PSYCHIC LOAD IN GAME SITUATION: AN EVALUATION IN MALE AND FEMALE JUNIOR VOLLEYBALL TEAMS

Fábio Luiz Gouvea^{1,2} Marlon Roberto Beisiegel² Dario Rocha da Fonseca Neto² Marcio Mario Artur de Oliveira^{2,3} Marcelo Belém Silveira Lopes^{2,4}

¹Master's program on Sport Sciences – School of Physical Education/ UNICAMP

² Group of Research on Volleyball – School of Physical Education/ UNICAMP

³ Coach for basic categories – Clube Fonte São Paulo (Campinas)

⁴ Professor – School of Physical Education/ UNICAMP

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ABSTRACT

In a sport with complex actions like Volleyball, a lot of factors can affect the performance of young athletes. In this paper, we study which situations of competition cause more stress using the Frester psychic load test, with the objective of showing the opinion of the athletes about these situations. The sample has 136 athletes of junior teams (15 to 17 years old) that compete in the state of São Paulo (Brazil), 80 female and 56 male players. It was made the mean, standard deviation and frequencies distribution. The comparison between groups with the Student t-test (p<0.05). Also was established the correlation of the two groups' rankings by the sex (male/female) using Spearman Rank Correlation. The results indicate that there are no statistical differences between groups. There is a very high correlation (rs=0.95; p<0.05) with the rankings, which allow to reaffirm that there are no statistical differences between groups. The specific playing situations were appointed as the cause of high psychic

load. The interaction with the coach is considered very important, and there was a perception that being in good physical shape is a favorable thing. The conflicts between team's components and the anxiety were also indicated as source of psychic load. This paper bring some contributions to guide the procedures of coaches, managers, parents and relatives can have to minimize the negative and stressing effects for these young athletes.

KEY WORDS: volleyball; psychological aspects; evaluation; young athletes

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INTRODUCTION

In a modality such as volleyball, involving actions requiring complex execution, many factors can influence the performance of the athlete. The complexity itself is an additional intervenient factor in the performance.

There are conditions and situations that are more or less favorable and that can be evaluated according to the reaction of the athlete. Noce (1999) states that in high performance sports it is possible to observe that athletes are exposed to an array of pressures (group of cheerers, results, demands of the coach and peers) and that the performance is dependent on the capacity to overcome these situations.

Among the various psychological factors involved in a competition, stress is of preponderance regarding performance (DE ROSE JR; DESCHAMPS; KORSAKAS, 2001a), but one cannot underestimate the role of other factors such as anxiety, motivation, group cohesion, experience, self-confidence, among others (PUJALS; VIEIRA, 2002). Taking also the tactic aspect of collective sports into account, which have some degree of complexity and requires training, attention and concentration should also be included (DE ROSE JR; DESCHAMPS; KORSAKAS, 2001b).

Psychic load in sports can be defined as a situation of threat perceived and experienced in a subjective way by the athlete in relation to his/her interaction with the environment. This perception occurs through a mechanism that includes a stressing agent and a stress reaction that most of the time is present after a cognitive evaluation of this agent (SAMULSKI, 1992), being this evaluation essentially individual.

Most of the time, the stress is present when there is a substantial imbalance between the physical and/or psychological

demand and the capacity to react. Commonly, it has situational and personal origins (WEINBERG; GOULD, 2001). De Rose JR. et al. (1996) state that "competitive sport is an event with potential to provoke stress since it demands from the athlete a performance close to the ideal...".

Some authors that studied athletes of different sports, ranks and age groups perceived that certain conditions and situations are more prominent as source of considerable strees/psychic load, mainly those related to competitive contest (BRANDÃO, 1996; DE ROSE JR; VASCONCELOS, 1993; DE ROSE JR. et al., 1996; DE ROSE JR, DESCHAMPS; KORSAKAS, 2001a; NOCE, 1999; PUJALS; VIEIRA, 2002; SAMULSKI; CHAGAS, 1992).

Other studies can be mentioned that stressed the fact that some indirect aspects related to competition should be taken into consideration since they can produce an impact on the performance. Among them are mentioned: friends, money, family, school and social life (DE ROSE JR., 1997; DE ROSE JR; DESCHAMPS; KORSAKAS, 2001B; DUGDALE; EKLUND; GORDON, 2002). Of course, these sources have different mechanisms of actuation in young and in senior athletes.

Taking into consideration the particularities of volleyball, of the athletes of this age group (16-17 years), the objective of this study was to identify the conditions and situations that seems to affect the performance of young volleyball athletes in game matches.

METODOLOGY

Sample

By intentional criteria, the sample was constituted by 136 junior athletes from various teams that participate in championships in São Paulo. Age ranged from 15 to 17 years; 80 athletes were females and 56 males.

Instrument

Data were collected through a questionnaire in two sections based in previous studies (BRANDÃO, 1996; DE ROSE JR; DESCHAMPS; KORSAKAS, 2001A; FRESTER, 1976; NOCE, 1999; SAMULSKI; CHAGAS, 1992) with question related to

conditions and situations that can lead to a psychic load during competitions. The first section refers to the profile of the sample. The second one refers to the typical game conditions and situations, which should be subjectively analyzed by the participant athletes regarding its influence in the athletes' performance. Each of the 26 items should be analyzed according to a 5-point Likert scale with the following distribution of points:

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+2 in a positive way: much

+1 in a positive way: not much

0 Neutral;

-1 in a negative way: not much

-2 in a negative way: much

Statistical procedures

It was used descriptive statistics (mean and standard deviation and distribution of frequencies). Comparison of means between the two groups of athletes was done by the t-test of Student with significance level of p<0.05. The correlation among the classificatory ranking of answers in terms of gender by means of Spearman's Coefficient of Rank Correlation.

Results

TABLE 1 shows results, with mean and standard deviation, for all athletes in the sample and also the complete enunciate of all items included in the protocol. The comparison between athletes of both groups with the t-test of Student (p>0.05) revealed no statistical difference between sexes.

By analyzing both groups by order of answers (ranking), using the Spearman Rank Correlation Coefficient it is observed a high correlation (rs=0.95; p<0.05) in these rankings that allows one to assure that there is no statistical significant difference between groups, what can be seen briefly in TABLES 2 and 3.

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TABLE 1 – Results of all itens by gender.

	g:, .:	Males		Females	
no	Situation	M	sd	M	sd
1	Not sleep well in the night before a game		1.12	-0.78	1.20
2	Trip to the game site	-0.56	0.92	-0.15	1.07
3	My performance in the last game	0.57	0.99	0.86	1.21
4	Going to a decisive mach	0.84	1.30	1.42	1.01
5	To play while sick or feeling pain	-1.22	0.94	-0.63	1.19
6	Stretching/warming before the game	1.32	1.06	1.53	0.91
7	A stronger adversary	0.66	1.10	1.46	0.84
8	Weaker adversary	0.25	1.16	-0.15	1.33
9	Past performance of your team against the adversary	0.41	0.97	0.62	1.14
10	When suffers a block and see the reaction of the adversary	-0.16	1.07	-0.01	1.30
11	Provocations from the adversary	0.20	1.03	0.45	1.19
12	When fails in a drill	-0.46	1.26	-0.66	1.17
13	Coach's determinations and orders	1.20	0.95	1.24	1.01
14	To stay in the reserve bench		1.08	-0.66	1.37
15	Mistakes of the referee against your team	-0.93	1.04	-0.73	1.35
16	Your mistake in a decisive moment-	1.24	0.94	-1.03	1.21
17	To get in the game in critical or important moments	0.86	1.21	0.91	1.18
18	To get out the game in critical or important moments	-0.66	1.20	-0.78	1.19
19	Unfavorable group of cheerers	0.40	0.97	0.45	1.21
20	Favorable group of cheerers	1.38	1.05	1.49	0.77
21	Presence of parents/family in the stadium	0.67	1.11	1.08	1.16
22	Strongly demanding parents before, during or after the game	-0.15	0.83	-0.32	1.09
23	When a colleague complains too much	-0.55	0.87	-0.61	1.00
24	When a colleague acts in a neglected way	-0.84	1.16	-0.71	1.23
25	When you are blown up (coach or colleague)	0.31	1.14	0.29	1.15
26	Inadequate place (dressing room illumination. pavement. etc.)	-0.64	1.23	-0.54	1.15

TABLE 2 – Situations with less psychic stress – males.

		M	sd
20	Favorable group of cheerers	1.38	1.05
6	Stretching/warming up before the game	1.32	1.06
13	Coach's determinations and orders	1.20	0.95

TABLE 3 – Situations with less psychic stress – females.

		M	sd
6	Stretching/warming up before the game	1.53	0.91
20	Favorable group of cheerers	1.49	0.77
7	Stronger adversary	1.46	0.84
13	Coach's determinations and orders	1.24	1.01

It should be noted that the situations that generate less psychic load are the same, in order and with values that are not statistically different, as previously mentioned. For situations with greater psychic load the results are similar as can be seen in TABLES 4 and 5.

TABLE 4 – Situations with greater psychic stress – males.

		M	sd
16	Your mistake in a decisive moment	-1.24	0.94
5	To play while diseased or feeling pain	-1.22	0.94
1	Not sleep well in the night before a game	-0.98	1.12
15	Mistakes of the referee against your team	-0.93	1.04

TABLE 5 – Situations with greater psychic stress – females.

		F	sd
16	Your mistake in a decisive moment	-1.03	1.21
18	To get out the game in critical or	-0.78 1.19	
	important moments	-0.76	1.19
1	Not sleep well in the night before a game	-0.78	1.20
15	Mistakes of the referee against your team	-0.73	1.35

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In comparing sexes, it is seen that 14 out of 26 items showed negative values for females what could lead to the conclusion that these athletes perceive a greater psychic load. However, in comparing the items recognized as stressing by both groups, it is seen that the values for psychic load in eight items are greater for male athletes. And in analyzing items considered as motivating by both groups, only in one of them the males showed greater scores. Therefore, any affirmation in this connection is premature.

Items 6, 20 and 13 were quite positive for the athletes' performance in these age ranking. Items 16, 1 and 15 were considered as having the greatest psychic load, taking the groups separately or not. In analyzing each of the sexes some items appear prominent: items 4,7, and 18 for females and items 5 and 17 for males.

DISCUSSION

The statistical analyzes confirm that the game situations included in the questionnaire lead to psychic load. These situations are similarly perceived by athletes regardless of gender.

The situation of item 6 was classified as positive by athletes of both groups. It should be stressed that this item is one out of two within the "physical condition" status, what makes clear the importance of this factor to athletes of this age group.

Other studies (DE ROSE JÚNIOR et al., 1996; DUGDALE; EKLUND; GORDON, 2002; JACKSON; DOVER; MAYOCCHI, 1998; SAMULSKI; CHAGAS, 1992) showed similar results but one should remember that the competitive demand in this category is considerable making the physical condition a basic aspect and it seems that the athletes in this study have a clear perception of this.

Cratty (1984) e Singer (1977) state that the influence of group of cheerers is negative to the performance of those athletes that are in the initial stages of apprenticeship and that have a positive or neutral on those more experienced. Results in this study reveal that an adversary group of cheerers seems to have a neutral influence and the favorable cheerers a marked positive influence. Therefore, the "cheer" factor seems not to represent an important psychic stressing factor.

Values obtained for item 13 show the importance of the coach's intervention in the athletes as a factor that do not lead to a high psychic load provided this intervention is made in a balanced and rational way. De Rose Júnior, Deschamps & Korsakas (2001a) reveal that young athletes consider situations in which the coach do not proceed in a balanced way (did not recognize industriousness, is

highly critical, give privileges to a given athlete) a source of stress. Athletes of high rank do not classify the coaches' instructions among the most important sources of stress (DUGDALE; EKLUND; GORDON, 2002).

Pujals and Vieira (2002) show that failure of communication between coach and athletes can jeopardize the athletes' performance in situations such as the development of strategies to enhance performance. Volleyball is a modality of sport with manipulative abilities, open and non-natural or built-up, which requires a selection of motor answers adequate to the situation (BIZZOCCHI, 2000; GALLAHUE; OZMUN, 2002). Therefore, it is a complex modality and requires many training what makes important the interaction of the coach and the athletes.

Item 4 was noticeable for all athletes as positive for performance. In previous studies (BRANDÃO, 1996; PUJALS; VIEIRA, 2002; NOCE, 1999; SAMULSKI; CHAGAS, 1992) situations related to a non-adequate preparation were cited as significant source of stress. In studies with athletes of different ranks – children (14-14 years) and adolescent (16-17 years) of both sexes – it was noted that the fact of playing a decisive match increased the motivation and lead to low psychic load (GOUVÊA et al, 2003a; 2003b; 2004).

Items 17 and 18 appear with some distinction in both groups and are related to game situation that affect self-confidence directly. The fact of being demanded by the coach to get in or get out the game in a decisive moment reinforce the importance of the interaction between the coach and the athletes.

Situations related to "difficulties and competencies of game" are those that seem to affect more negatively the performance, showing four situations (out of seven) among the ones with more psychic load.

Item 16 was most referred by athletes in the present study. This was corroborated by other studies on mistakes made during games, which athletes recognized as important and significant sources of stress (BRANDÃO, 1996; DUGDALE; EKLUND; GORDON, 2002; GOUVEA et al., 2003; NOCE, 1999; SAMULSKI; CHAGAS, 1992).

Item number 1 refers to a situation typically related to anxiety. Some studies (SAMULSKI; CHAGAS, 1992; PUJALS; VIEIRA, 2002) show that anxiety was a marked characteristic of young football athletes (13 to 17 years old) and that this is an important stressing situation for these young athletes, especially the younger ones. In the case of the studied athletes, this perception is different since they are in an environment of greater competition, which requires one to be fully prepared to compete. When the athlete does not have this perception, this leads to a greater psychic load. In a study with

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young volleyball athletes this item was also reported as one leading to a greater psychic load (Gouvêa et al, 2003a; 2003b; 2004).

Item number 15 has links to the concentration of the athlete and it is also a situational cause of stress. Concentration involves conscience of the situation, attention in relevant signals in the environment and a necessity to maintain the focus of attention (WEINBERG; GOULD, 2001).

In relation to this item, similar results can be found in a study by Samulsky and Chagas (1992), although these authors stress that more experienced athletes show a great emotional stability and resistance to stress facing these situations. Therefore, it is important to search ways to make athletes aware to avoid overestimating the mistakes made by the referee, to keep attention to relevant facts of the match, do keep control of the situation and for their role in the court.

Item number 5 (physical condition) appeared among the most relevant for psychic stress which reinforces the need for good physical condition in the part of the athlete. This same stressing condition has been demonstrated by other studies (BRANDÃO, 1996; DUGDALE; EKLUND; GORDON, 2002; GOUVEA et al., 2004; NOCE, 1999; SAMULSKI; CHAGAS, 1992).

Results for both groups in the item number 24 are similar and followed the tendency of other studies, that is, conflict with teammates represent a considerable psychic load (BRANDÃO, 1996; DUGDALE; EKLUND; GORDON, 2002; GOUVEA et al., 2003A; NOCE, 1999; SAMULSKI; CHAGAS, 1992; DE ROSE JR, DESCHAMPS; KORSAKAS, 2001A).

CONCLUSIONS

Specific situations of game or competition are those that lead to major psychic load in athletes of the studied age group. They are similar in both sexes and close linked to factors such as the high demands these athletes are continuously exposed to.

The "group of cheers" is not an obstacle to the performance since the control these athletes have on the abilities is enough for them to evaluate this factor as neutral or favorable and, thus, focus their attention in other aspects of the competition.

On the other hand, athletes indicated that the interaction with the coach is considered just as fundamental. They also considered that being in good health is favorable. Results showed that athletes of this age group are aware of the importance of these two factors although some doubts, and even a not precise notion, were underlined on their vision on these two aspects.

Motivation is an important factor to these athletes manifested by the expectation to play a crucial match. However, this situation did not lead to psychic load. It was possible to observe that the motivation varied along the condition of the match, such as getting in or out of the court in decisive moments.

The conflict among members of the team and the anxiety were also noticeable sources of psychic load to athletes in this age group, which, by the way, could be expected. The way to cope with these factors is quite individual and coaches should have an adequate preparation not to interfere in the teamwork.

We believe that this study will contribute to guide of coaches, trainers, managers, parents and family member aiming to minimize the effects of the negative and stressing situation faced by these young athletes.

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ANNEX

Frester's Psychic Load Test (1976) - modified

Name:	Birth date: /	/
team: Position:	Category: () F	() M
how long have you taken volle () less than 1 year (() 3 to 4 years (•	() 2 to 3 years
In which competitions did you () school () League () open games () Paulista I () Other:	s/Cups () re	-

FACTORS THAT AFFECT YOUR PERFORMANCE IN GAMES:

no	Situation	negatively			positively	
		A lot	Not much	neutral	A lot	Not much
1	Not sleep well in the night before a game					
2	Trip to the game site					
3	My performance in the last game					
4	going to a decisive mach					
5	To play while sick or feeling pain					
6	Stretching/warming before the game					
7	Stronger adversary					
8	Weaker adversary					
9	Past performance of your team against the adversary					
10	When suffers a block and see the reaction of the adversary					
11	Provocations from the adversary					
12	When fails in a drill					
13	Coach's determinations and orders					
14	To stay in the reserve bench					
15	Mistakes of the referee against your team					
16	Your mistake in a decisive moment					
17	To get in the game in critical or important moments					
18	To get out the game in critical or important moments					
19	Unfavorable group of cheerers					
20	Favorable group of cheerers					
21	Presence of parents/ family in the stadium					
22	Strongly demanding parents before, during or after the game					
23	When a colleague complains too much					
24	When a colleague acts in a neglected way					
25	When you are blown up (coach or colleague					
26	Inadequate place (dressing room, illumination, pavement. etc.)					