and tournament ranking. These descriptive statistics included the number of participants, minimum and maximum values, mean scores and standard deviations. The mean score was used to describe central tendency.

Inferential statistics were applied to determine whether statistically significant differences existed between playing positions and rankings of teams, for each of the psychological skills. A One-Way Analysis of Variance (ANOVA) was used to determine whether statistically significant ($p \leq 0.05$) differences existed between the psychological skills subscales for the various playing positions and groupings of team performance.

Cronbach's alpha indices were calculated for both psychological skills measures employed in the study to ensure the reliability of these questionnaires for the particular data-set (Thomas *et al.,* 2005). Table 1 illustrates the Cronbach's Alpha calculated for the 2 psychological measures.

***TABLE 1*: RELIABILITY OF PSYCHOLOGICAL SKILL MEASURES**

Cronbach's Alpha for the Total Sample			
Mental Skills Questionnaire (Subscales)		Athletic Coping Skills Inventory-28	
Imagery	0.54	Average coping skills score	0.53
Mental preparation	0.71	Coping with adversity	0.49
Self confidence	0.66	Peaking under pressure	0.58
Anxiety and worry management	0.58	Goal setting and mental preparation	0.67
Concentration	0.55	Concentration	0.67
Relaxation	0.56	Freedom from worry	0.59
Motivation	0.68	Confidence and motivation	0.55
		Coachability	0.17

Table 1 illustrates that both the instruments used in this study had moderate Cronbach's Alpha values except for the coping with adversity and coachability subscales (ACSI-28). The latter will not be considered for any further statistical analysis as their internal consistency was too low. Therefore, the results should be interpreted with caution as it appears that the conceptualisation of the constructs might be different in typical African contexts, compared to the Western milieu in which these instruments were developed.

RESULTS

None of the results of the analyses presented in Table 2 and Table 3 showed any statistically significant differences. Non-parametric statistics were employed by means of the Kruskall-Wallis test.

***TABLE 2*: BULL'S MENTAL SKILLS QUESTIONNAIRE: DESCRIPTIVE STATISTICS OF POSITIONAL COMPARISONS (N=152)**

Mental skills	Position	Mean %	SD	SE	Minimum %	Maximum %	F-value	p-value
Imagery	Goalkeeper	75.25	4.58	1.15	41.67	100.00	0.16	0.92
	Defender	76.79	4.21	0.63	29.17	100.00		
	Midfielder	77.20	4.46	0.59	29.17	100.00		
	Forward	79.17	4.44	0.89	45.83	100.00		
	Total	77.21	4.36	0.36	29.17	100.00		
Mental preparation	Goalkeeper	77.46	5.14	1.25	37.50	100.00	0.71	0.55
	Defender	84.33	4.35	0.68	33.33	100.00		
	Midfielder	84.21	3.94	0.50	41.67	100.00		
	Forward	83.17	4.42	0.87	41.67	100.00		
	Total	83.29	4.28	0.35	33.33	100.00		
Self-confidence	Goalkeeper	79.42	4.90	1.19	37.50	100.00	0.18	0.91
	Defender	77.96	4.93	0.76	33.33	100.00		
	Midfielder	78.96	5.38	0.69	25.00	100.00		
	Forward	81.79	3.68	0.75	58.33	100.00		
	Total	79.21	4.90	0.41	25.00	100.00		
Anxiety and worry management	Goalkeeper	67.79	5.38	1.39	16.67	100.00	0.23	0.87
	Defender	67.36	5.06	0.79	16.67	100.00		
	Midfielder	64.25	5.23	0.67	16.67	100.00		
	Forward	66.67	5.08	1.06	20.83	100.00		
	Total	65.96	5.13	0.43	16.67	100.00		
Concentration	Goalkeeper	75.75	4.68	1.14	33.33	100.00	0.15	0.93
	Defender	75.88	5.54	0.84	16.67	100.00		
	Midfielder	76.79	5.02	0.65	20.83	100.00		
	Forward	73.38	4.26	0.89	33.33	100.00		
	Total	75.83	4.99	0.42	16.67	100.00		

TABLE 2. (cont.)

Mental skills	Position	Mean %	SD	SE	Minimum %	Maximum %	F-value	p-value
Relaxation	Goalkeeper	75.75	5.17	1.26	33.33	100.00	0.75	0.53
	Defender	80.58	4.26	0.66	33.33	100.00		
	Midfielder	82.75	3.92	0.49	45.83	100.00		
	Forward	81.86	4.15	0.81	37.50	100.00		
	Total	81.21	4.20	0.34	33.33	100.00		
Motivation	Goalkeeper	83.88	4.22	1.06	45.83	100.00	0.44	0.73
	Defender	86.21	3.10	0.48	45.83	100.00		
	Midfielder	88.29	3.50	0.44	37.50	100.00		
	Forward	86.50	4.13	0.83	33.33	100.00		
	Total	86.92	3.57	0.30	33.33	100.00		

Goal keepers: n=17; Midfielders: n=65; Forwards: n=26; Defenders: n=44.

***TABLE 3*: ACSI-28: DESCRIPTIVE STATISTICS OF POSITIONAL COMPARISONS (N=152)**

Mental skills	Position	Mean %	SD	SE	Minimum %	Maximum %	F-value	p-value
Average coping skills score	Goalkeeper	59.29	2.61	0.56	25.00	92.85	0.70	0.55
	Defender	64.01	2.34	0.35	20.23	97.61		
	Midfielder	62.79	2.50	0.31	17.85	100.00		
	Forward	61.21	2.25	0.45	23.80	95.24		
	Total	61.83	2.43	0.41	21.72	96.42		
Coping with adversity	Goalkeeper	56.33	2.97	0.72	25.00	100.00	1.31	0.27
	Defender	67.08	1.91	0.29	33.33	100.00		
	Midfielder	65.17	2.46	0.31	25.00	100.00		
	Forward	64.33	1.90	0.38	33.33	91.67		
	Total	64.58	2.30	0.19	25.00	100.00		
Peaking under pressure	Goalkeeper	63.25	2.18	0.53	33.33	91.67	0.64	0.59
	Defender	62.25	2.67	0.41	8.33	100.00		
	Midfielder	62.92	2.78	0.35	16.67	100.00		
	Forward	56.00	2.70	0.54	8.33	100.00		
	Total	61.58	2.67	0.22	8.33	100.00		

TABLE 3. (cont.)

Mental skills	Position	Mean %	SD	SE	Minimum %	Maximum %	F-value	p-value
Goal setting and mental preparation	Goalkeeper	67.17	3.17	0.79	25.00	100.00	0.00	1.00
	Defender	66.67	2.65	0.40	8.33	100.00		
	Midfielder	66.83	2.89	0.37	8.33	100.00		
	Forward	67.00	2.66	0.54	8.33	100.00		
	Total	66.83	2.79	0.23	8.33	100.00		
Concentration	Goalkeeper	59.33	2.12	0.51	33.33	83.33	1.73	0.16
	Defender	69.08	2.32	0.36	33.33	100.00		
	Midfielder	61.50	2.45	0.31	16.67	100.00		
	Forward	62.00	1.89	0.38	33.33	91.67		
	Total	63.50	2.31	0.19	16.67	100.00		
Freedom from worry	Goalkeeper	45.58	2.27	0.55	16.67	83.33	0.57	0.63
	Defender	50.00	2.70	0.41	0.00	100.00		
	Midfielder	47.75	2.79	0.36	0.00	100.00		
	Forward	42.75	2.60	0.54	8.33	91.67		
	Total	47.41	2.66	0.22	0.00	100.00		
Confidence and motivation	Goalkeeper	68.67	3.35	0.81	16.67	100.00	0.98	0.41
	Defender	76.00	2.25	0.34	41.67	100.00		
	Midfielder	77.83	2.21	0.28	33.33	100.00		
	Forward	76.75	2.32	0.47	41.67	100.00		
	Total	76.08	2.39	0.20	16.67	100.00		
Coachability	Goalkeeper	54.67	2.19	0.55	25.00	91.67	0.33	0.80
	Defender	57.00	1.91	0.29	16.67	83.33		
	Midfielder	57.50	1.95	0.25	25.00	100.00		
	Forward	59.67	1.70	0.34	33.33	91.67		
	Total	57.42	1.91	0.16	16.67	100.00		

Goal keepers: n=17; Midfielders: n=65; Forwards: n=26; Defenders: n=44.

As indicated earlier, the teams were divided into 3 groups based on their ranking after the soccer tournament. Statistically significant differences were found for both instruments (Table 4 and Table 5).

***TABLE 4*: BULL'S MENTAL SKILLS QUESTIONNAIRE: DESCRIPTIVE STATISTICS & SIGNIFICANT DIFFERENCES REGARDING MENTAL SKILLS OF THREE GROUPS (N=152)**

Mental skills	Group	Mean %	SD	SE	Minimum %	Maximum %	F-value	p-value
Imagery	Gr. A (Top 4)	79.50	3.62	0.52	45.83	100.00	3.88	0.02*
	Gr. B (Middle 4)	80.63	4.40	0.60	37.50	100.00		
	Gr. C (Bottom 3)	71.29	4.64	0.70	29.17	100.00		
	Total	77.46	4.32	0.36	29.17	100.00		
Mental preparation	Group A (Top 4)	81.58	4.43	0.61	33.33	100.00	0.71	0.49
	Group B (Middle 4)	85.54	4.34	0.58	41.67	100.00		
	Group C (Bottom 3)	82.83	3.83	0.60	45.83	100.00		
	Total	83.42	4.23	0.35	33.33	100.00		
Self-confidence	Group A (Top 4)	80.29	4.30	0.61	33.33	100.00	0.49	0.61
	Group B (Middle 4)	80.00	5.26	0.70	25.00	100.00		
	Group C (Bottom 3)	76.38	5.22	0.80	37.50	100.00		
	Total	79.04	4.93	0.41	25.00	100.00		
Anxiety and worry management	Group A (Top 4)	66.33	5.04	0.71	16.66	100.00	0.14	0.87
	Group B (Middle 4)	65.71	5.55	0.76	16.66	100.00		
	Group C (Bottom 3)	64.00	4.82	0.77	20.83	100.00		
	Total	65.46	5.15	0.43	16.66	100.00		
Concentration	Group A (Top 4)	80.46	4.10	0.57	25.00	100.00	3.04	0.05*
	Group B (Middle 4)	75.46	4.83	0.66	16.66	100.00		
	Group C (Bottom 3)	70.00	5.73	0.90	20.83	100.00		
	Total	75.71	4.93	0.41	16.66	100.00		

TABLE 4. (cont.)

Mental skills	Group	Mean %	SD	SE	Minimum %	Maximum %	F-value	p-value
Relaxation	Group A (Top 4)	78.50	4.04	0.57	37.50	100.00	6.63	0.00**
	Group B (Middle 4)	87.50	3.67	0.48	45.83	100.00		
	Group C (Bottom 3)	76.25	4.44	0.68	33.33	100.00		
	Total	81.29	4.17	0.34	33.33	100.00		
Motivation	Group A (Top 4)	87.25	3.21	0.44	33.33	100.00	1.03	0.36
	Group B (Middle 4)	88.46	3.61	0.48	37.50	100.00		
	Group C (Bottom 3)	84.17	3.92	0.61	45.83	100.00		
	Total	86.88	3.57	0.29	33.33	100.00		

Group A (Top 4 teams): n=53; Group B (Middle 4 teams): n=55; Group C (Bottom 3 teams): n=44.
* $p \leq 0.05$; ** $p \leq 0.01$; † $p \leq 0.10$

Statistically significant differences were found between the 3 groups. The imagery scores of the middle 4 teams were significantly higher than those of the bottom 3 teams. This difference was significant at the 0.05 level (F=3.88; p=0.02). Even though the top 4 teams also had higher scores than the bottom 3 teams, the difference was not statistically significant. The concentration ability of the 3 groups also differed significantly (F=3.04; p=0.05). The top 4 teams had significantly higher scores than the bottom 3 teams.The relaxation scores of the 3 groups also differed significantly (F=6.63; p=0.002). The middle 4 teams had significantly higher relaxation scores than both the top 4 and bottom 3 teams.

The confidence and motivation scale was the only subscale that showed statistically significant differences at the 0.05 level of significance (F=4.400; p=0.014). The middle 4 teams had significantly higher scores than the bottom 3 teams. Even though the middle 4 teams outscored the top 4 teams, this difference was statistically insignificant.

***TABLE 5*: ACSI-28: DESCRIPTIVE STATISTICS & SIGNIFICANT DIFFERENCES OF DIFFERENT COPING SKILLS OF THREE GROUPS (N=152)**

Coping skills	Group	Mean %	SD	SE	Minimum %	Maximum %	F-value	p-value
Average coping skills score	Group A (Top 4)	61.63	2.31	0.32	20.23	100.00	1.29	.43
	Group B (Middle 4)	64.73	2.58	0.34	16.71	98.81		
	Group C (Bottom 3)	60.54	2.29	0.34	22.61	97.61		
	Total	62.30	2.39	0.33	19.85	98.80		
Coping with adversity	Group A (Top 4)	64.50	2.34	0.33	25.00	100.00	1.04	.36
	Group B (Middle 4)	67.25	2.19	0.29	25.00	100.00		
	Group C (Bottom 3)	61.75	2.38	0.36	25.00	100.00		
	Total	64.75	2.30	0.19	25.00	100.00		
Peaking under pressure	Group A (Top 4)	59.00	2.58	0.36	8.33	100.00	1.42	.25
	Group B (Middle 4)	65.33	2.97	0.39	16.67	100.00		
	Group C (Bottom 3)	59.25	2.34	0.35	25.00	100.00		
	Total	61.50	2.68	0.22	8.33	100.00		
Goal setting and mental preparation	Group A (Top 4)	66.83	2.16	0.31	25.00	100.00	.07	.93
	Group B (Middle 4)	67.83	3.54	0.47	8.33	100.00		
	Group C (Bottom 3)	66.08	2.25	0.34	33.33	100.00		
	Total	67.00	2.77	0.23	8.33	100.00		
Concentration	Group A (Top 4)	62.08	2.01	0.28	33.33	100.00	.74	.48
	Group B (Middle 4)	65.92	2.49	0.33	16.67	100.00		
	Group C (Bottom 3)	61.92	2.36	0.36	25.00	100.00		
	Total	63.50	2.30	0.19	16.67	100.00		

TABLE 5. (cont.)

Coping skills	Group	Mean %	SD	SE	Minimum %	Maximum %	F-value	p-value
Freedom from worry	Group A (Top 4)	49.33	2.81	0.40	0.00	100.00	.58	.56
	Group B (Middle 4)	48.25	2.53	0.34	0.00	100.00		
	Group C (Bottom 3)	44.42	2.75	0.42	0.00	100.00		
	Total	47.50	2.68	0.22	0.00	100.00		
Confidence and motivation	Group A (Top 4)	73.83	2.31	0.32	33.33	100.00	4.40	.01*
	Group B (Middle 4)	81.75	2.22	0.29	25.33	100.00		
	Group C (Bottom 3)	70.67	2.55	0.38	16.67	100.00		
	Total	75.92	2.40	0.19	16.67	100.00		
Coachability	Group A (Top 4)	55.67	2.00	0.28	16.67	100.00	.79	.46
	Group B (Middle 4)	56.75	2.10	0.28	25.00	91.67		
	Group C (Bottom 3)	59.67	1.45	0.22	33.33	83.33		
	Total	57.25	1.90	0.15	16.67	100.00		

Group A (Top 4 teams): n=53; Group B (Middle 4 teams): n=55; Group C (Bottom 3 teams): n=44.
*$p \leq 0.05$

DISCUSSION

The purpose of the study was to investigate the relationship between psychological skills, playing positions and team performance of African youth soccer players. None of the analyses showed any statistically significant differences between the psychological skills scores of players in different playing positions. This finding is inconsistent with the results of other investigations (Kirkcaldy, 1982; Cox & Yoo, 1995; Sewell & Edmundson, 1996; Andrew *et al.,* 2007; Eloff *et al.,* 2011). Kirkcaldy (1982), for example, found that players in defensive positions in soccer showed higher emotional stability than players in attacking positions.

The fact that the current study failed to concur with other investigations could be explained by the elite level of participation of the sample tested in the present study. The comparative studies focused on provincial and less elite intercollegiate or tertiary level participants. The results of the present study suggest that youth soccer players competing at an international

level are homogeneously psychologically skilled regardless of their respective position in the team. This finding, pertinent to soccer players, is corroborated by Kurt *et al.* (2012), who credited such homogenous results to the similar status (amateur/professional) of the participants.

Another probable reason for the inconsistency between the current findings and those stemming from earlier research is the young age of the participants. McCarthy *et al.* (2010) postulated that young sport participants have less approximations of psychological skill usage compared to adult participants. Nearly half (47.3%) of the sample in the present study was 14 to 16 years old, which could attest to the insignificant relationship noticed between psychological skills and playing position. Holland *et al.* (2010) support this view by conceding that athletes in the specialisation stage (approximately 13 to15 years of age), may be at the ideal 'window of opportunity' for developing adult-like attributes and should, therefore, not be compared to older athlete groups. The mere fact that the instruments employed in this investigating was not standardised within the African context, may also explain why the results deviate from previous findings.

Further analyses revealed that players from the top four teams scored higher than the players from the bottom three ranked teams for *concentration* only. These results do not fully correspond with the majority of similar psychological studies done on soccer players. One such study by Coetzee *et al.* (2006), explicitly revealed that the most important discriminators between successful and less successful soccer players were goal directedness, concentration, optimal performance under pressure, achievement motivation, arousal control and goal setting. The fact that the top four teams outscored the bottom three teams regarding concentration ability only is, moreover, noteworthy.

The importance of concentration is emphasised in the literature, with some commentators believing that athletes who can focus on the task-relevant cues and avoid distractions are more likely to excel (Perry, 2005). The importance of concentration as the number one psychological skill for success was emphasised by Moran (1996:72), who concluded that *"*concentration skills are vital prerequisites of success in sport and concentration may be the most dividing factor between successful and non-successful athletes".

Another interesting finding regarding the psychological skills is the fact that players from the middle four teams recorded significantly higher scores in *relaxation* ability than did the players from either most successful or least successful teams. A possible explanation for this finding could be that the middle four team participants perceive themselves less likely to either win the tournament or to end among the bottom tier. In other words, they experience fewer anxious emotions linked to the value of relative success or failure (Cratty, 1973). In contrast, the top teams and the bottom teams might have recorded lower relaxation ability as they experienced more pressure to win the tournament or not to end last, respectively.

Further analysis revealed that the players in the middle group recorded higher *imagery*, *confidence* and *motivation* scores than the bottom group. This might be due to psychological properties related to high relaxation ability or to other factors that were not included in the scope of the present investigation. What is surprising is that there was no difference in these skills between the most successful and least successful teams. This could urge future

investigations to evaluate and compare the background knowledge and exposure to psychological skills training amongst African youth soccer players. Whitley (2002) emphasised the importance of publishing research that is contradictory to the hypotheses. He also reiterates the important point that contradictory results (null results) must not be perceived as sources of disappointment, but rather sources of information that must be incorporated into the scientific knowledge base. However, since all possible variables which could explain the observed findings cannot be justified, it will be important that future studies examine the role of other intervening factors, which could account for such surprising similarities in the psychological qualitiesof successful and less successful teams.

CONCLUSION

The results of this study could not confirm the established research findings that positional differences regarding psychological skills exist in team sports. It could be that psychological skills are unrelated to playing positions in maturing players or players competing at an international level. The argument that concentration is one of the most important psychological skills in sport, and may be the decisive factor in determining global soccer success, is supported by the findings of this study. No other mental skill differences relating to team success were, however, recorded between the ranked teams. In a sense, these findings raise the question of whether or not proper and adequate psychological skills training are implemented among young African national soccer players.

This study cautions researchers not to underestimate or overestimate the importance of psychological skill levels in sport and particularly playing positions, but to adopt a realistic perspective regarding psychological skills, especially in different age groups. Team sport is more complex than individual sport and multivariate analyses which include data on athletes' needs, developmental level, environment and sport specific skills should be used as baseline reference points for developing and categorising young players. Such an approach is supported by Weinberg and Gould (2011), who believe that sport participants should not be selected solely on their sport psychological profiles, but rather on their overall performance. Physique, strength, speed and skill levels should remain the primary determinants for selecting team members (Cox & Yoo, 1995).

Limitations of the study were the potential language barrier of instruments used, and failing to determine the knowledge and previous exposure of the participants regarding psychological skills training. Future research among African soccer players should also investigate their perceptions of psychological skill usage for the purpose of self-improvement in soccer, as well as the effect of psychological skills interventions on overall team performance.

REFERENCES

ANDREW, M.; GROBBELAAR, H.W. & POTGIETER, J.C. (2007). Positional differences in the sport psychological skills and attributes of rugby union players. *African Journal for Physical, Health Education, Recreation and Dance*, Supplement (September): 321-334.

BEHNCKE, L. (2004). "Mental skills training for sports: A brief review". Hyperlink [http://www.athleticinsight.com/Vol6Iss1/Mentalskillsreview.htm]. Retrieved on 1 October 2011.

BULL, S.; ALBINSON, J. & SHAMBROOK, C. (1996). *The mental game plan: Getting psyched for sport*. Eastbourne (UK): Sports Dynamics.

COETZEE, B.; GROBBELAAR, H.W. & GIRD, C.C. (2006). Sport psychological skills that distinguish successful from less successful soccer teams. *Journal of Human Movement Studies*, 51: 383-401.

COX, R.H. & YOO, H.S. (1995). Playing position and psychological skills in American football. *Journal of Sport Behavior*, 18(3): 183-195.

CRATTY, B.J. (1973). *Psychology in contemporary sport: Guidelines for coaches and athletes*. Englewood Cliffs, NJ: Prentice-Hall.

DANARIAH, D. (2007). Promoting community mental health through team sport in Zululand. Unpublished PhD-dissertation in Community Psychology. KwaDlangezwa: University of Zululand, South Africa.

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.

EDWARDS, S.D. & EDWARDS, D.J. (2007). The description and evaluation of a breath-based psychological skills training programme for health and sport. *African Journal for Physical, Health Education, Recreation and Dance*, 13(4): 380-399.

EDWARDS, D.J. & STEYN, B.J.M. (2008). Sport psychological skills training and psychological well-being. *South African Journal for Research in Sport, Physical Education and Recreation*, 30(1): 15-28.

EDWARDS, D.J. & STEYN, B.J.M. (2011) Establishment of norms for the Bull's Mental Skills Questionnaire in South African university students: An exploratory study. *African Journal for Physical Health Education, Recreation and Dance*, 17(3): 526-534.

ELOFF, M.; MONYEKI, M.A. & GROBBELAAR, H.W. (2011). Mental skill levels of South African male student field hockey players in different playing positions. *African Journal for Physical, Health Education, Recreation and Dance*, 17(4): 636-646.

HARDY, J. (2006). Speaking clearly: A critical review of the self-talk literature. *Psychology of Sport and Exercise*, 7(1): 81-97.

HOLLAND, M.J.G.; WOODCOCK, C.; CUMMING, J. & DUDA, J.L. (2010). Mental qualities and employed mental techniques of young elite team sport athletes. *Journal of Clinical Sport Psychology*, 4: 19-38.

JOHNSON, J.; HRYCAIKO, D.; JOHNSON, G. & HALAS, J. (2004). Self-talk and female youth soccer performance. *Sport Psychologist*, 18(1): 44-59.

JUNGE, A.; DVORAK, J.; ROESCH, D.; GRAF-BAUMANN, T.; CHOMIAK, J. & PETERSON, L. (2000). Psychological and sport-specific characteristics of football players. *American Journal of Sports Medicine*, 28(5 Suppl.): s22-s28.

KIRKCALDY, B.D. (1982). Personality and sex differences related to positions in team sports. *International Journal of Sport Psychology*, 13: 141-153.

KURT, C.; CATIKKAS, F.; ÖMÜRLÜ, I.K. & ATALAĞ, O. (2012). Comparison of loneliness, trait anger-anger expression style, self-esteem attributes with different playing position in soccer. *Journal of Physical Education and Sport*, 12(1): 39-43.

LOWTHER, J.; LANE, A. & LANE, H. (2002). "Self-efficacy and psychological skills during the Amputee Soccer World Cup". Hyperlink [http://www.athleticinsight.com/-Vol4Iss2/ SoccerSelfEfficacy.htm]. Retrieved on 5 November 2011.

McCARTHY, P.J.; JONES, M.V.; HARWOOD, C.G. & OLIVIER, S. (2010). What do young athletes implicitly understand about psychological skills? *Journal of Clinical Sport Psychology*, 4: 158-172.

MORAN, A.P. (1996). *The psychology of concentration in sport performers: A cognitive analysis*. Hove, East Sussex (UK): Psychology Press.

ORLICK, T. & PARTINGTON, J. (1988). Mental links to excellence. *Sport Psychologist*, 2: 103-130.

PERRY, C. (2005). Concentration: Focus under pressure. In S. Murphy (Ed.), *The sport psych handbook* (pp.113-126). Champaign, IL: Human Kinetics.

REILLY, T. & GILBOURNE, D. (2003). Science and football: A review of applied research in the football codes. *Journal of Sport Sciences*, 21: 693-705.

SADEGHI, H.; OMAR-FAUZEE, M.; JAMALIS, M.; AB-LATIF, R. & CHERIC, M.C. (2010). The mental skills training of university soccer players. *International Education Studies*, 3(2): 81-90.

SALMON, J.; HALL, C. & HASLAM, I. (2008). The use of imagery by soccer players. *Journal of Applied Sport Psychology*, 6(1): 116-133.

SEWELL, D.F. & EDMUNDSON, A.M. (1996). Relationship between field position and pre-match competitive state anxiety in soccer and field hockey. *International Journal of Sport Psychology*, 27(2): 159-172.

SMITH, R.E.; SCHUTZ, R.W.; SMOLL, F.L. & PTACEK, J.T. (1995). Development and validation of a multidimensional measure of sport-specific psychological skills: The Athletic Coping Skills Inventory-28. *Journal of Sport & Exercise Psychology*, 17: 379-398.

SNAUWAERT, E. (2001). A psychometric evaluation of Bull's Mental Skills Questionnaire: A study on Flemish athletes. Unpublished paper presented at the 10th World Congress of Sport Psychology, Skiathos, Greece, 28 May–2 June.

THELWELL, R.C.; GREENLEES, I.A. & WESTON, N.J.V. (2006). Using psychological skills training to develop soccer performance. *Journal of Applied Sport Psychology*, 18: 254-270.

THOMAS, J.R.; NELSON, J.K. & SILVERMAN, S.J. (2005). *Research methods in physical activity*. Champaign, IL: Human Kinetics.

TRIPLETT, N. (1898). The dynamogenic factors in pace-making and competition. *American Journal of Psychology*, 9: 507-533.

WEINBERG, R.S. & GOULD, D. (2011). *Foundations of sport and exercise psychology* (5th ed.). Champaign, IL: Human Kinetics.

WHITLEY, B.E. (2002). *Principles of research in behavioural science* (2nd ed.). New York, NY: McGraw-Hill.

WILLIAMS, J.M. & KRANE, V. (2006). Psychological characteristics of peak performance. In J.M Williams (Ed.), *Applied sport psychology: Personal growth to peak performance* (5th ed.) (pp.350-430). New York, NY: McGraw-Hill.

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