N. JOOSUB[1] AND R. L. VAN NIEKERK[2]

[1]*Department of Psychology, University of Johannesburg, Johannesburg, South Africa*
[2]*Department of Human Movement Science, University of Fort Hare, Alice, South Africa;*
E-mail: leonvn@ufh.ac.za

Abstract

Since 1995, South Africa has experienced a decline in netball performance, with many players
not progressing beyond participation at secondary school level. It is increasingly becoming
apparent that psychosocial skills are as important as physical and technical skills in improving
athletic performance and motivation in competitive situations. In this study, the psychosocial
profiles of 410 netball players from 38 schools across South Africa were assessed and analysed.
The netball players ranged from ages 11 years to 19 years with a mean age of 14.26 (SD = 2.14)
years. The participants were asked to complete three questionnaires, namely: the Task- and Ego
Orientation in Sport Questionnaire (TEOSQ), the Sport Competition Anxiety Test (SCAT) and
the Group Environment Questionnaire (GEQ). Significant differences in levels of competitive
anxiety and social cohesion across different age groups were found, with younger athletes having
lower levels of anxiety and higher levels of social cohesion. The results of this study have
significant implications for the practice of sports psychology in South Africa and interventions
for young netball players, as well as the understanding of the development of mental skills for
youth in sporting contexts. The authors conclude that a focus on improving mental and
psychosocial skills for netball players at secondary school level could lead to improved
psychological skills and performance at higher levels of participation.

How to cite this article:
Joosub, N. & Van Niekerk, R.L. (2016). Psychosocial profile of South African school netball
players. *African Journal for Physical Activity and Health Sciences,* 22(4:2), 1108-1124.

Introduction

Despite netball being the most popular sport for women in South Africa
(Grobbelaar & Eloff, 2011) since 1995, South Africa has experienced a decline
in world netball performance (Mosoahle, 2006). Furthermore, many netball
players do not maintain active participation in the sport beyond high school level
in South Africa (Mosoahle, 2006). This is a detrimental trend that indicates the
need to intervene at a high school level in order to preserve and nurture talent to
an elite level of participation. It is becoming increasingly apparent that
psychosocial skills are as instrumental as physical and technical skills in
improving athletic performance and motivation in competitive situations (Van
den Heever, Grobbelaar & Potgieter, 2007; Weinberg & Gould, 2015). Group
cohesion and motivation have been identified as important psychosocial skills
that impact on both enjoyment of the sport and performance, especially in team

settings (Widmeyer, Brawley & Carron, 1993; Razafimbola, 2008; Seencal, Loughead & Bloom, 2008; Behzadi, Hamzei, Nori & Salehian, 2011) and as such could influence the continued participation of more netball players after secondary school. Smith, Belaguer and Duda (2006) assert that by understanding motivation and perseverance in youth sport settings, it is possible to provide developmentally meaningful sport opportunities for youth. The present study aims to investigate the psychosocial profiles of secondary school netball players, whose levels of motivation and group cohesion at this developmental level could influence their perseverance and further career aspirations in the sport.

Mental toughness is considered an important skill for the general population, and is particularly important for athletes who need to fight fatigue and competition to perform at their best (Jalili, Hosseini, Jalili & Salehian, 2011). Athletes, coaches and sport professionals are united in recognising the crucial role of mental skills in performance (Grobbelaar, 2007). The importance of mental skills is demonstrated by the amount of athletes who experience mental barriers to peak performance (Weinberg & Gould, 2015). Mental skills training (MST) is the consistent practice of mental and psychological skills to assist performance or satisfaction in sports (Weinberg & Gould, 2015). Elite athletes have been reported to have higher levels of "hardiness", defined as decision making abilities while remaining controlled under stressful conditions (Jalili et al., 2011, p. 555), underscoring the importance of MST in elite competitive situations. In a study conducted by Jalili et al. (2011), team athletes were found to have higher levels of mental toughness when compared to individual athletes and non-athletes. Therefore, the demands of team sports like netball necessitate the mental preparation of athletes (Grobbelaar & Eloff, 2011). This is particularly relevant in youth sports, where youth sport participating has been associated with high dropout rates, loss of self-esteem and decreased motivation (Adie, Duda & Ntoumanis, 2010).

Competitive Anxiety
Competitive anxiety is a form of state anxiety experienced by athletes in competitive or pressured situations, and where the athletes feel their perceived abilities are overwhelmed by the pressures of the task (Behzadi et al., 2011). This is accompanied by feelings of tension and can be differentiated into cognitive and somatic anxiety (Mellalieu, Hanton & Fletcher, 2009).). Cognitive anxiety would have a negative linear relationship with performance, whereas somatic anxiety has a curvilinear relationship where too high or too low levels affect performance negatively (Mellalieu et al., 2009). Various factors that affect competitive anxiety include goal orientation, where athletes with a high ego orientation experience higher levels of competitive anxiety (Behzadi et al., 2011). Dealing with anxiety is crucial for athletes as excessive levels of anxiety can decrease performance by affecting levels of concentration (Makker, Singh & Pramanik, 2012). One way to relieve or control competitive state anxiety is to

improve mental skills techniques or through MST programmes (Makker et al., 2012).

Motivational profiles

Motivation in sport has been a popular area of research, with previous studies pointing to the achievement of goals as being a significant predictor of sports-related behaviour (Ryska, 2004). Therefore, athletes are motivated by wanting to achieve certain goals. Among young sportsmen and –women, goal orientations explain their reasons for having become involved in sport initially (Duda, 1996). An important distinction within goal orientation is between ego- and task orientation. Task orientation refers to achievement goals that focus on the athlete's specific performance, improvement on prior achievements, learning new skills and expending effort in mastering new tasks. In contrast, an ego orientation refers to achievement goals based on social comparison, such as performing better than competitors (Weinberg & Gould, 2015). Ability in a task-oriented individual is likely to be at their maximum, whereas an ego-oriented individual will demonstrate norm-based levels of ability (Behzadi et al., 2011).

Task-oriented individuals are more likely to be intrinsically motivated, whereas ego-oriented individuals may tend towards being motivated extrinsically. This differentiation, operationalized in the Task and Ego Orientation in Sport Questionnaire (TEOSQ), is based on Nicholls' (1989) goal perspective theory. Applying task and ego goal orientations to sport would mean the difference between adolescents seeing sport as beneficial to the wider community versus seeing sport as a means to status and personal opportunity (Treasure & Roberts, 1994). Task and goal orientations are seen as independent of one another and an athlete can be high or low in either or both (Duda & Nicholls, 1992). In a sample of 330 children, Treasure and Roberts (1994) found that, in adolescence, a task orientation is more conducive than an ego orientation to adaptive cognitive and affective patterns in competitive sport. Behzadi et al. (2011) found in a sample of team and individual sport athletes that anxiety is reduced when athletes in team sports have a task as opposed to an ego orientation.

Group Cohesion

Group cohesion has been defined as a process where groups maintain closeness and unity in order to achieve group goals and to satisfy the needs of its members (Carron, Brawley & Widmeyer, 1998). Their definition of group cohesion includes a differentiation between task cohesion, which is a focus on achieving the group's goals; and social cohesion, which is focused more on the social relationships within the group. Enhancing cohesion is an important facet of any team sport due to the correlation between team cohesion and performance (Seencal et al., 2008). A positive relationship between team cohesion and performance has been found in up to 83% of studies (Widmeyer et al., 1993). Therefore, a group that is performing at its peak is also very cohesive

(Razafimbola, 2008). In interactive sports such as netball, group cohesion has been found to be more important than in coactive sports, and to contribute to athlete satisfaction (Boyle, 2002; Fatemeh, Rahim, Mohammad & Anoushiravan, 2010). Factors involved in group cohesion include environmental, team, personal and leadership aspects (Vincer & Loughead, 2010).

Psychosocial factors among South African netball players
Although previous research (Grobbelaar, 2007) has demonstrated that netball is the most popular women's sport in South Africa, there is a dearth of studies investigating MST in this sport. Due to the shortage of sports psychologists available to facilitate MST in South Africa, especially at entry-levels, coaches usually need to take responsibility for this training (Grobbelaar, 2007). Grobbelaar (2007) undertook a detailed investigation of 265 netball players and the 28 coaches of their netball teams, with the objective being to determine their perceptions on, and usage of, MST. His findings indicated that although a large proportion of coaches believe MST to be very important, many also believe that their players are not adequately prepared psychologically for competitions. In cases where coaches did not apply MST, the main hindrances listed were financial limitations, inadequate knowledge and a lack of sport psychologists available. Lack of training in MST for coaches was identified by this study as a hindrance to effective usage of MST by netball players that needs to be addressed.

Van den Heever et al. (2007) surveyed 314 South African netball players at the provincial level, and found that there is a need for more exposure to mental skills training. They urge that interventions to address this lack in the psychological training of athletes should be viewed ecoystemically, looking at the system of South African netball holistically. These studies were conducted at a provincial level. However, there is a lack of studies examining the state of MST at a secondary school level. Studies focusing on the secondary school level are important as the psychological skills taught at this level could lay the foundation for excellence in psychological skill implementation when athletes proceed to higher levels of participation.

Methodology

Participants

The sample consisted of 410 female netball players from 38 different schools across South Africa who were participating at a netball training camp. The players represented their schools' first teams in the under 13 (n = 194, 47.3%), under 16 (n = 104, 25.4%) and under 19 (n = 112, 27.3%) age groups. The participants had a mean age of 14.26 (SD = 2.14) years, ranging from 11 years to 19 years old, and spend an average of 5.39 (SD = 2.69) hours training per week.

Research instruments

Three questionnaires, namely the Sport Competition Anxiety Test (SCAT), the Task and Ego Orientation in Sport Questionnaire (TEOSQ), and the Group Environment Questionnaire (GEQ), were used to collect data. The Sport Competition Anxiety Test (SCAT) (Martens, 1977) is a 15-item self-report questionnaire scored on a 3-point Likert scale, where athletes indicate their feelings during competitive situations. This test provides a measure of competition anxiety. The questionnaire has high reliability and validity, with an internal consistency ranging from 0.80 to 0.85 reported in previous studies (Ommundsen & Petersen, 1999; Zeng, 2003). Concerning motivation, the participants were asked to complete the Task and Ego Orientation in Sport Questionnaire (TEOSQ) (Duda & Nicholls, 1992). The TEOSQ consists of 13 items on a 5-point Likert scale. Task orientation refers to achievement goals that focus on the athlete's specific performance, an improvement on prior achievements, learning new skills and expending effort in mastering new tasks. In contrast, an ego orientation refers to achievement goals based on social comparison, such as performing better than other competitors (Weinberg & Gould, 2015). The questionnaire gives an indication of the motivation among players, and combining the two sub-scales could be used to determine the various motivational profiles among athletes (High-Task High-Ego, High-Task Low-Ego, Low-Task High-Ego, or Low-Task Low Ego). The questionnaire has high reliability, with reliability coefficients in previous studies of 0.74 and 0.81 for the task orientation subscale and 0.86 and 0.89 for the ego orientation subscale being reported (Newton & Duda, 1999; Xiang & Lee, 2002; Kim, Williams & Gill, 2003). For cohesion, participants were asked to complete the Group Environment Questionnaire (GEQ) (Carron et al., 1985).

The GEQ is an 18-item, self-report questionnaire anchored on a 9-point Likert-scale, measuring social- and task cohesion. The GEQ was developed in response to the need for an instrument based on a sound theoretical model that could assess the cohesion within group settings. The model identified four dimensions of cohesion, namely individual attraction to the group-task; individual attraction to the group-social; group integration-task; and group integration-social (Carron et al., 1985). Social cohesion is determined by two subscales: social attraction to the group and social integration in the group, and represents the interpersonal attraction among group members. Task cohesion goals and objectives are calculated by two sub-scales: attraction to the group task and integration in the group task. Studies by Carron et al. (1985) and Brawley, Carron, and Widmeyer (1987) indicate that the GEQ has demonstrated adequate internal consistency, with alpha coefficients ranging from 0.64 to 0.76.

Data collection
After ethical approval from the University and parental consent for each participant was obtained, the players were asked to complete questionnaires at the start of the training camps. The players were met by the researchers in their teams on the first day of the camp. The purpose of the research was explained to them, the instructions of the tests were read and they were asked to complete the questionnaires.

Data analysis
Descriptive statistics such as means, standard deviations, frequencies and percentages were used to analize data. In addition, Pearson product-moment correlation was used to determine the relationships between variables. One-way analysis of variance (ANOVA) was used to determine differences between groups. The effect size was determined with an Eta-square. An effect size of $\eta^2 = 0.01$ is defined as small, $\eta^2 = 0.06$ as medium and $\eta^2 = 0.14$ as a large effect (Cohen, 1988).

Results

All the instruments had acceptable to high reliability for all scales and sub-scales as presented in Table 1. The motivation profiles, anxiety and team cohesion results of the sample are presented in Table 2.

Table 1: Chronbach Alpha values for the scales and sub-scales of the instruments.

Scale	Sub-scales	Items (n)	Chronbach Alpha
Sport Competition Anxiety Test (SCAT)	Anxiety	10	.86
Task- and Ego Orientation in Sport Questionnaire (TEOSQ)	Task orientation	7	.83
	Ego orientation	6	.83
	Social cohesion	9	.62
Group Environment Questionnaire (GEQ)	Task cohesion	9	.72
	Team cohesion	18	.78

Table 2: Means, standard deviations and categories of the motivation, anxiety and cohesion of the sample

Test	Sub-scales	Mean	SD	Categories		
				Low N (%)	High N (%)	
TEOSQ	Ego orientation	16.54	5.23	262 (65%)	141 (35%)	
	Task orientation	30.08	3.74	7 (1.7%)	395 (98.3%)	
				Low N (%)	Moderate N (%)	High N (%)
SCAT	Anxiety	21.34	4.47	45 (11%)	205 (50%)	160 (39%)
	Social cohesion	6.26	1.28	15 (3.7%)	271 (66.1%)	124 (30.2%)
GEQ	Task cohesion	6.97	1.27	8 (2%)	184 (44.9%)	218 (53.1%)
	Team cohesion	6.61	1.13	1 (0.2%)	237 (57.8%)	172 (42%)

Motivation profiles
The participants in the sample presented with high task orientation (M = 30.08, SD = 3.74). Upon further analysis, it was found that almost all participants

(98.3%) reported high task orientation. This implies that netball players in secondary school settings are highly motivated to improve their playing skills. This stands in contrast to only 35% of the players having high ego orientation, an indication that fewer players are motivated by competitiveness to play netball. The netball players in this sample are thus less motivated to compete and compare themselves with others (ego orientation), than to improve their skill and focus on the task at hand (task orientation). When integrating ego and task orientation, motivational profiles can be calculated. Three motivational profiles were identified, with most players presenting with low ego-/high task orientation (n = 254, 63.2%), followed by high ego-/high task orientation (n = 141, 35.1%). Only 1.7% (n = 7) of participants had low ego-/low task orientation and no players presented with high ego-/low task orientation. Almost two-thirds of the players participate in netball at school level with lower levels of ego orientation and higher levels of task orientation.

Anxiety

The anxiety level of the sample was in the moderate range (M = 21.34, SD = 4.47), which fell within the appropriate range necessary for optimal performance (Martens, 1977; Martens et al, 1990). However, after categorisation according to the norm scores, only 50% (n = 205) of the sample had appropriate (moderate) anxiety levels. The results showed that 11% (n = 45) of the players had very low levels of anxiety, while 39% (n=160) of the players had very high levels of anxiety during competition. This suggests that half of the players in the sample (with either too low or too high anxiety) could benefit from mental skills training, helping them to deal with anxiety more effectively during competition.

Team cohesion

Although the participants indicated that they are highly attracted to the group, both socially (M = 7.04, SD = 1.31) and to the group task (M = 7.45, SD = 1.48), they were less integrated in the team, both socially (M = 5.47, SD = 1.69) and to the group task (M = 6.49, SD = 1.48). Thus participants' attraction to the group was higher than their actual integration into the group. This renders the teams with only moderate levels of both social cohesion (M = 6.26, SD = 1.28) and task cohesion (M = 6.97, SD = 1.27). Upon further analysis, categorisation indicated that most of the group (66.1%) have moderate social cohesion and only 30.2% had high social cohesion. Although the task cohesion of the sample was only moderate, categorisation indicated that more than half (53.1%) of the participants had high task cohesion. This suggests that netball players in secondary schools struggle more with social cohesion than task cohesion, rendering an overall team cohesion that is moderate (M = 6.61, SD = 1.13). Only 42% of players experience high team cohesion. It seems that more than half of the players could benefit from team interventions to increase their team cohesion.

Relationship between variables

The relationships between the variables are presented in Table 3. The results suggest that the players increased their number of hours training with age, as there is a statistically significant positive correlation between age and the number of hours spent training ($r = .208$, $p<.01$). Thus, netball players at secondary school level increase their effort to train as they mature. The players' task orientation also increased statistically significantly with age ($r = .126$, $p<.05$). What is alarming, however, is the statistically significant positive correlation between age and anxiety ($r = .166$, $p<.01$), and the negative correlation between age and social cohesion ($r = -.256$, $p<.01$) and team cohesion ($r = -.144$, $p<.01$). This suggests that players get more anxious with age when competing and their social and team cohesion decreases with age. The number of hours spent training, however, does not correlate statistically significantly with either motivation, anxiety or cohesion, suggesting that the amount of time spent training does not influence these psychosocial aspects of the players.

Ego orientation had statistically significant positive correlations with task orientation ($r = .190$, $p<.01$) and anxiety ($r = .136$, $p<.01$), with high levels of ego orientation associated with high levels of task orientation and anxiety. Ego and task orientation, however, had an inverse relationship with cohesion. While ego orientation correlated negatively with Social- ($r = -.161$, $p<.01$), Task- ($r = -.194$, $p<.01$) and Team cohesion ($r = -.201$, $p<.01$), Task orientation correlated positively with Social- ($r = .117$, $p<.01$), Task- ($r = .143$, $p<.01$) and Team cohesion ($r = .147$, $p<.01$). The results suggest that ego orientation is associated with decreased cohesion, while task orientation is associated with increased cohesion.

Table 3: The relationship between age, hours training, motivation, anxiety and cohesion

	Age	Hours Training	Ego Orientation	Task Orientation	Anxiety	Social Cohesion	Task Cohesion	Team Cohesion
Age	1							
Hours Training	$.208^{**}$	1						
Ego Orientation	$.065$	$.025$	1					
Task Orientation	$.126^{*}$	$.042$	$.190^{**}$	1				
Anxiety	$.166^{**}$	$-.045$	$.136^{**}$	$-.047$	1			
Social Cohesion	$-.256^{**}$	$.057$	$-.161^{**}$	$.117^{*}$	$-.097$	1		
Task Cohesion	$.002$	$-.018$	$-.194^{**}$	$.143^{**}$	$-.141^{**}$	$.560^{**}$	1	
Team Cohesion	$-.144^{**}$	$.022$	$-.201^{**}$	$.147^{**}$	$-.134^{**}$	$.884^{**}$	$.883^{**}$	1

* Correlation is significant at the 0.05 level (2-tailed); ** Correlation is significant at the 0.01 level (2-tailed).

Group differences

A one-way analysis of variance of the anxiety, motivation and team cohesion was performed for the different age groups (under 13, 16 and 19 netball players) and is presented in Table 4.

There was a statistically significant difference in the anxiety levels, $F_{(2, 409)} = 6.91$, $p = .001$ of the three age groups. Although statistical significance was achieved, the overall effect size was small to medium (Eta squared = .032). Post hoc analysis (using the Tukey HSD test) indicated that the differences were between the under 13 and under 16 players ($p = .027$) and the under 13 and under 19 players ($p = .002$). While under thirteen players have moderate anxiety (M = 20.5, SD = 3.92), this increased significantly with the under 16 (M = 21.8, SD = 5.08) and under 19 players (M = 22.3, SD = 3.45), who presented with high anxiety levels when competing.

Table 4: Group differences for anxiety, motivation and team cohesion for the different age groups

		N	Mean	Std. Deviation	Std. Error	Min	Max	Anova Sign.	Eta Squared
Anxiety	U/13	194	20.5	3.92	.282	11.00	30.00	.001	.032
	U/16	104	21.8	5.01	.491	10.00	30.00		
	U/19	112	22.3	4.56	.431	11.00	30.00		
	Total	410	21.3	4.46	.220	10.00	30.00		
Ego Orientation	U/13	193	16.1	4.70	.338	6.00	30.00	.089	.012
	U/16	100	16.3	5.15	.515	6.00	30.00		
	U/19	110	17.5	6.04	.576	6.00	30.00		
	Total	403	16.5	5.22	.260	6.00	30.00		
Task Orientation	U/13	193	29.6	4.17	.300	18.00	35.00	.048	.015
	U/16	99	30.4	3.33	.335	18.00	35.00		
	U/19	110	30.6	3.16	.301	21.00	35.00		
	Total	402	30.1	3.74	.186	18.00	35.00		
Social Cohesion	U/13	194	6.6	1.17	.084	2.30	9.00	.001	.079
	U/16	104	6.1	1.13	.111	3.05	8.38		
	U/19	112	5.8	1.39	.131	2.23	9.00		
	Total	410	6.2	1.27	.063	2.23	9.00		
Task Cohesion	U/13	194	6.9	1.17	.084	3.68	9.00	.572	.002
	U/16	104	6.8	1.40	.138	2.50	9.00		
	U/19	112	7.1	1.31	.124	2.10	8.90		
	Total	410	6.9	1.27	.062	2.10	9.00		
Team Cohesion	U/13	194	6.8	1.03	.074	3.65	9.00	.006	.024
	U/16	104	6.5	1.14	.111	3.65	8.45		
	U/19	112	6.4	1.21	.115	2.18	8.78		
	Total	410	6.6	1.12	.055	2.18	9.00		

A one-way analysis of variance on the two motivational orientations showed a statistically significant difference for the task orientation, $F_{(2, 401)} = 3.07$, $p = .048$ of the three age groups, but not for ego orientation, $F_{(2, 402)} = 2.43$, $p = .089$. Although statistical significance was achieved for task orientation, the overall effect size was small (Eta squared = .015). Although the analysis of variance showed a significant difference ($p = .048$), post hoc analysis (using the Tukey HSD test) did not indicate differences between the age groups. This

implies that players in the three age groups do not differ in the strength of competitiveness as a motivation (ego orientation) for playing netball. Their motivation to improve themselves (task orientation) is already very high since their participation at the under 13 level (M = 29.6, SD = 4.17) and would be difficult to increase for the other two age groups, under 16 (M = 30.4, SD = 3.33) and under 19 (M = 30.6, SD = 3.16), whose task orientation is equally high.

A one-way analysis of variance on the two factors in team cohesion (social- and task cohesion), as well as overall team cohesion, showed a statistically significant difference for the social cohesion, F (2, 409) = 17.64, p = .001 of the three age groups, but not for task cohesion, F (2, 409) = .560, p = .572. There was also a statistically significant difference in the overall team cohesion, F (2, 409) = 5.11, p = .006 of the three age groups. Although statistical significance was achieved for social- and overall team cohesion, the overall effect size was medium for social cohesion (Eta squared = .079) and small for overall team cohesion (Eta squared = .024). Post hoc analysis (using the Tukey HSD test) indicated that the differences for social cohesion are between under 13 and under 16 (p = .001) and the under 13 and under 19 (p = .001) players. There is no significant difference between under 16 and under 19 (p = .354) players. The same applies for the overall team cohesion. Social cohesion decreased from the under 13 group (M = 6.6, SD = 1.17), to the under 16 (M = 6.1, SD = 1.13) and under 19 (M = 5.8, SD = 1.39) groups. The overall team cohesion also decreased from the under 13 (M = 6.8, SD = 1.03) to the under 16 (M = 6.5, SD = 1.14) and under 19 groups (M = 6.4, SD = 1.21). While the under 13 players start with high social- and team cohesion, it decreased to moderate social- and team cohesion for the under 16 and under 19 players.

Discussion

Netball players in secondary schools seem to present with higher levels of task orientation than ego orientation. This could be understood from a developmental perspective, where a focus on personal improvement (task orientation) is more important than competitiveness (ego orientation). It could further be understood from the context of youth participation, where players in a group with high task orientation and low ego orientation experience higher levels of peer acceptance, satisfaction with their performance and with the team, and in their enjoyment of the sport (Smith et al., 2006). The task orientation in the sample was also found to increase with age among the participants. Task orientation is related to high levels of perceived ability (Duda & Nicholls, 1992), which for most athletes comes with increased experience. Therefore, the higher levels of task orientation as athletes increased in age in this sample could be related to increased skill levels and experience that comes with age. What also increased with age in this sample, however, were levels of anxiety, which could be due to increased pressure to perform with age. Modroño and Guillen (2011) found in a sample of

windsurfers that cognitive anxiety decreased with age, indicating that in adult samples age and, therefore, experience could contribute to lower levels of anxiety. However, this was an adolescent sample and therefore further studies could possibly look at the differences in anxiety between adolescent and adult athletes.

It was also found that as ego orientation increased, anxiety levels also increased. This finding is in agreement with previous research that links heightened anxiety to a tendency for high levels of ego orientation (Duda, 2001; Biddle, Wang, Kavussanu & Spray, 2003), due to athletes with an ego orientation seeing success based on factors outside of themselves, such as the performance of others. This increase in competitive anxiety with heightened ego orientation has been observed in both the cognitive and somatic dimensions (Newton & Duda, 1992; White & Zellner, 1996; Voight et al., 2000; Smith et al., 2006). Roberts (1986, 1992) and Duda (1992, 1993) suggest that ego-oriented athletes doubt their competence and compare their performance to their competitors, which may lead to heightened levels of anxiety. However, if ego-oriented athletes have confidence in their perceived levels of ability, competitive anxiety may not be increased (Eisenbarth & Petlichkoff, 2012). Therefore, a measure of self-confidence or perceived ability in this sample may have distinguished anxiety levels among ego-oriented athletes with high versus low perceived ability.

In a study of 75 male youth soccer players in high school and college, Van Yperen and Duda (1999) found that an ego orientation was associated with the belief that success is determined by ability or innate talent, and a task orientation was associated with the belief that athletic success is determined by effort as well as cooperative relationships with parents and team members. Morris and Kavussanu (2009) found that an ego orientation focused on avoidance of demonstrating incompetence was associated with higher levels of cognitive anxiety. Duda (1996) postulates that the focus with an ego orientation is based on superior talent and normatively based references which are beyond a person's control, unlike the mastery focus in a task orientation which is within a person's control. This lack of control within an ego orientation could contribute to higher levels of anxiety. Behzadi et al. (2011) found in a sample of team and individual sport athletes that anxiety is reduced when athletes in team sports have a task as opposed to an ego orientation.

The low levels of ego orientation in the sample are worrying as, according to Balyi and Hamilton's (2010) model of athlete development, these netball players should be moving from the Training to Train stage to the Training to Compete stage. Ego orientation is an important component of competitiveness that allows athletes to move from training for an improvement of skills (high task orientation) to training to better their performance against their peers (high ego orientation) (Eisenbarth & Petlichkoff, 2012). Within this sample, as ego

orientation increased, social and team cohesion decreased. Some of the reasons hypothesized by Smith et al. (2006) for higher levels of ego orientation leading to less positive peer relationships include the self-centred, normative nature of an ego orientation and the need for impression management. In a study of 997 youth athletes, Eys et al. (2013) found that in a task-oriented motivational climate, social and task cohesion would increase, while the reverse occurred for an ego-oriented motivational climate.

Task orientated athletes focus on improving their skills, hard work and putting in the effort (Eisenbarth & Petlichkoff, 2012). Duda and Nicholls (1992) described task orientation as including the belief that students and athletes need to collaborate with peers and teammates for success. Task orientated individuals focus on cooperation and a good work ethic for mastery and success (Smith et al., 2006). Therefore, an individual with a mastery or task orientation would believe in the importance of peer relationships in the team, and work towards higher levels of social cohesion. This is in contrast with an ego orientation, which requires an individual to establish superiority and not see others as potential assistance to success, but rather as competition. Therefore, in this study higher levels of ego orientation were associated with lower levels of social, task and team cohesion, whereas a task orientation was positively correlated with social and team cohesion. Peers are critically important in youth sport in developing an enjoyment of and motivation for involvement in sport, and higher levels of task orientation are related to more positive peer interactions (Smith et al., 2006). In their study of 223 9-to-12-year-old soccer players, Smith et al. (2006) found players with higher levels of task orientation had higher perceived levels of acceptance by teammates, which could lead to higher levels of social and team cohesion.

Social and team cohesion in this sample decreased with age. In a study of 235 high school soccer players, it was found that higher levels of cohesion and efficacy were positively correlated with better performance in a league (Leo, Sánchez-Miguel, Sánchez-Oliva, Amado & García-Calvo, 2013). Therefore, the level of cohesion, especially in team sports, is an important factor that leads to improved performance.

Within this age group, the decline in social cohesion between 13 and 16 years of age is a worrying trend, as the adolescent years usually characterised an increased need for intimacy with peers (Bruner, Boardley & Côté, 2014). Further, both task and social cohesion in group sports are related to performance (Rovio, Eskola, Kozub, Duda & Lintunen, 2009). Other positive aspects related to higher levels of cohesion include increased levels of adherence to training schedules, collective efficacy and tolerating of negative events. However, Rovio et al. (2009) argue that cohesion may at times be detrimental to a team, as it is associated with tendencies towards deindividuation, conformity, and group

thinking. Other studies have found that high levels of social cohesion may encourage self-handicapping behaviours (Carron, Prapavessis & Grove, 1994) and a tendency not to censure social loafing (Carron & Hausenblas, 1998). Eskola et al. (2009) found in a group of 22 junior league ice hockey players that high social cohesion actually led to a decrease in performance. The authors also found that certain harmful group processes existed in conjunction with high social cohesion in this team, namely unrealistic positive evaluations of the team's performance, pressure to conform to norms and an unwillingness for team members to express critical opinions of one another. Nevertheless, social cohesion is integral to sport enjoyment and participation, especially in the youth (Vazou, Ntoumanis & Duda, 2005). Vazou et al. (2005) found in a sample of 30 adolescents, from various sports, that relatedness in the team, a feeling of belonging and being accepted, was very important for these youth, and had an impact on motivation. It is worthy to note that, within this sample of netball players, there was a marked difference in levels of anxiety and social and team cohesion between the 13 year old players and the 16 year old players. The 13 year old players had lower levels of anxiety and higher levels of social and team cohesion than the 16 year old players. According to Prapavessis and Carron (1996), highly cohesive teams lead to less anxiety among team members. It is therefore postulated that the higher levels of social cohesion among the 13 year old teams could have acted as a protective factor against anxiety. One possible reason for this is that, in highly cohesive groups, there is less pressure on each individual member to achieve group responsibilities (Prapavessis & Carron, 1996).

A limitation of the current study is the lack of information on the coaching styles in these teams, as coaches play a vital role in creating the motivational climates of teams (Duda, 1996). The developmental differences evidenced in this sample are further proof of the need for improved mental and psychosocial skills for netball players at secondary school level, which could lead to improved psychological skills, group cohesion and performance at higher levels of participation.

References

Adegbesan, O.A. (2010). Botswana team sport players' perception of cohesion and imagery use in sport. *South African Journal for Research in Sport, Physical Education and Recreation, 32*(1), 1-9.

Adie, J.W., Duda, J.L. & Ntoumanis, N. (2010). Achievement goals, competition appraisals, and the well- and ill-being of elite youth soccer players over two competitive seasons. *Journal of Sport & Exercise Psychology*, *32*(4), 555-579.

Balyi, I. & Hamilton, A. (2010). Long-term athlete development: Trainability in childhood and adolescence. *American Swimming*, *2010*(2), 14-23.

Behzadi, F., Hamzei, M., Nori, S. & Salehian, M. (2011). The relationship between goal orientation and competitive anxiety in individual and team athletes' fields. *Annals of Biological Research, 2*(6), 261-268

Biddle, S.J.H., Wang, C.K.J., Kavussanu, M. & Spray, C.M. (2003). Correlates of achievement goal orientations in physical activity: A systematic review of research. *European Journal of Sport Science, 3,* 1-20.

Boyle, E.T. (2002). *The impact of adventure-based training on team cohesion and psychological skills development in elite sporting teams.* Doctoral Thesis. Wollongong, Australia: University of Wollongong.

Brawley, L.R., Carron, A.V. & Widmeyer, W.N. (1987). Assessing cohesion of teams: Validity of the Group Environment Questionnaire. *Journal of Sport Psychology, 9,* 275-294.

Bruner, M.W., Boardley, I.D. & Côté, J. (2014). Social identity and prosocial and antisocial behavior in youth sport. *Psychology of Sport & Exercise*, *15*(1), 56-64.

Carrón, A.V., Brawley, L.R. & Widmeyer, W.N. (1998). The measurement of cohesiveness in sport groups. In J.L. Duda (Ed.), *Advancements in Sport and Exercise Psychology Measurement* (pp. 213-226). Morgantown, WV: Fitness Information Technology.

Carron, A. & Hausenblas, H. (1998) *Group Dynamics in Sport* (2nd ed.). London, Ontario, Canada: Fitness Information Technology.

Carron, A.V., Prapavessis, H. & Grove, J.R. (1994). Group effects and self-handicapping. *Journal of Sport & Exercise Psychology, 16,* 246-258.

Carron, A.V., Widmeyer, W.N. & Brawley, L.R. (1985). The development of an instrument to assess cohesion in sport teams: The Group Environment Questionnaire. *Journal of Sport Psychology, 7*(3), 244-266.

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. New York, NY: Routledge Academic.

Duda, J.L. (1992). Motivation in sport settings: A goal perspective approach. In G. Roberts (Ed.), *Motivation in Sport and Exercise* (pp. 57-92). Champaign, IL: Human Kinetics.

Duda, J.L. (1993). Goals: A social cognitive approach to the study of achievement motivation in sport. In R.N. Singer, M. Murphy & L.K. Tennant (Eds.), *Handbook of Research on Sport Psychology* (pp. 421-436). St. Louis, MO: Macmillan.

Duda, J.L. (1996). Maximizing motivation in sport and physical education among children and adolescents: The case for greater task involvement. *Quest (00336297), 48*(3), 290-302.

Duda, J.L. (2001). Goal perspective research in sport: Pushing the boundaries and clarifying some misunderstandings. In G. Roberts (Ed.), *Advances in Motivation in Sport and Exercise* (pp. 129-182). Champaign, IL: Human Kinetics.

Duda, J.L. & Nicholls, J. (1992). Dimensions of achievement motivation in schoolwork and sport. *Journal of Educational Psychology, 84*, 290-299.

Eisenbarth, C.A. & Petlichkoff, L.M. (2012). Independent and interactive effects of task and ego orientations in predicting competitive trait anxiety among college-age athletes. *Journal of Sport Behavior*, *35*(4), 387-405.

Eys, M.A., Jewitt, E., Evans, M.B., Wolf, S., Bruner, M.W. & Loughead, T.M. (2013). Coach-initiated motivational climate and cohesion in youth sport. *Research Quarterly for Exercise & Sport*, *84*(3), 373-383.

Fatemeh, M., Rahim, R., Mohammad, K. & Anoushiravan, K. (2010). The coach's leadership styles, team cohesion and athlete satisfaction among Iranian professional teams. *Research Journal of International Studies, 16*(1), 25-32.

Grobbelaar, H.W. (2007). A survey of South African provincial netball coaches' opinions, abilities and limitations regarding mental skills training. *South African Journal for Research in Sport, Physical Education and Recreation, 29*(2), 27-39.

Grobbelaar, H.W. & Eloff, M. (2011). Psychological skills of provincial netball players in different playing positions. *South African Journal for Research in Sport, Physical Education and Recreation, 33*(2), 45-58.

Jalili, F., Hosseini, S.A., Jalili, F. & Salehian, M.H. (2011). Comparison of personality dimensions, mental toughness, and social skills of female students athletes (team-individual) and non-athletes. *Annals of Biological Research, 2*(6), 554-560.

Kim, B.J., Williams, L. & Gill, D. (2003). A cross-cultural study of achievement orientation and intrinsic motivation in young USA and Korean athletes. *International Journal of Sport Psychology, 34,* 168-184.

Leo, F.M., Sánchez-Miguel, P.A., Sánchez-Oliva, D., Amado, D. & García-Calvo, T. (2013). Analysis of cohesion and collective efficacy profiles for the performance of soccer players. *Journal of Human Kinetics*, *39*221-229.

Makker, G., Singh, A.K. & Pramanik, T. (2012). Relationship of mental skills and anxiety between successful and unsuccessful team of men cricket at Delhi intercollegiate level. *International Journal of Scientific and Research Publications, 2*(8), 1-5.

Martens, R. (1977). *Sport Competition Anxiety Test*. Champaign, IL: Human Kinetics.

Martens, R., Vealey, R.S. & Burton, D. (1990). *Competitive Anxiety in Sport*. Champaign, IL: Human Kinetics.

Mellalieu, S.D., Hanton, S., & Fletcher, D. (2009). *A Competitive Anxiety Review: Recent Directions in Sport Psychology Research.* New York, Nova Science Publishers.

Modroño, C. & Guillen, F. (2011). Anxiety characteristics of competitive windsurfers: Relationships with age, gender, and performance outcomes. *Journal of Sport Behavior*, *34*(3), 281-294.

Morris, R.L. & Kavussanu, M. (2009). Approach-avoidance achievement goals in sport: Psychological correlates and a comparison with the dichotomous model. *International Journal of Sport and Exercise Psychology, 9,* 185–202.

Mosoahle, S.M. (2006). *Managing group relations among elite netball players.* Masters Thesis. Johannesburg, South Africa: University of Johannesburg.

Nicholls, J. (1989). *The Competitive Ethos and Democratic Education*. Cambridge, MA: Harvard University Press.

Newton, M. & Duda, J.L. (1992). *The relationship of goal perspectives to multidimensional trait anxiety in adolescent tennis players.* Paper presented at the Meeting of the North American Sociefy for the Psychology of Sport and Physical Activify, Pittsburgh, PA.

Newton, M. & Duda, J.L. (1999). The interaction of motivational climate, dispositional goal orientations and perceived ability in prediction indices of motivation. *International Journal of Sport Psychology, 30*, 63-82.

Ommundsen, Y. & Pedersen, B.H. (1999). The role of achievement goal orientations and perceived ability on somatic and cognitive indices of sport competition trait anxiety. *Scandinavian Journal of Medicine and Science in Sports, 9*, 333-343.

Prapavessis, H. & Carron, A.V. (1996). The effect of group cohesion on competitive state anxiety. *Journal of Sport & Exercise Psychology*, *18*(1), 64-74.

Razafimbola, S. (2008). *The development and evaluation of a cohesion-building programme for a South African male collegiate basketball team* (Master's Thesis). Rhodes University, Grahamstown, South Africa.

Roberts, G.C. (1986). The perception of stress: A potential source and its development. In M.R. Weiss & D. Gould (Eds.), *Sport for Children and Youths* (pp. 119-126). Champaign, IL: Human Kinetics.

Roberts, G.C. (1992). Motivation in sport and exercise: Conceptual constraints and convergence. In G. Roberts (Ed.), *Motivation in Sport and Exercise* (pp. 3-29). Champaign, IL: Human Kinetics.

Rovio, E., Eskola, J., Kozub, S., Duda, J. & Lintunen, T. (2009). Can high group cohesion be harmful? *Small Group Research, 40*(4), 421-435.

Ryska, T.A. (2004). Task and Ego Orientation in Sport Questionnaire: Testing factor structure and invariance among adolescent Hispanic athletes. *North American Journal of Psychology, 6*(3), 457-476.

Seencal, J., Loughead, T.M. & Bloom, G.A. (2008). A season-long team-building intervention: Examining the effect of team goal setting on cohesion. *Journal of Sport & Exercise Psychology, 30*(2), 186-199.

Smith, A.L., Balaguer, I. & Duda, J.L. (2006). Goal orientation profile differences on perceived motivational climate, perceived peer relationships, and motivation-related responses of youth athletes. *Journal of Sports Sciences, 24*(12), 1315-1327.

Treasure, D.C. & Roberts, G.C. (1994). Cognitive and affective concomitants of task and ego goal orientations during the middle school years. *Journal of Sport & Exercise Psychology, 16*, 15-28.

Van den Heever, Z., Grobbelaar, H.W. & Potgieter, J.C. (2007). A survey of psychological skills training in South African netball. *African Journal for Physical, Health, Education, Recreation and Dance, 13*(3), 254-266.

Vazou, S., Ntoumanis, N. & Duda, J.L. (2005). Peer motivational climate in youth sport: A qualitative inquiry. *Psychology of Sport and Exercise, 6*(5), 497-516. doi:10.1016/j.psychsport.2004.03.005.

Vincer, D.E. & Loughead, T.M. (2010). The relationship among athlete leadership behaviors and cohesion in team sports. *Sport Psychologist, 24*(4), 448-467.

Voight, M.R., Callaghan, J.L. & Ryska, T.A. (2000). Relationship between goal orientation, self-confidence, and multidimensional trait anxiety among Mexican-American female youth athletes. *Journal of Sport Behavior, 23,* 271-288.

Weinberg, R. & Gould, D. (2015*). Foundations of Sports and Exercise Psychology* (6th ed.). Chaimpaign, IL: Human Kinetics.

Widmeyer, W.N., Brawley, L.R. & Carron, A.V. (1993). Group cohesion in sport and exercise. In R.N. Singer, M.M. Murphey & L.K. Tennant (Eds.), *Handbook of Research on Sport Psychology* (pp. 672-692). New York, NY: Macmillan.

White, S.A. & Zellner, S.R. (1996). The relationship between goal orientation, beliefs about the causes of sport success, and trait anxiety among high school, intercollegiate, and recreational sport participants. *The Sport Psychologist, 10,* 58-72.

Xiang, P. & Lee, A. (2002). Achievement goals, perceived motivational climate and student's self-reported mastery behaviours. *Research Quarterly for Exercise and Sport, 73*(1), 58-65.

Zeng, H.Z. (2003). The difference between anxiety and self-confidence between team and individual sports college varsity athletes. *International Sports Journal, 12*(2), 28-34.