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Comparing Iranian National Individual Sports Athletes' Strategies of Coping with Stress

Mehriyeh Panahi¹ and Rahim Ramazani- Nejad²

¹Department of Physical Education & Sport Sciences, Faculty of Humanities, Abhar Branch, Islamic Azad University, Abhar, Iran

²University of Guilan, Department of Physical Education & Sport Sciences, Guilan (Rasht), Iran

ABSTRACT

The purpose of this study was to compare the strategies of coping with stress among elite athletes in Iran national individual sports and also male and female athletes in different age groups. The sampling approach was census reporting and of 340 national athletes in 23 sport fields, 276 athletes (81% of the statistical society) participated in the research. The instrument for the study was a standard questionnaire (cope-revised) specialized for measuring the coping styles with stress in elite athletes. This questionnaire included 40 questions in Likert's 4 value measurement (from never=1 to always=4), and statistical tests of Friedman, Wilcoxon, Mann-Whitney and Kruskal Wallis were used in significant level of $p \leq 0.05$ to analyze the data. The results indicated that athletes used accommodation, approach, self-punishment, self-help and avoidance strategies, respectively. Although, the athletes older than 30 years used approach and self-punishment coping strategies more than other ones, there was no significant difference between athletes according to their experience. Generally, the problem-focused strategy was more prevalent than emotion-focused one among all athletes. Also, the male athletes used emotion-focused style more than female athletes.

Key words: Coping Styles with Stress, Individual sports, Elite athletes.

INTRODUCTION

In professional sports, there is high stress on the athletes that can disturb their emotional balance in a long-term or short-term period [1]. According to Daniel (2000), professional sports are always stressful and many stressing factors have been discovered so far [2]. Factors such as the game result, negative understanding of capability, organizational and team issues, expectations, defeat probability, fatigue, game pressure, injury, traveling, etc. have been introduced as the

stressing factors of athletes [3-10]. Since there are plenty of stressing factors and resources, athletes use stress coping strategies for handling the pressure. These strategies include all the cognitive and behavioral attempts used for confronting, decreasing and balancing the negative effects and consequences of stress [11,12]. The issue of “coping with stress” from the 1980s and with the writings of Pearlin & Schooler (1978), Moos (1980) and Lazarus & Folkman (1980) became known. In sport studies, Lazarus & Folkman (1984) also were the first people to investigate the issue in case of athletes [13]. Nowadays, various patterns and strategies of coping with stress is recognized [1]. These patterns are very diverse and sometimes completely individual, but have created many useful theoretical grounds for investigating various aspects of stress, cognitive assessment of stress, coping strategies, support sources, environmental factors, individual differences and any strategies’ functionality. Pearlin & Schooler (1978), first presented the three coping strategies as negative emotions control, changing the meaning and value of the event, and changing the stress situation [1]. Lazarus & Folkman (1984), named the two main strategies, concentrating on feeling (emotion-focused) and concentrating on the problem (problem-focused) [13]. The problem-focused coping strategy is the cognitive and behavioral attempts by which the athlete tries to change the stress source. But in the emotion-focused coping strategy, the athlete tries to decrease the unwanted bodily and emotional effects and consequences related to stress [15]. Other researchers, according to the theoretical framework of Lazarus and Folkman (1984), regarded some of the coping strategies efficient (like problem-focused) and some other strategies inefficient (like avoidance-focused). In avoidance-focused strategy, the athlete ignores the stress source and by getting physically or mentally further from the stress source, tries to decrease the negative effects of the stress source [16].

Anshel (2008), the famous sport psychologist, divided each of the two strategies, the problem-focused and the emotion-focused, into two cognitive and behavioral subsidiary coping strategies. In his point of view, the athlete uses these strategies actively (direct) and inactively (avoidance) [16]. In active cognitive coping, the athlete engages in a positive self-talking or a positive assessment and attitude of the stress stimulus, but in the inactive or avoidance cognitive coping, the athlete ignores the situation transiently. In active behavioral coping, the athlete seeks for the others’ help and support and finally in avoidance behavioral coping, the athlete engages himself in another activity to distance himself from the negative consequences of stress [15,17]. Yoo (2000) according to the Korean athletes’ culture in addition to the problem-focused, emotion-focused and avoidance-focused, has discovered another strategy called transcendence strategy that is related to trust, hope, optimism and religious beliefs [16]. Recently, Endler and Parker (2003) in another classification of strategies, has regarded the problem-focused strategy as a task-focused strategy that is against the two coping strategies of emotion-focused and avoidance-focused [18]. In new studies, various strategies have been known that do not have the limitations of problem-focused and avoidance-focused coping strategies. Respectively, Gagne & Zuckerman (2003), have put five coping strategies into two dimensions of “emotion-focused and problem-focused” and in fact have divided the mentioned strategies into subsidiary and special strategies which include self-help, approach, accommodation, avoidance and self-punishment. In self-help coping strategy, the person directly gets into action in order to balance the stressing factors’ effects and tries to place himself under the others’ supporting umbrella and be interactive in case of the problem with the others [15]. In approach strategy, the athlete considers only one aspect of the situation or stimulus and in time of encounter, approaches it, checks the previous experiences, accepts the reality and reorganizes the event to find a positive and proper point out

of it [19]. In accommodation or adaptation, the person deals with the change of stressing factor's meaning and tries to be optimistic toward all the stressing issues and events and challenges to accept them. In avoidance strategy, the athlete to solve the problem, ignores the problem and regards it as unimportant and focuses all his attention on the athletic activities [20]. In self-punishment, the athlete controls his emotions to decrease the impacts of unwanted physical or emotional stimuli [20]. Gagne and Zuckerman have named the first three strategies, problem-focused and the other two, emotion-focused [15]. Using these strategies in many athletic occasions can lead to the athlete's higher rate of functionality and performance [2]. Although, there have been many studies on coping strategies of different athletic groups [8, 19-22], in recent years, there have been much focus on the stress coping strategies of individual and team elite athletes [1,23-25]. A group of researchers showed that the approach strategy is prevalent among the athletes, but another group regarded the avoidance strategy more common [16, 26-29]. Of course, some researchers have reported the use of both strategies (19,30). Some other researchers, showed the problem-focused and cognitive strategies in professional athletes of individual fields [1,7,15]. Giacobbi et al (2004) believe that the approach strategies is more common for overcoming all sorts of stressing factors, while the avoidance strategies are used by some of the athletes [9]. Lazarus and Folkman (1985) believe that the athletes use the accommodation model more than the others [31], while Lie Grad (1995), demonstrated that the problem-focused strategy is a compatible way that an athlete can use considering the environmental condition [20]. Many studies have been done in case of coping strategies that all of them have presented various strategies to overcome the athlete's stress [4,7,34]. By studying these researches, one can recognize the various coping strategies and classify them by their functionality [31,35]. In case of Iranian athletes' stress coping there have been some researches but they were few. These researches, have discussed only two types of stress coping strategies in amateur athletes, but it has not been clear that in the main two strategies of problem-focused or emotion-focused, which subsidiary strategies were used by the athletes [20-22]. Also, this issue has not ever been investigated in high levels of professional sport of Iran. The results of comparative studies of Yoo (2000) and Anshel (2008) show the role of cultural differences in the athletes of Malaysia, China, Mexico, Australia [16,24], and the study of Adegbesan (2007) show the cultural differences in French and American athletes [2]. Therefore, since the sport fields in Iran have developed and professionalized, it is necessary to investigate the particular cultural differences. Also, in interviewing with many of the champions of individual fields, who are studying in one of the state universities of the country, conducted by the first author of this research, it was illustrated that the stress is an important disturbing factor, influencing the athletes' performances in international levels. So, it is required that the coping strategies be more considered, to overcome the stressing factors of the athletic events. Despite the paradoxical results in different researches and the impact of the type of the athletic field and the cultural factors, it seems that other situations and conditions such as experience, championship and athletic record can influence the selection of one type of coping strategy. This issue has been investigated in the team sports [19, 23, 25& 37], while the individual athletes experience more stress as they are the only one bearing the burden of competition and results. So, it is probable that individual athletes use various stress coping strategies to overcome the stress. Hence, the main question of the researcher is that, do the national athletes in individual fields use special coping strategies? Do their strategies; depend on their age, sex and athletic record? And finally how is the priority of the coping strategies in national athletes in individual fields?

MATERIALS AND METHODS

According to the athletic federations statistics, 340 athletes of the national teams (82 females, 258 male) from the 23 athletic field of Wushu, Karate, Cycling, Kayaking, Ping-Pong, Badminton, Wrestling, Boxing, Swimming, Diving, Triple, Public, Scuba diving, Skiing, Track and Field, Synchronized Swimming, Judo, Billiard, Weightlifting, Taekwondo, Shooting, Muay Thai have been present in the national teams camps. The sampling method was census reporting and all the athletes were in the statistical sample. The modified and standard (cope-revised) questionnaire of Gagne and Zuckerman (2003) with the internal stability of $r=0.92$ was used with 40 questions, in the Likert's scale (from 1=never to 4=always) which measured the five strategies of Self-help, Approach, Accommodation, Avoidance and Self-Punishment [15]. The first three strategies are called problem-focused and the other two are named emotion-focused. This new questionnaire, is especially for the professional sports which after translation, correction and commenting of 10 experienced scholars, the internal stability of the entire questionnaire on 40 athletes was $r=0.82$ and the internal stability of each strategy was between $r=0.65$ and $r=0.70$. The questionnaire was distributed among the athletes at the time of teams camping, with all sport federations' cooperation. The answering time of 30 minutes that from the 340 distributed questionnaire, 276 complete questionnaire (81% of statistical society) were gathered and then analyzed with the Kolmogorov-Smirnov, Friedman, Wilcoxon, Mann-Whitney and Kruskal-Wallis statistical test in a meaningful level of $P \leq 0.05$.

RESULTS

The description of individual characteristics of subjects showed that 50.2 percent of them were under 20 years old and of 276 subjects, 206 were male and 70 were female. Also 50.8 % of the subjects had less than two-year of national record and only 9.5 % had more than 8-year of national record. By using the Kolmogorov-Smirnov test, the supposition of the normality of data was rejected. As it is observed in Tab.1, national athletes used the accommodation, approach, self-punishment, self-help and avoidance coping strategies and by using the Friedman Test, it became known that there is a meaningful difference between the coping strategy and athletes stress. It can be expressed that the problem-focused strategy (the first three strategies) is more common than the emotion-focused strategies (the last two ones).

Table1: Comparing the Stress Coping Strategies in National Athletes

Indexes Variables	Average	Standard deviation	Friedman Test		
			Sig	df	Chi-Square
Self-help	4/04	20/34	*0.000	4	482/534
Approach	3/77	23/98			
Accommodation	3/64	24/06			
Avoidance	3/79	15/88			
Self-punishment	3/96	20/39			

$P \leq 0.05$

The results of the post-hoc test of Wilcoxon in comparing the pair of each strategies, showed that there is a meaningful difference between self-help and approach, accommodation and avoidance, among approach, avoidance and self-punishment, among accommodation, avoidance and self-punishment, and between avoidance coping strategy and self-punishment coping strategy. Generally a meaningful difference was observed between the problem-focused and emotion-focused coping strategies in national athletes (table 2)

Table 2: Wilcoxon Test

Feeling-Focused	Self-punishment	Avoidance	Accommodation	Approach	
	0/804	*0/000	*0/000	*0/000	Self-help
	*0/000	*0/000	0/772	Approach	
	*0/000	*0/000	Accommodation		
	*0/000	Avoidance			
*0/000	Problem-Focused				

*: $P \leq 0.05$

The information of Table (3) shows that the male athletes use the avoidance and self-punishment strategies more and this difference is meaningful. Generally, male athletes used the emotion-focused strategies more than the female ones, but in case of problem-focused coping strategy there was not any meaningful difference.

Table 3: Male & Female Stress Coping Strategies

Index Variable	Number	Group	Average	SD	U Mann Whitney	
					Z	Sig
Self help	70	F	20.7	4.2	0.93	0.35
	205	M	20.41	3.9		
approach	70	F	23.51	4.1	1.32	0.18
	205	M	24.15	3.6		
Accommodation	70	F	24.11	3.8	0.22	0.81
	205	M	24.05	3.6		
Avoidance	70	F	14.82	3.4	2.43	0.012*
	205	M	16.22	3.6		
Self punishment	70	F	19.14	3.9	3.12	0.002*
	70	M	20.81	3.8		
Problem focused	205	F	22.56	3.6	0.84	0.39
	70	F	22.87	2.8		
Emotion Focused	205	M	20.85	2.6	2.60	0.009*
	70	F	21.84	2.9		

*: $P \leq 0.05$

According to the information of table (4), only in the approach and self-punishment strategies, there was a meaningful difference in case of different age groups.

The results of post-hoc Mann-Whitney Test showed that the athletes older than 30, used the approach and self-punishment strategies more than other age groups (table 5). Also, according to the rate of Chi-Square (average 2.32) and the meaningful level of Kruskal-Wallis Test, a meaningful difference was not observed in all the stress coping strategies of athletes with various national records.

Table4: Stress Coping Strategies in Different Age Groups

strategies	Variable	Group	Average	Number	SD	Kruskal Wallis test		
						Sig	Df	Chi S
Problem Focused	Self Help	-21	20.16	138	4.22	0.166	3	5.083
		21-25	20.05	88	4.03			
		26-30	21.27	36	3.43			
		+30	21.61	13	3.52			
	Approach	-21	21.81	138	3.70	0.05*	3	7.685
		21-25	23.69	88	4.02			
		26-30	24.47	36	3.65			
		+30	26.37	13	2.46			
	Accommodation	-21	24.24	138	3.44	0.193	3	4.728
		21-25	23.24	88	4.00			
		26-30	24.61	36	3.64			
		+30	23.63	13	2.48			
Emotion Focused	Avoidance	-21	15.67	138	3.77	0.561	3	2.057
		21-25	15.96	88	4.18			
		26-30	16.38	36	2.63			
		+30	15.84	13	4.09			
	Self- Punishment	-21	19.85	138	3.98	0.009*	3	11.53
		21-25	20.64	88	4.08			
		26-30	20.69	36	3.11			
		+30	23.53	13	3.88			

*: $P \leq 0.05$

Table5: Post-hoc tests results in different age groups

Self-punishment		Age Groups	Approach	
Sig	Z		z	Sig
0/262	-1/122	-20 compared to 21-25	-0/009	0/992
0/19	-1/311	-20 compared to 26-30	-1/149	0/250
*0/002	-3/154	-20 compared to +30	-2/556	*0/011
0/623	-0/492	21-25 compared to 26-30	-1/123	0/261
*0/008	-2/666	21-25 compared to + 30	-2/453	*0/014
*0/009	-2/619	26-30 compared to +30	-2/605	*0/004

*: $P \leq 0.05$

DISCUSSION

The resulted Information from the analyses, showed that there is a meaningful difference between the stress coping strategies of athletes, and demonstrated that the athletes use the problem-focused strategy more often than the emotion-focused ones. These findings is inconsistent with the research results of Balighi (2007) , Giaccobi (2004) , Malika et al (2005) and Gould et al (1993), since in these researches, the commonest strategy among the athletes was the emotion-focused stress coping strategy [6, 19, 33, 38, 39]. These inconsistencies are probably because of using different questionnaire, different athletic levels and the participants' types of athletic fields, since in the aforementioned researches, the two-dimensional measuring questionnaire for coping strategies was used, while in the current research, the five subsidiary strategies were investigated in two main dimensions. Furthermore, the current study is done on the individual athletes in national level , while the aforementioned studies , were done in one

particular sport field or among the team athletes and in amateur level. However, in the researches of Mark (2006), Will (2002), Noblet (2002), Wilkes, the emotion-focused strategy was in the last place which is in harmony with the current research [40]. In addition, the result of this research is harmonious with the Endler and Parker's (2003) classification, because they regard the emotion-focused and avoidance-focused strategies as ignoring the stress which causes the self-punishment, anger and anxiety. But in the task-focused strategy, like the problem-focused strategy, the athlete is seeking for time and situation management [18]. So, as the national athletes of Iran, use the problem-focused strategies more often, we can conclude that they confront the stress, rather than ignoring it and they focus on their task or performance analysis. The research's findings have been contrasted to the theoretical models of coping with stress, for instance in point of view of Endler & Parker (2003), the coping strategy of task-focused or as in this research the problem-focused strategy is a compatible way for handling the situations. Therefore, the national Iranian athletes have used proper techniques to overcome their stress. It seems that, as of the individual fields' nature, the cognitive assessments and focusing on the problem is more essential.

Also the results of this research is in accordance with the Lazarus 'theory (1984) which regarded the accommodation strategies (focusing on the positive aspects), focusing on the problem, self-help and attracting social support, and relationship with others as the efficient style. Also, the self-punishment, avoidance and concealing the problem from others, ignoring the stress and forgetting it are regarded as inefficient. So avoiding the inefficient strategy is the proper decision [13]. According to this classification and because of accommodation and self-help strategies' priority in national individual athletes, they have preferred the efficient styles to the inefficient ones.

In another division, Moos & Billings (1980) divided the strategies into two active and avoidance group in which the problem and emotion is focused on. According to this division, we can say that the athletes in this research have had more inclinations to the active coping strategies. This issue is more cleared considering the priority of the first three coping strategies. For instance, the precise checking of questionnaire show that in self-help strategy gaining support, in approach strategy thinking and planning, and in the accommodation strategy optimism and acceptance can be regarded as the active coping strategies [19].

Apparently, as in the individual sports, the performance depends on the individual capacities and the group dynamism is less interfering, the athletes focus on the internal factors and their own performance more than the environmental or external factors, in that case the problem-focused stress coping strategy is more needed. For precise investigation of the reasons behind the inconsistency of this research to the aforementioned ones, it is better to check and compare the results of the researches on elite athletes in individual fields. According to Karaker (1989), as these athletes experience different sources of stress, so they learn different strategies to overcome them. Therefore, one cannot say that the coping strategies are just these five mentioned ones. In the studies of Gould & Jackson (1993), Dale (2000), Holt & Hogg (2003) and Gerad (1995), the problem-focused strategies has been viewed as the proper strategy in individual sport fields and the emotion-focused strategy was regarded as the cause of the intense decline of the performance [7,41]. However, the results of most researches is related to a certain individual field, while in the current research, several individual sport fields have been investigated and about 70 percent

of the athletes were from 6 athletic fields. This issue caused that the researchers withdraw comparing the strategies in different sport fields, since the number of the samples in each of the fields were not statistically sufficient for comparison.

The results of the research showed that, male athletes use the emotion-focused strategy (avoidance and self-punishment) more than the problem focused one. This result is in line with the studies of Tasaddoghi (2008) , Sifj& Kereng (1993), Carter et al (1998), McIntyre (1995) and Anshel (2001) [38,42]. But Mark (2006), demonstrated that both male and female athletes use the problem-focused more often. However, Kracker & Graham (1995), Jafari& Balighi (2007), Michael et al (2000) and Stern et al (1993) did not observe any meaningful difference between the strategies of male and female athletes [19, 21, 43, 44]. Also , the results of the researches of Pensgaard (2003), Reid et al (1995), Billy et al (1996) showed that the female athletes, use the emotion-focused strategy more and the male athletes used the problem-focused one more often [10, 45, 46]. It is not clear that these results and differences are related to the gender differences or other variables such as skill level, individuals' capacities or the culture. Generally, most of these researches have emphasized on the lack of difference in case of coping strategies used by male or female athletes or their emphasis was on the male athletes' preference of emotion-focused strategy.

The outcome of this research showed that the athletes older than 30, use the approach and self-punishment strategies more than the other age groups and this difference is meaningful. Probably, the athletes older than 30, because of their experience, when they encounter the problems and stressing factors, check their previous experiences, and by accepting the reality, manage and organize their emotions to decrease the stressing factors and their effects. Also, there were not any meaningful differences in other coping strategies. This finding is in contrast with the results of Jafari (1999) and Folkman et al (1987) in which the adult athletes used the emotion-focused coping strategy and the younger athletes used the problem-focused more often [19, 21]. While , in opinions of Williams ,Anshel (1997), Aflatuni (2001) and Stam (1993) , the student athletes in older age groups use the problem-focused coping strategy [19, 31]. Tasadoghi (2008) also showed there is a meaningful relationship between the age and coping strategy [20]. While Balighi (2007) and McKera(1982) showed that the old and the young uses similar strategies [19]. Reviewing the researches demonstrates that the previous researchers, have compared the problem-focused coping strategy and the emotion-focused coping strategy in different age groups, while in the current research, each one of the subsidiary factors of problem-focused coping strategy and emotion-focused coping strategy was compared separately and one by one among the different age groups. In addition, the inconsistency in different age groups' coping strategies is related to age classifications, but it is not exactly clear in different researches, which groups were named old, adult and younger.

The current research's findings show that there is not any meaningful difference in case of using coping strategies among athletes with different national records. This result is approximately in accordance with Tasadoghi's results (2008) which did not observe any meaningful relationship between the athlete's record and emotion--focused coping strategy and reported a weak relationship with the problem-focused coping strategy [20]. In addition, Anshel et al (1997) and Giaccobi (2004) showed that the experienced athletes use problem-focused coping strategy and the inexperienced ones use emotion-focused coping strategy [31, 47]. Probably, the reason for

these inconsistent results was that the athletes' records differences were not high and 61 % of them had less than 2-year of record as well.

Investigating the many paradoxical results in case of stress coping strategies show that it is possible in comparing the coping strategies of athletes, other than the age, gender and record, factors such as character, occupational status, personal experience and sport field traits are influential. For example, in this research, the variety of the athletic fields was great and considering the subjects, 40 % of the participants were martial athletes. Therefore, it is possible, these strategies be influenced according to the type of the sport field, type of situation and conditions of stressing stimuli. However, the prevalence and priority of problem-focused coping strategy is a good a sign for the future when the athletes' experiences should be transformed to the younger, inexperienced athletes. In addition, other coaches can be acquainted to the efficiency of these strategies, so that they can make the athletes aware of the emotion-focused coping strategy's inefficiency.

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