Original Article

Goal orientation and participation motivation in tennis young players

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Abstract:

Motivation is during the last decades at the center of scientific interest both in physical education and sport. The purpose of the study was to assess the construct validity, the reliability and the correlation between factors of the Participation Motivation Questionnaire (PMQ) of Gill, Gross & Huddleston (1983) as adapted for Greek populations by Patsiaouras et. al. (2004) and the Task and Ego Orientation in Sport Questionnaire (TEOSQ) of Duda (1989). The sample consisted of 300 children (198 boys and 102 girls) with ages ranging from 8 to 17 ($M=11.7\pm2.43$), and an average of ($M=2.9\pm1.13$) years of practicing tennis. Exploratory factor analysis applied for PMQ identified five factors explaining the 48.09% of the total variance, that is, «social participation and energy release» ($\alpha=.825$), «status achievement» ($\alpha=.798$), «skill improvement» ($\alpha=.666$), «challenge» ($\alpha=.639$) and «personal motives» ($\alpha=.616$). As for TEOSQ, two factors emerged explaining the 52,90 % of the total variance concerning task orientation ($\alpha=.81$) and ego orientation ($\alpha=.83$). Correlation analysis (Pearson's r) revealed a positive relation between task orientation and intrinsic motives such as skill development ($r=.570$, $p<0.01$), while ego orientation was positively correlated with extrinsic motives such as "status achievement" ($r=.514$, $p<0.01$). Our results show that motives could possibly be reinforced via the promotion of task and ego orientation.

Key words: motivation, participation, reliability, tennis, young playres.

Introduction

Children's participation in sport is a basic parameter not only for their physical development, but also for the completion of their mental and social-emotional characteristics (Piaget, 1951; Gallahue, 1987; Bruner, 1985). Generally, physical activity constitutes a main factor for the whole life of children and it contributes to their full development (Piaget 1972).

Tennis is-, without any doubt, one of the most popular sports all over the world, offering huge satisfaction to its athletes, and an incredible show to the spectators. Hence, tennis is a sport that everybody could and should enjoy. Coakley (2007) argues that training programs that overemphasize competition have negative consequences on creating motives, developing skills and generally enjoying tennis. Besides, basic factors that motivate young athletes' participation in sports are fun, friendship, learning skills and being active (Coakley, 2007; Gould, Feltz, Horn, & Weiss, 1982).

The history of tennis in Cyprus started in 1900, when the English colonists constructed tennis courts in various towns on the island. A little later, in 1913, the first tennis clubs made their appearance, beginning with the «Field Club» in Nicosia. During the last years tennis in Cyprus is following an uprising path. The number of athletes practicing tennis increases every year new tennis academies are founded and Cypriot tennis players stand out both in Cyprus and abroad. Nowadays there are 20 official tennis clubs, schools or academies, while the Cyprus Tennis Federation estimates that there is now a total of 12,000 tennis athletes.

Thus, it is very important to study why children register in tennis academies and to understand the psychological characteristics of young tennis athletes (Buonamano, Cei, & Mussino, 1995), since these characteristics affect athletes' future development and records. These findings could help coaches to develop effective and attractive tennis training programs so as to maintain the percentage of children engaged with this sport and to reduce the possibility of athletic drop outs.

Alderman & Wood (1976) reached the conclusion that the strongest motives for children's participation in sports are affiliation (the feeling of being accepted by one's peers), excellence (the ability of doing something well) and positive stress (seeking for excitement). Based on Veroff's model (1969), Alderman (1976) claimed that the level of motivation of an athlete is the result of the interaction of intrinsic factors such as personality, needs and incentives, and extrinsic factors such as the importance of the match and the opponent. He also argued that in order to have a stronger motivation of the young athletes, their incentives for participation are given more

importance with the proper environment being created in such a way so as to provide contentment and to meet their expectations and targets.

In a study conducted in Australia on tennis players (aged 10-15 years) findings revealed that 'having fun', 'fitness' and 'skill development' were the most important reasons for participation reported (Kolt & Capaldi 2001). Besides, tennis players of differing gender, age and skill level showed significant variations in their reasons for participating in this sport. Specifically, male tennis players compared to females were significantly more motivated for reasons related to achievement, status and energy release. In addition, younger players were more motivated to participate than older ones, for affiliation, achievement and status reasons. In relation to skill level, higher-skilled tennis players reported as more important reasons for participation those related to achievement and status as compared to their lower-skilled counterparts.

Studies concerning young athletes' incentives for playing tennis (Balaguer & Atienza, 1994; Puig & Villamarin 1995; Gonzalez, Taberno & Marquez 1999) showed that the most important reasons are the improvement and the maintenance of fitness, tennis skills development and the making of new friends. On the other hand, young tennis players perceive as less significant the satisfaction of their parents or friends and feelings related to self-importance, popularity or winning rewards and prizes. Furthermore, the same studies revealed differences according to gender with boys preferring competition, challenge, recognition, fun and rewards more than girls do while according to age older players (>12 years old) emphasized popularity, use of tennis equipment, friendship and their parents' satisfaction more than players under 12 years of age.

Gill, Gross & Huddleston (1983) assessed the youth's participation motivation in sports, and they came up with eight major participation factors, that is, achievement / status, team atmosphere, fitness, energy release, skill development, affiliation/ friendship, fun and miscellaneous. The questionnaire they developed was used in several studies concerning mostly children sports (for example, Kirkby, Kolt & Liu, 1999, Longhurst & Spink, 1987, Wang & Wiese-Bjornstal, 1996, Zahariadis & Biddle, 2000). These studies showed, that children define clearly the reasons for participation in sports activities, with common reasons including improvement of skills, energy release, fun, challenge, friendship, teamwork, and fitness enhancement (Gill, Gross, & Huddleston, 1983, Gould, Feltz & Weiss, 1985, Wang & Wiese-Bjornstal, 1996, Zahariadis & Biddle, 2000).

Furthermore, during the last years several studies have dealt with the theory of achievement goals both in sports (Duda, Chi, Newton, Walling, & Catley, 1995; Newton & Duda, 1993; 1999; Walling, Duda, & Chi, 1993) and in school physical education (Duda & Nicholls, 1992; Vlachopoulos & Biddle, 1996; Zaxariadis & Biddle, 2000). Common findings of all this research revealed the highly positive relation of achievement goals with task orientation (team spirit, skill improvement, finding the activity that is interesting and pleasant), while ego orientation had a negative relation with fun as it was positively correlated with high levels of learning stress, boredom and anxiety. Some researchers did not find gender differences concerning task and ego orientation in relation to achievement goals (Spray, Biddle & Fox, 1999; Williams & Gill, 1995), whereas others although they detected some differences, argued that these concern only ego orientation with boys exhibiting higher values than girls (Escarti, Roberts, Cervello & Guzman, 1999; Walling & Duda, 1995).

According to Nicholls (1989), people differ when it comes to the way they define their success and their actions are mainly guided by their goals and intentions (Locke & Latham, 1990). The achievement goals constitute a combinatory and systematic outlook on the study of human motivation, because they reveal not only the reasons for the existence of fun in a learning environment but also the criteria for a successful performance (Pintrich, 2000). According to the achievement goal theory by Maehr & Nichols (1980), people try to show their ability either by pursuing activities they are good at or avoiding those activities they are not good at. However, the way they see ability -either success or failure- differs. The different ways of evaluating ability are expressed through the achievement of goals, which, in turn, are affected by the character of motivation that could be either task-oriented or ego-oriented. People oriented mainly to learning are interested in ways of making the effort that could lead to improvement of skills. Thus, according to Duda (1992) such kind of individuals view the endeavor as a success factor they participate in decision making and they are interested in the forming of ability levels during teaching (Bandura, 1991). On the other hand, people oriented towards a good performance are interested in how well they execute a skill comparing their own performance with the performances of others and materialization of the capability to bring a good result is their main concern (Nicholls, 1992; Duda, 1992). Some studies found that children can distinguish between the concepts of capability and luck from the age of seven, while younger children see no difference between activities needing abilities and those needing luck (Nicholls, 1984; Nicholls & Miller, 1984). The understanding of these notions seems to be acquired by children at the age of 10-11 (Nicholls & Miller, 1984), with the the same developmental process appearing in sports too (Smith & Whitehead, 1994).

Today, it is known that athletes having as main target their personal improvement are intrinsically motivated, while athletes having as main target showing off their ego are mainly extrinsically motivated (Duda & Hall, 2001, Wang & Biddle, 2001). The purpose of the research was twofold, that is, to study the profile and relation of participation motives with the achievement goal orientation of young tennis players.

Method

Participants

The sample consisted of 300 children (198 boys and 102 girls, mean age $M=11.7\pm 2.43$), all members of a tennis club with an average of $M=2.9\pm 1.13$ years of practicing tennis. Both children and their parents or legal guardians provided written informed consent prior participation and they were assured that the completion of questionnaires was anonymous and confidential. The children filled in the questionnaire in the tennis court prior or after training session with total completion time of each questionnaire approximating 15 minutes.

Instruments

Motivation was assessed using the Participation Motivation Questionnaire (PMQ) of Gill, Gross & Huddleston (1983) as it was adapted for the Greek population in the study of Patsiaouras et. al. (2004). It consists of 30 items with answers given on a 5-point Likert scale ranging from 1 (totally unimportant) to 5 (very important). Goal orientation was measured using the Task and Ego Orientation in Sport Questionnaire (TEOSQ) of Duda (1989), which consists of 13 items evaluating 'task orientation' (7-variables) and 'ego orientation' (6-variables) and answered on the same 5-point Likert scale as PMQ instrument. TEOSQ has been widely used in various samples (Duda & Whitehead, 1998), including pupils in English secondary and high schools (Fox, Goudas, Duda, Biddle, & Armstrong, 1994, Goudas, Biddle, & Fox, 1994, Spray & Biddle, 1997).

Statistical analysis

Statistical analysis was carried out with the use of SPSS 15.0. The data were analyzed using an investigative factor analysis (principal components) with varimax rotation. Furthermore, one sample t-test and one-way Anova were used to examine any differences present between individuals of this sample for each factor tested

Results

PMQ analysis

Factor analysis: The construct validity of the questionnaire was assessed through a factorial analysis of the 36 variables that study the notion of "participation motivation in sports". The method of principal components analysis with varimax rotation was applied. According to Kaiser Meyer Olkin (K-M-O), factorial analysis was ($KMO=0.873$) with its appropriateness also shown by Bartlett's Test of Sphericity ($p<.05$). The criterion for determining the number of factors was that the eigenvalues should be higher than (1). The lowest loading used for the correlation of the variables with the factors was 0.40. Factor analysis revealed five factors (table 1), that explained the 48.09% of the total variance. The factors concerned social participation and energy release (10 items, explaining the 25.9% of total variance), status achievement (5 items, 7.42% of total variance, c) skill improvement, (5 items, 6.12% of total variance), d) challenge (4 items explaining, 4.53% of total variance) and personal motives (4 items, 4.41% of total variance).

Table 1. Factor analysis of the participation motives

Items	Component				
	F1	F2	F3	F4	F5
I like to exercise	,696				
I like to meet new friends	,678				
I like to get out of the house	,675				
I like to meet new friends by participating in tennis	,660				
I like to get exercise with my friends because it is fun	,619				
I want to be with my friends	,589				
I want to be free from the stress of everyday life (school, English lessons, private lessons etc.)	,462				
I like the action	,459				
I like to use the sports facilities or the equipment (balls, bats etc.)	,449				
I like to do something I'm good at	,442				
I want to be popular		,690			
I want to gain status or recognition (get people to talk about me)		,689			
I like the rewards		,650			
I like to win		,618			
I like to feel important		,591			

I like to learn new skills (techniques)					,656
I want to go on a higher level					,631
Release the tension					,624
I like to improve my skills					,500
I like the coaches or instructors					,408
I like to compete				,674	
I like the excitement				,659	
I like being in a team (school or club)				,542	
I like the challenge of the moment (a difficult opponent, a difficult moment of the game etc.)				,468	
I want to be healthy					,702
I want to be physically fit			,475		,567
I like to travel					,536
I like to have fun					,481
Eigenvalues	7.679	2.227	1.838	1.361	1.323
Variance	25.597	7.422	6.127	4.537	4.410

A high internal consistency ($\alpha = .798$) was found for the "social participation and release energy" factor along with a satisfactory one concerning "skill improvement" ($\alpha = .666$), "challenge" ($\alpha = .639$) and "personal motives" ($\alpha = .616$). As means and the standard deviations of Table 2 show, "skill improvement" and "personal motivation" factors are those presented to the largest extent in our sample whereas slightly lower are the factors of "social participation and energy release" and "challenge".

Table 2. Means and standard deviations of the factors

	Social participation and energy release	Status achievement	Skill improvement	Challenge	Personal motives
Mean	3,9790	3,5993	4,4280	3,9508	4,4075
Std. Deviation	,71304	,98232	,59250	,79786	,66190
Variance	,508	,965	,351	,637	,438

An independent samples T-test revealed no differences between young players according to gender or according to their participation or no- participation in tennis championship. A one-way analysis of variance (One-Way Anova) revealed statistically significant differences: a) among different age groups and particularly between the first (8-9 years old), the third (13-15 years old) and the fourth one (16-17 years old) regarding "social participation and energy release" ($F(3,299)=6.556$, $p<0,01$ $x^1=4.24$, $x^2=4.03$, $x^3=3.84$, $x^4=3.58$) and between the first (8-9 years old) and the third one (13-15 years old) concerning "skill improvement" ($F(3,299)=5.208$, $p<0,05$ $x^1=4.58$, $x^2=4.47$, $x^3=4.23$, $x^4=4.52$) b) the education level between primary school and high school as regards to "social participation and energy release" $F(2,299)=8.830$, $p<0,01$ $x^1=4.10$, $x^2=3.90$, $x^3=3.61$, and between secondary school with and primary school and high school regarding "skill improvement" $F(2,299)=8.575$, $p<0,01$ $x^1=4.52$, $x^2=4.22$, $x^3=4.52$, and c) the duration of tennis participation for "social participation and energy release" factor between children participating in tennis for 2 years and those participating for more than 3 years ($F(3,299)=5.336$, $p<0,01$ $x^1=4.13$, $x^2=4.18$, $x^3=4.04$, $x^4=3.80$).

Task and Ego Orientation in Sport Questionnaire Analysis

A similar factor analysis used for PMQ instrument was also applied for TEOSQ. The factor analysis revealed two factors, which explain 52,90% of the total variance (table 3), that is "task orientation", with 8 questions explaining 31.486% of the total variance ($\alpha=.81$), and "ego orientation", with 5 questions explaining 21.423% of the total variance ($\alpha=.83$).

Table 3. Personal orientation factor analysis

Items	Factors	
	Task	Ego
I learn a new technique by trying hard	,804	
Something new I learn makes me want to exercise more	,761	
I exercise really hard	,753	
Every new technique I learn makes me feel good	,752	
I learn a new technique and this makes me want to exercise more	,700	

I do my best	,588	
I obtain most of the goals	,468	
I learn something that it is fun	,407	
The others can't make it as well as I do		,826
I'm better at it compared with my friends		,798
I am the best		,783
The other do it really wrong, while I don't		,750
I am the only one who is good at executing the tennis techniques		,745
Eigenvalues	4,09	2,78
Variance	31,486	21,423

An Independent Samples T-test analysis revealed statistically significant differences according to gender in 'ego orientation' ($t=1,41$ $p<0,01$ $df=297$), and according to participation or no-participation in tennis championship matches in relation to "task orientation" ($t=1,231$, $p<0,05$ $df=297$). One-way analysis of variance (One-Way Anova) showed no statistically significant differences concerning participation time in tennis while statistically significant differences were noticed in: a) age groups concerning "task motivation" $F(3,299)=4.431$, $p<0,05$ $\chi^2=4.46$, $\chi^2=4.40$, $\chi^2=4.14$, $\chi^2=4.44$, and b) the education level between primary school-secondary school and secondary school-high school youngsters for "task participation" ($F(2,299)=8.989$, $p<0,05$ $\chi^2=4.45$, $\chi^2=4.13$, $\chi^2=4,42$).

Correlation analysis

Correlation analysis in table 4 (Pearson's r) revealed a positive relation between task orientation and intrinsic motives, such as skill improvement ($r=.659$, $p<0.01$), while ego orientation was positively correlated with extrinsic motives, such as status achievement ($r=.514$, $p<0.01$).

Table 4. Correlations between the factors of P.M.Q and TEOSQ

	1	2	3	4	5	6	7
1. Task orientation	1	,209(**)	,362(**)	,344(**)	,659(**)	,407(**)	,379(**)
2. Ego orientation		1	,217(**)	,514(**)	,105	,323(**)	,017
3. Social participation and energy release			1	,455(**)	,410(**)	,389(**)	,443(**)
4. Status achievement				1	,409(**)	,517(**)	,411(**)
5. Skill improvement					1	,425(**)	,485(**)
6. Challenge						1	,401(**)
7 Personal motives							1

** = $p<.01$

Discussion

The results of our study show that children who are part of tennis teams are not motivated by the need for status achievement resulting to the lowest mean of this factor (3.59) in comparison with the other ones. The main participation factor for young athletes appears to be skill improvement with a mean of 4.42 in agreement with the findings of other studies (Balaguer & Atienza, 1994; Puig & Villamarin 1995; Gonzalez, Tabernero & Marquez 1999). Especially the age difference between children emerged as an important factor affecting the participation in tennis. In particular, children of 8-9 years of age pay more attention to "skill improvement" compared to youngsters of 13-15 years old. Motives constitute a basic element of human behavior, guide human activity and make it more or less dynamic. According to Gracz & Sankowski (1995) motives affect other factors that influence the performance on sports, such as physical preparation, technique, tactics, even the way of living in general. Thus, it is recommended that the programs designed for 8-9 year old children should include skills and topics that will encourage them to perform at a higher level. Learning of new skills provides also opportunities for children's improvement not only of technical skills but also of their physical condition.

Moreover, the fact that children practising tennis for more than three years exhibited lower scores in "social participation and energy release" factor that is related to friendship shows that the more the athletes' age increases, the more the effect of friendly relationships decreases, probably due to another motive factor that intervenes, focusing on the importance of performance with the aim of gaining future career benefits. Social participation and energy release has also proved to be a fundamental motive in puberty in agreement with other previous studies conducted in Greece (Tsorbatzoudis 1990, 1993). In this regard, Baumann & Tsorbatzoudis (1998) argue that it is very important for a tennis team to include social meetings of players apart from training purposes so that contacts between members become more substantial and varied.

In addition, the results of this study showed that the children who participate in tennis training are characterized by task orientation ($\chi=4.34$) and not ego orientation ($\chi=2.97$). Regarding gender differences, boys exhibited higher values than girls only in the case of ego orientation (Escarti, Roberts, Cervello & Guzman, 1999; Wallihg & Duda, 1995 in agreement with other studies showing that boys are more ego orientated compared to girls who are more task orientated (Duda, Olson, & Templin, 1991; Kavussanu & Roberts, 1996).

It would be particularly interesting to study the role that coaches play in creating a more positive environment of motives since it is very important to notice that most tennis instructors in Cyprus are unqualified or they are only (either active or not) older tennis players without knowledge of sports psychology issues. Besides, both in our study as well as in similar others (Crespo & Reid, 2007) it seems that the coach's profile or personality is very important for the creation of motives and the maintenance of a positive attitude towards both tennis and participation in sports activities in general. A coach who gets involved with young tennis players should focus on success through personal development since positive aspects that are connected with various positive results include increase of effort (Xiang, et al., 2004), motives (Cury, et al., 1996) and learning (Chen, 2001). Knowing the achievement goals set by the tennis players is also a very useful tool for a coach as it provides the possibility to know the goals as well as to better organize and direct training, with an aim toward learning or toward competitiveness according to case. Task orientation (Treasure & Roberts, 1995) is positively related with the belief that a person should undergo the educational process so as to reinforce the willingness for learning as well as socialization. On the contrary, ego orientation is mostly connected with the belief that education is a mean for the achievement of a target related to economic benefits and a reinforced status. Undoubtedly, many studies conducted in sports, show that coaches with their expectations, guide their athletes and affect their performance (Theodorakis, Goudas & Papaioannou, 2001).

Conclusions

The study of participation motives of young tennis athletes constitutes a new element of the current psychological research in this sport creating a wide range of research interests. It would be also interesting to study the adults players' motives since tennis rises up as an attractive and interesting pastime activity for adults during the last years, as well as the differences in need for motives between beginners, top-class players and players practicing tennis in order to improve their physical condition and overall health. This could help to acquire a more complete idea about the present state of the Cypriot data and the strategies that promote the creation of positive motives in tennis.

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