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A SURVEY OF SOUTH AFRICAN PROVINCIAL NETBALL COACHES' OPINIONS, ABILITIES AND LIMITATIONS REGARDING MENTAL SKILLS TRAINING

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ABSTRACT

The purpose of the study was to determine the current situation regarding the implementation of mental skills training (MST) programmes by netball coaches. A total of 265 South African provincial netball players from 28 teams and their respective coaches (n=28) participated in the study. Despite the fact that 89.90% of the coaches regard MST as very important, only 46.43% implemented MST programmes themselves or made use of sport psychologists. In addition to this just more than half (55.56%) of the players are psychologically well prepared for competitions (according to their coaches), with the rest (44.44%) showing average or below average preparation. Among the coaches who implemented MST programmes goal-setting, self-confidence and concentration skills were the most frequently implemented skills. Financial limitations, unavailability of sport psychologists and a lack of knowledge were reported as the most prolific reasons for not implementing MST programmes. An evaluation by the players of their coaches ability to implement certain mental skills as part of MST programmes revealed the coaches' ability to foster team cohesion, enhance self-confidence and commitment, set goals and conduct post-match performance analysis as their best attributes. The opinions, abilities and limitations regarding MST, necessitate further coach education regarding MST programmes and the implementation thereof.

Key words: Coaches; Mental Skills Training; Netball.

INTRODUCTION

The important role of mental skills for the achievement of success in sport are widely recognized and accepted, not only by professionals in the field of exercise and psychology, but also by athletes and their coaches (Côté *et al.*, 1995; Gould *et al*., 1999b; Thiese & Hudleston, 1999). A study by Hacker (2000) on the participants of the 1996 Olympic Games revealed that psychological aspects are regarded as some of the main contributors to the attainment of sport success. Onestak (1991) previously indicated a dramatic increase in the demand for effective psychological performance enhancement techniques for sport. An apparent reason for the importance of developing sound mental skills is that all athletes fall victim to mental letdowns and mistakes during their athletic careers (Weinberg & Gould, 2003). In order to improve the psychological preparation of teams and subsequently improve performance, a systematic training of mental skills is required (Figone, 1999). In this regard Weinberg and Gould (2003: 242) define mental skills training (MST) as the "systematic and consistent practice of mental or psychological skills for the purpose of enhancing performance, increasing enjoyment or achieving greater sport and physical activity self-satisfaction". Gould and Damarjian (1998)

also stated that mental skills training involve the implementation of methods in order to be cognitively well prepared for competitions so that performance-related skills can be executed more effectively.

Since there is a shortage of sport psychologists to fulfil this role, it is primarily the responsibility of coaches to introduce and expose players to MST, especially at the junior and sub-elite levels of sport (Gould *et al*., 1999a; Wang *et al*., 2003). Despite being the most popular women's sport in South Africa, with approximately 649 820 participants in 1997 (SISA, 1997), very little information exists on MST in netball and the implementation of MST programmes by netball coaches. In fact, only one study was found which addressed mental skills and mental toughness of netball players (Bock-Jonathan *et al*., 2004). Several investigators have, however, reported the opinions, perceived ability and limitations of coaches in other sports regarding the implementation of MST programmes. The findings from these studies will subsequently be discussed.

Du Toit (1989) reported that South African provincial rugby coaches assign 69% of their players' success to mental preparation, hence stressing the importance of MST for optimal performance. Coaches regard the following mental skills as the most important factors that influences and enables optimal performance in sport; goal-setting, self-confidence, imagery, concentration, anxiety control and coping skills (Partington & Orlick, 1987; Gould & Damarjian, 1998; Gould *et al*., 1999b). The rugby coaches in the study of Du Toit (1989) showed a high degree of confidence in their ability to discipline their players, build team spirit, communicate effectively, lead in a positive way, create a relaxed coaching environment, be in touch with and effectively motivate their players. It is, however, interesting to note that coaches often judge their own abilities to implement certain mental skills higher than what their athletes perceive their ability to be (Grove & Hanrahan, 1988).

Toogood and Martin (2004) indicated that coaches show a high degree of confidence in their ability to evaluate the mental skill strengths and weaknesses of their athletes, but that they could not accurately assess the athletes' needs with regards to mental preparation. Other barriers to MST have also been reported, such as a lack of time, financial implications, a lack of modelling and practical experience, a lack of interest shown by athletes for MST and a lack of formal education of coaches in sport psychology (Hughes, 1990; Gould *et al*., 1999c; Malete & Feltz, 2000; Pain & Harwood 2004; Voight, 2005). With regard to the lack of education, Martens (1990) and Gilbert *et al*. (1999) found that sport psychologists are often unable to communicate their knowledge to coaches in an understandable way, and that they tend to convey the knowledge very theoretically. Available material also tends to be non-specific to the sport being coached (Savoy, 1997; Smith & Smoll, 1997; Gould *et al*., 1999a; Vorster, 2000; Fourie & Potgieter, 2001). These literature findings clearly indicate that a variety of barriers exist that prevent coaches from planning, developing and implementing successful MST programmes.

From the afore-mentioned research findings it is quite clear that coaches have different opinions and perceived abilities regarding MST and that there are various hindrances regarding the implementation of MST programmes which they might experience. It is in the light of these findings and the fact that virtually no information exists on MST among South African (netball) coaches that this study aims to:

- Determine the perceived importance of MST as held by provincial netball coaches in South Africa.

- Determine the perceptions of these coaches regarding their players' ability to prepare psychologically for competitions.
- Determine which percentage of coaches are implementing MST programmes themselves, or are making use of an experts' service for this purpose.
- Determine which mental skills are implemented/ addressed during MST sessions.
- Determine the hindrances experienced by coaches regarding the implementation of MST programmes.
- Evaluate the various sources of education through which the coaches obtained their knowledge on MST.
- Compare the coaches' and players' evaluation regarding the coaches' ability to implement certain mental skills.

The results of this survey could potentially shed light on the implementation (or lack thereof) of MST programmes by coaches within the South African Netball fraternity. Given the importance of mental skills in achieving optimal performances in sport, this information and subsequent recommendations should bode well for the future of the sport in South Africa.

RESEARCH METHODS

Research design

A cross sectional research method was used, in which data of the coaches and players were collected by means of questionnaires. Data were gathered once-off during the various interprovincial netball tournaments hosted by the North-West South Netball region in Potchefstroom during 2004.

Procedures

Permission for the study was granted by the Council of Netball South Africa (NSA). The Presidents of the various provincial unions were informed of the proposed study one month prior to the tournaments. The procedures were also communicated to the coaches and managers during the managers' meetings on the evening prior to the start of the various tournaments. An accredited sport psychology consultant informed the coaches and players of the procedures and the purpose of the study. Confidentiality of results was emphasised and participants were under no obligation to participate. All participants completed informed consent forms. Coaches and players were tested simultaneously, and testing took approximately 30 minutes. Testing took place during the first two days of the tournaments in order to limit the possible effect of match outcomes on the evaluation of the coaches by their players.

Subjects

A total of 265 South African provincial netball players from 28 teams and their respective provincial coaches (n=28) participated in the study (see Table 1). This group of players consisted of 114 u/19 players (11 teams), 95 u/21 players (10 teams) and 56 senior players (seven teams).

TABLE 1. **DEMOGRAPHIC INFORMATION ON THE SUBJECTS (COACHES AND PLAYERS)**

	Coaches	Players
Number of subjects	28	265
Average age	42.8 ± 9.36 yrs	20.29 ± 3.92
Number of years coaching/playing	12.9 ± 8.18 yrs	10.76 ± 4.24 yrs
Racial breakdown of subjects:		
* White	19 (67.86 %)	138 (52.08 %)
* Black	9 (32.14 %)	106 (40.00 %)
* Coloured	–	21 (7.92 %)
Highest NSA coaching qualification:		
* No NSA coaching qualification	4 (14.29 %)	
* NSA Level 1 coaching	6 (21.43 %)	
* NSA Level 2 coaching	9 (32.14 %)	
* NSA Level 3 coaching	8 (28.57 %)	
* NSA Level 4 coaching	1 (3.57 %)	

Questionnaires

The coaches and players completed a set of questionnaires specifically compiled for this study. Specific instructions were given as to reduce social desirability. The questionnaires for the coaches consisted of four sections, while the players completed only sections A and D for the purpose of the present study.

Section A: Demographic information (coaches and players)
Name, surname, age, race and team coached/ played for during the tournament(s).

Section B: Netball playing and coaching history (coaches only)
Own playing history (number of years, position and representative level) and coaching history (years of coaching, highest netball coaching qualification and representative teams coached).

Section C: MST information (coaches only)
The perceived importance of MST for optimal netball performance, the extent to which the coaches feel their players are psychologically prepared for competitions, the implementation of MST programmes by the coaches and/or experts in the field of sport psychology, the mental skills which were addressed during such MST sessions, the frequency of such sessions, the hindrances experienced with the implementation of MST programmes and the sources of education through which the coaches obtained their knowledge on MST.

Section D: Evaluation of the coaches' ability to implement certain mental skills and provide guidance in this regard (coaches and players)
The coaches (and players) had to rate their own ability (their provincial coaches ability) to implement 14 mental skills (positive self-talk, goal setting, imagery, team cohesion, enhancing commitment, coping skills, self-confidence, concentration skills, stopping and replacing negative thoughts, muscle relaxation, music for relaxation, pre-competition routines, psychological strategies for the match, post-match performance analysis) on a 5 point Likert Scale ranging from 1 (poor) to 5 (excellent). The coaches/ players could also cross out the non-applicable column, if they were unable to rate themselves/ their coach due to their own limited understanding of the specific mental skill.

Statistical analysis

The Statistica Data Processing Package (StatSoft, 2004) was used for the statistical analysis of the data. Descriptive statistics are reported, while effect sizes (ES) were used to report on the practically significant differences between the coaches and players evaluations of the coaches' abilities to implement certain mental skills.

$ES = (M_1 - M_2)/s$

Here, M_1 = the mean of the coaches, M_2 = the mean of the players, and s = the standard deviation. As there is some uncertainty as to which standard deviation should be used, Thomas and Nelson (2001) recommend that the pooled standard deviation be used in designs such as the present one.

$$s_p = \sqrt{\frac{s_1^2(n_1-1)+s_2^2(n_2-1)}{n_1+n_2-2}}$$

Here, Sp = the pooled standard deviation, s_1^2 = the variance of the coaches, s_2^2 = the variance of the players, n_1 = the number of coaches and n_2 = the number of players. Effect sizes can be interpreted as follows: an ES of more or less 0.8 is large, an ES of more or less 0.5 is moderate, and an ES of more or less 0.2 is small.

RESULTS AND DISCUSSION

Figures 1-5 report on various aspects related to MST.

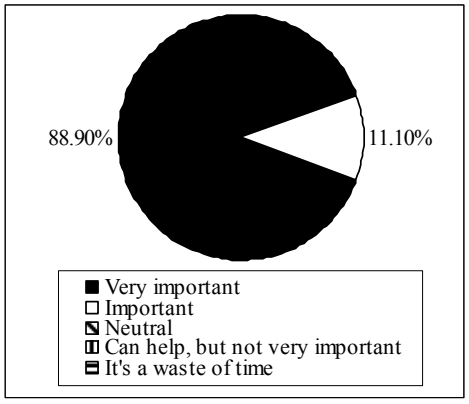

FIGURE 1. **COACHES PERCEIVED IMPORTANCE OF IMPLEMENTING MENTAL SKILLS TRAINING PROGRAMMES**

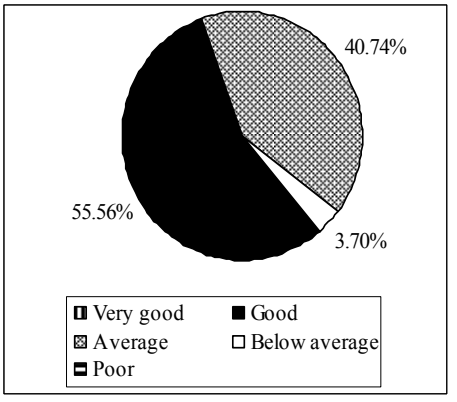

FIGURE 2. **COACHES PERCEPTION OF THEIR PLAYERS' PSYCHOLOGICAL PREPAREDNESS FOR COMPETITIONS**

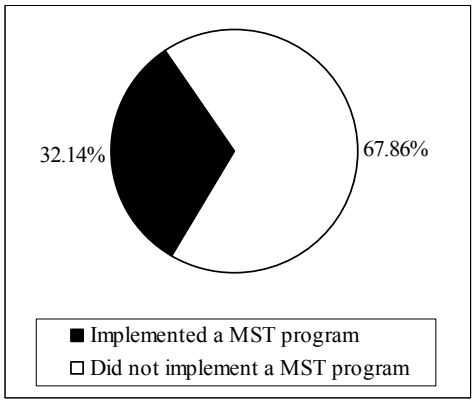

FIGURE 3. **PERCENTAGE OF COACHES WHO CONDUCTED MST PROGRAMMES THEMSELVES**

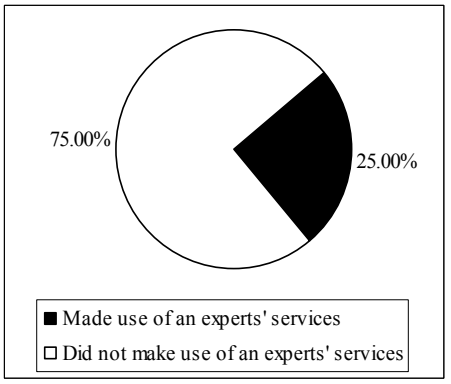

FIGURE 4. **PERCENTAGE OF COACHES WHO MADE USE OF EXPERTS TO CONDUCT MST PROGRAMMES**

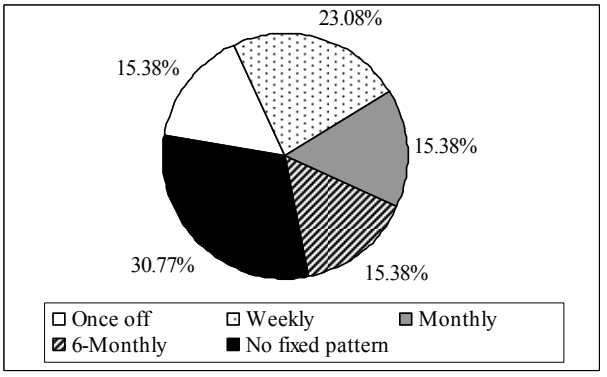

FIGURE 5. **FREQUENCY OF MST SESSIONS BY THE 13 COACHES WHO IMPLEMENTED MST PROGRAMMES**

From Figure 1 it is evident that netball coaches in South Africa perceive MST as very important, a finding which is in line with that of Côté *et al*. (1995), Gould *et al*. (1999b), as well as Thiese and Hudleston (1999). Despite this statistic (88.90% of the coaches perceive MST as very important) the coaches are of the opinion that a large proportion of their players (44.44 %) are not psychologically well prepared for competitions (Figure 2). Yet, only 13 of the 28 tested coaches exposed their players to some form of MST. In this regard nine coaches implemented MST programmes themselves (Figure 3), while seven made use of experts in the field of MST (Figure 4). There were overlapping results, as three of the coaches implemented MST programmes themselves and made use of an expert. Given the perceived importance and the perception that the players are not psychologically well prepared for competitions, it is surprising that less than half (46.43%) of the coaches address MST. Figure 5 also depicts an inconsistency regarding the implementation of such programmes. It could, therefore, be

argued that the players' performances and their enjoyment of the sport would not benefit adequately as MST has to be systematic and consistent in order for these benefits to occur (Weinberg & Gould, 2003). Table 2 indicates the mental skills implemented/ addressed by the coaches.

TABLE 2. **MENTAL SKILLS IMPLEMENTED/ ADDRESSED DURING MST SESSIONS**

Mental skills	**Percentage of coaches/experts implementing/ addressing the skill**		**Ranking of the skill**
Positive self-talk	11/28 (39.29%)	11/13 (84.62%)	3
Goal setting	13/28 (46.43%)	13/13 (100.0%)	1
Imagery	11/28 (39.29%)	11/13 (84.62%)	3
Team cohesion	12/28 (42.86%)	12/13 (92.31%)	2
Enhancing commitment	11/28 (39.29%)	11/13 (84.62%)	3
Coping skills	11/28 (39.29%)	11/13 (84.62%)	3
Self-confidence	13/28 (46.43%)	13/13 (100.0%)	1
Concentration skills	13/28 (46.43%)	13/13 (100.0%)	1
Stopping & replacing negative thoughts	11/28 (39.29%)	11/13 (84.62%)	3
Muscle relaxation	11/28 (39.29%)	11/13 (84.62%)	3
Relaxation through music	2/28 (7.14%)	2/13 (15.38%)	6
Pre-competition routines	7/28 (25.00%)	7/13 (53.85%)	5
Psychological strategies for the match	10/28 (35.71%)	10/13 (76.92%)	4
Post-match performance analysis	11/28 (39.29%)	11/13 (84.62%)	3

Goal setting, self-confidence and concentration are confirmed as the most important mental skills as all 13 of the coaches who conducted MST programmes addressed these skills. Team cohesion, positive self-talk, imagery, commitment, coping skills, stopping and replacing negative thoughts, muscle relaxation and post-match performance analysis also seems to be popular.

As 15 of the coaches did not make use of any form of MST, possible reasons/ hindrances in this regard were investigated, the results of which are reported in Table 3.

TABLE 3. **HINDRANCES EXPERIENCED BY THE COACHES REGARDING THE IMPLEMENTATION OF MST PROGRAMMES**

Possible reasons/ hindrances	Number of respondents	Agree fully	Partially agree	Partially disagree	Disagree fully
MST is deemed unnecessary by the coaches	20	-	-	3 (15.00%)	17 (85.00%)
There is too little time to conduct MST programmes	23	-	-	6 (26.09%)	17 (73.91%)
The coaches experience a lack of knowledge	22	7 (31.82%)	11 (50.00%)	3 (13.64%)	1 (4.55%)
The services of sport psychologists are unavailable	22	12 (54.55%)	6 (27.27%)	1 (4.55%)	3 (13.64%)
Financial limitations prevents the implementation of MST programmes	23	14 (60.87%)	6 (26.07%)	1 (4.35%)	2 (8.70%)

Table 3 confirms the earlier findings that the coaches regard MST as important, while according to this survey time constraints don't pose a real problem. Financial limitations, the unavailability of sport psychologists and a lack of knowledge were, however, outlined as hindrances. Similar hindrances were previously reported by Gould *et al.* (1999c), Pain and Harwood (2004), as well as Voight (2005).

As a large proportion (88.82%) of the coaches highlighted a lack of knowledge as hindrances experienced in conducting MST programmes (Table 3), the sources of education (both formal and informal) through which the coaches obtained their knowledge on MST were investigated. The ratings given by the coaches for each of these sources are reported in Table 4.

TABLE 4. **EVALUATION OF THE SOURCE OF EDUCATION THROUGH WHICH THE COACHES OBTAINED THEIR KNOWLEDGE ON MST**

		Quality of the source of education				
The source through which the coaches obtained their knowledge	**Number of respondents**	**Excellent**	**Good**	**Average**	**Below average**	**Poor**
Formal education:						
* Under-graduate programme in human movement science	9	3 (33.33%)	3 (33.33%)	1 (11.11%)	-	2 (22.22%)
* Under-graduate programme in psychology	9	3 (33.33%)	1 (11.11%)	3 (33.33%)	-	2 (22.22%)
* Post-graduate course in sport psychology	6	2 (33.33%)	1 (16.67%)	-	-	3 (50.00%)
Informal education:						
* Trial and error method	25	3 (12.00%)	6 (24.00%)	13 (52.00%)	2 (8.00%)	1 (4.00%)
* Books on sport psychology	20	4 (20.00%)	8 (40.00%)	3 (15.00%)	2 (10.00%)	3 (15.00%
* Videos on sport psychology	16	4 (25.00%)	4 (25.00%)	5 (31.25%)	2 (12.50%)	1 (6.25%)
* Seminars on sport psychology	15	3 (20.00%)	5 (33.33%)	5 (33.33%)	1 (6.67%)	1 (6.67%)

Only 10 of the coaches reported any formal training in MST. In this regard, Malete and Feltz (2000) previously reported a lack of formal education in MST as a barrier to coaching effectiveness. Both human movement science and psychology courses at under-graduate level seem to be the most effective source of knowledge. It should be noted that students often combine these two subjects as majors in their under-graduate programmes, as was the case with eight of the coaches, six of whom subsequently completed a post-graduate course in sport psychology. The majority of the coaches made use of trial and error methods. They do, however, perceive these methods as rather ineffective. Books, videos and seminars are also popular sources and seem to be rather effective.

This study did not attempt to evaluate the knowledge of the coaches regarding MST or their ability and effectiveness in implementing these skills. Both the coaches and players were,

however, asked to rate the extent to which the respective coaches were able to implement certain mental skills, the findings of which are reported in Table 5.

TABLE 5. **COMPARISON BETWEEN THE COACHES' AND PLAYERS' EVALUATION OF THE COACHES' ABILITY TO IMPLEMENT CERTAIN MENTAL SKILLS**

	Coaches evaluation of their own abilities			Players evaluation of their coaches' abilities			
Mental skill	Number of respon-dents	Mean ± SD (percentage)	Ranking of skill	Number of teams (respon-dents)	Mean ± SD (percentage)	Ranking of skill	Practical Signifi-cance (d)
Positive self-talk	28	3.93 ± 0.60 (78.57%)	4	28 (257)	3.73 ± 0.73 (75.95%)	6	0.46 *
Goal setting	28	3.96 ± 0.64 (79.29%)	3	28 (257)	3.80 ± 0.67 (76.65%)	5	0.37 *
Imagery	27	3.33 ± 0.78 (66.67%)	10	27 (224)	3.29 ± 0.73 (66.61%)	12	0.07
Team cohesion	28	4.11 ± 0.69 (82.14%)	1	28 (259)	3.93 ± 0.79 (80.00%)	1	0.33 *
Enhancing commitment	28	3.74 ± 0.81 (74.81%)	5	28 (252)	3.88 ± 0.73 (79.05%)	3	-0.24
Coping skills	27	3.37 ± 0.84 (67.41%)	9	27 (241)	3.47 ± 0.70 (69.96%)	10	-0.17
Self-confidence	27	4.00 ± 0.83 (80.00%)	2	27 (255)	3.92 ± 0.74 (79.53%)	2	0.13
Concentration skills	28	3.71 ± 0.76 (74.29%)	6	28 (255)	3.59 ± 0.73 (73.10%)	7	0.22
Stopping & replacing negative thoughts	26	3.69 ± 0.74 (73.85%)	7	26 (244)	3.36 ± 0.77 (68.61%)	9	0.58 *
Muscle relaxation	26	3.15 ± 1.12 (63.08%)	13	26 (220)	2.94 ± 0.75 (60.27%)	13	0.23
Relaxation through music	19	2.37 ± 1.07 (47.37%)	14	19 (169)	2.42 ± 0.77 (48.28%)	14	-0.06
Pre-competition routines	28	3.32 ± 0.98 (66.43%)	12	28 (213)	3.30 ± 0.83 (67.23%)	11	0.02
Psychologic al strategies for the match	27	3.33 ± 0.68 (66.67%)	10	27 (231)	3.36 ± 0.75 (68.83%)	8	-0.06
Post-match performance analysis	27	3.63 ± 0.79 (72.39%)	8	27 (252)	3.79 ± 0.83 (77.30%)	4	-0.24

* d = more or less 0.5: moderate practical significance

The results indicate that the coaches judged their abilities higher than the players for nine of the 14 tested mental skills, confirming the notion held by Grove and Hanrahan (1988) that coaches judge their own abilities higher than the perceptions held by their players. No statistically significant differences were observed when comparing the coaches' self-evaluation with that of their players. Moderate practically significant differences (d-values more or less 0.5) were found for the stopping and replacing of negative thoughts, positive self-talk, goal setting and team cohesion. The respective rankings indicate that the coaches feel most confident in fostering team cohesion, improving self-confidence, setting goals, applying positive self-talk and enhancing commitment. The players show high regard for their coaches' ability to foster team cohesion, enhance their self-confidence and commitment, conduct post-match performance analysis and set effective goals. Relaxation exercises, pre-competition routines, the use of imagery and psychological strategies for matches received poor ratings by both the coaches and their players.

CONCLUSION AND RECOMMENDATION

In order to draw final conclusions and make future recommendations, it is critical to summarise the results of this study against the aims which were set.

- The results clearly indicate the importance of MST, as 88.90% of the coaches perceive it as very important, with the remaining 11.10% perceiving it as important.
- The coaches further perceive a large number of their players (44.44%) as having an average ability to be psychologically prepared for competitions.
- Collectively, only 46.43% of the coaches implement MST programmes themselves and/or make use of experts in the field of mental training for this purpose.
- Goal-setting, self-confidence and concentration were the most frequently implemented skills by those coaches who implemented/ addressed MST.
- Financial limitations, unavailability of sport psychologists and a lack of knowledge were reported as the most prolific hindrances regarding the implementation of MST programmes.
- A large proportion of the coaches (64.29%) had no formal training in MST, which leads to questions regarding the knowledge levels and abilities of the coaches to implement/ address MST.
- No statistically significant differences were observed between the coaches' and players' evaluation of the extent to which the coaches are able to implement/ address MST. Moderate practical significant differences were observed for a number of the skills, with the coaches tending to judge their own abilities higher than their players do.
- The ability to foster team cohesion, enhance self-confidence and commitment, set goals and conduct post-match performance analysis were revealed as the coaches best attributes.

The opinions, abilities and hindrances regarding MST brought to light by this study, emphasise the need for a thorough coach education programme (CEP) for the specific sport. The responsibility to conduct such CEP's should be shared between Netball South Africa, the South African Sports Commission and Olympic Confederation and the various provincial sport academies. Within the context of the present study, these CEP's should include MST in order for coaches to be able to conduct a systematic and consistent programme through which the mental skills, performances and enjoyment of the players could be enhanced.

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