

# The Influence of Age and Gender on the Coping Strategies Used By Tunisian Athletes in Team Sport

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## Abstract

The objective of this article is to present the results of a study on the impact of age and sex on the repertoire of coping used by Tunisian athletes in collective sport. In this context, we used the Arabic version of the inventory of sports adaptation strategies for 419 athletes, including 278 men and 141 women with an average age of 19.00 years (SD=5.52). This measuring instrument includes ten first-order coping strategies arranged into three second-order coping strategies. The processing of the data collected by the IBM SPSS software showed the following results. Our study showed that female teen athletes are more likely to adopt coping strategies aimed at disengagement. However, male teen athletes use a task and distraction repertoire of coping. On the other hand, adult female athletes are moving more towards the coping of disengagement and distraction. However, adult male athletes use more task-based coping.

Age and gender are therefore variables that directly influence the repertoire of coping among Tunisian athletes in team sport.

**Keywords:** Gender • Age • Coping • Collective sport

## Introduction

Understanding how the athlete adopts coping strategies in the context of collective sport is a major issue, not only in terms of preventing risks to well-being, but also in terms of optimizing performance. Performance in team sports is part of a social environment characterized by several personal interactions (between athletes, athletes and staff...). In this approach, athletes must not only learn, acquire and maintain a high level of athletic competence. However, it is also essential to develop a repertoire of coping strategies to meet the demands of this specific environment [1].

Managing the stressful situation and studying its aspects at the level of collective sport is a well-developed research area is a priority for several authors [1-4]. Moreover, represents, the crucial objective of our work to understand how Tunisian athletes manifest themselves in a competitive, stressful environment and what are the strategies of the coping shared with the performance in the context of collective sport characterized by the complexity of social relations. Several approaches are based on the bipolarity of stress and coping in the field of sport does not directly meet our demands. Such as the cognitive-motivational-relational theory (TCMR) of emotions [5,6], which forms a theoretical model frequently used in studies centralizing stress and coping, and is fundamentally based on cognitive assessment.

In accordance with the "transactional" model of Lazarus and Folkman, coping is a dynamic mechanism that changes according to the situation. Coping is one of the most centralized research concepts in sport [7,8]. Coping is a good predictor of performance [9-11]. Thanks to this concept, the explanatory mechanism of the stressful event and its consequences can be better understood [12].

To manage the specific stressful demands of the competition and to optimize performance, the athlete adapts to this mechanism [13-16], and seeks to overcome the stressful situation in order to maximize its chances of success [17].

However, can this transactional model, which concentrates the dynamic mechanism of coping, share the same concepts in collective and individual sport? In fact, Gaudreau et al. [17,18], see coping as an adjustment of stress at the collective level rather than at the individual level. This approach has recently been formalized for collective competitive situations.

On the other hand, the coping repertoire used by the athlete affected by an individual or collective environment is also subject to more influential and more exhaustive factors such as age and gender. The age transition involves a radical shift in bio-psycho-social stability [19]. The high-level athlete integrates with these changes and faces at the same time an intense sports investment. Stress management must be consistent with age transition, and the athlete must be progressive and effective in this transformation [4].

According to Tamminen et al. [2], coping is an ability that can develop based on experience and age transition. Hanton et al. [20], indicate that experience also influences coping strategies. For them, the high level of experience among elite athletes is more oriented to problem-based strategies. The athlete's level of experience can therefore influence the choice and use of coping despite the overlap of personal relationships such as pairs, parents, coaches.... On the other hand, the athlete's gender also plays an important role in the coping's orientation in the face of the threatening competitive situation. For Hoar et al. [21], the gender-related qualities of coping remain poorly conceived. This flaw makes it difficult for the coach and mental trainer and even the athlete to respond and improve their performance.

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In general, the majority of studies in this field show that women often turn to emotional coping strategies, while men frequently turn to problem-oriented coping.

Crocker et al. [1], explain this spontaneous tendency of women towards emotional coping and men towards problem coping, through stereotypical roles and expectations of gender roles. Adaptation strategies therefore take on different aspects depending on the characteristics of the person and his reactions with his environment. Recently, Nicholls et al. [22,23] proposed a three-dimensional classification of adaptation that focuses on control, internal regulation and disengagement. Previously, research centralizing sports competition, and conducted with 144 golfers during the 2002 Quebec Junior and Amateur Championships, indicated that these golfers used 90 actions to manage their stress in the face of competition. These adjustments were then grouped into ten adaptation strategies and arranged into three main chapters: task-based adaptation strategies, distracted adaptation strategies and disengagement-based adaptation strategies [24,25].

Task-oriented coping strategies are designed to deal directly with the source of stress. This dimension merges the adaptation centered on the problem (exertion, logical analysis...) and the adaptation centered on the emotion (relaxation, control of the thought). In contrast, avoidance strategies include exit-oriented strategies that are used to escape the threatening situation. In addition, distraction-oriented strategies, which are used to temporarily de-center any provocations from the stressful situation.

The current study centralizing variation in coping styles in the face of competitive stress among Tunisian athletes is trying to broaden our understanding of the difference in coping styles between gender and age. The use of a random sample of athletes affiliated with popular collective sports in Tunisia makes it possible to generalize to all adolescent and adult athletes, male and female. The review of the coping repertory among our participants adds valuable information on the skill level to manage competitive stress and anxiety and on preventive strategies to intervene in different phases of age and in relation to the athlete's gender.

## Methodology

### Population

419 athletes from collective sports including 278 men and 141 women with an average age of 19.00 years (SD: 5.52 years). At the national and international level, voluntarily participated in this study (Table 1).

Table 1. Intestinal MUC2 values in autistic and healthy people.

	Numbers	Percentage
Adult man	100	23.9
Adult woman	56	13.4
Total adult	156	37.2
Adolescent man	178	42.5
Adolescent woman	85	20.3
Total adolescent	263	62.8
Total	419	100

Table 3. Intestinal MUC2 values in autistic and healthy people.

	1	2	3	4	5	6	7	8	9
Mental imagery	1								
Effort expenditure	,395**	1							
Thought control	,370**	,439**	1						
Seeking support	-,072	-,027	,062	1					
Relaxation	,309**	,146**	,247**	-,059	1				
Logical analysis	,489**	,473**	,375**	,014	,381**	1			
Venting of emotions	,032	,188**	,218**	,103*	-,021	,103*	1		
Disengagement	,387**	,316**	,348**	-,041	,209**	,312**	,506**	1	
Social withdrawal	,138**	-,011	-,045	-,089	,227**	,030	-,286**	-,050	1
Mental distraction	-,146**	-,119*	-,217**	-,090	-,121*	-,341**	-,242**	-,226**	,221**

\*\*p < .01. \*\*\*p < .001.

## Measures

In this study, we used the Arabic version of the inventory of sports competition adaptation strategies. This questionnaire consists of 39 elements divided into ten first-order coping strategies, and three second-order coping strategies: task-based coping strategies, exit-oriented adaptation strategies and distraction-oriented adaptation strategies.

## Procedures

Participants were asked to answer a 5-point Likert scale, ranging from 1 (never) to 5 (always), two hours after the competition. This questionnaire is designed to identify first and second-order coping strategies used to manage pre-competitive anxiety. All participants were previously informed about the purpose and procedure of the study. Participation was voluntary and following the ethical charter, parental consent was required for athletes under 18 years of age.

## Results

### Effect of gender and age on coping

The Levene homogeneity test indicates that the variance of the scores of different coping strategies is homogeneous (p-value >5 %). This allows us to perform the MANOVA multiple variance analysis to examine the effect of age and sex on the coping repertoire of our participants (Table 2). Table 3 shows the correlations between the 10 coping strategies used by our participants. As shown in Table 3, correlations between variables did not exceed 0.51, suggesting that multiple collinearity would not be a concern in variation analyses. The multiple variance analysis (MANOVA) indicates that sex and age have significant effects (Wilks lambda is significant at P <5%) on the choice of coping among Tunisian athletes in the collective sport (Tables 4 and 5).

Table 2. Variance homogeneity test.

	Statistics Levene	ddl1	ddl2	p-value
Mental imagery	,642	6	262	,696
Effort expenditure	1,825	6	262	,095
Thought control	,149	6	262	,989
Seeking support	,378	6	262	,893
Relaxation	,345	6	262	,912
Logical analysis	,623	6	262	,712
Venting of unpleasant emotions	1,894	6	262	,082
Disengagement	2,829	6	262	,011
Social withdrawal	1,394	6	262	,217
Mental distraction	5,300	1	292	,022

**Table 4.** Effect of gender on coping.

Effect	Value	D	ddl of the hypothesis	Ddl error	Sig.	-,090
GENDER	Trace of Pillai	,178	6,129b	10,000	283,000	,000
	Wilks Lambda	,822	6,129b	10,000	283,000	,000
	Hotelling Trace	,217	6,129b	10,000	283,000	,000
	Largest Roy Root	,217	6,129b	10,000	283,000	,000

a. Plan: Originally ordered + Sex

b. Exact statistics

**Table 5.** The effect of age on coping.

Effect	Value	D	ddl of the hypothesis	Ddl error	Sig.	-,090
AGE	Trace of Pillai	,692	1,207	170,000	2760,000	,039
	Wilks Lambda	,471	1,247	170,000	2336,235	,020
	Hotelling Trace	,824	1,286	170,000	2652,000	,009
	Largest Roy Root	,291	4,727c	17,000	276,000	,000

a. Plan: Originally ordered + AGE

c. The statistic is an upper bound of F that produces a lower bound for the significance threshold.

**The level of coping according to the age-gender crossing**

**The level of first-order coping in male and female adolescents:**  
Male adolescent athletes use more of the following coping strategies:

- The effort expenditure
- The mental imagery
- The thought control

In contrast, female adolescent athletes use the following coping strategies:

- The effort expenditure
- The thought control
- The venting of unpleasant emotions
- Logical analysis
- The mental imagery

However, adolescent male and female athletes use the mental distraction strategy in a similar way (Table 6 and Figure 1).

**The level of first-order coping in adult males and females:** Adult male athletes are more likely to choose the following strategies:

- The effort expenditure
- The thought control
- The mental imagery
- The disengagement
- The logical analysis

In contrast, adult female athletes are more likely to seek the following strategies:

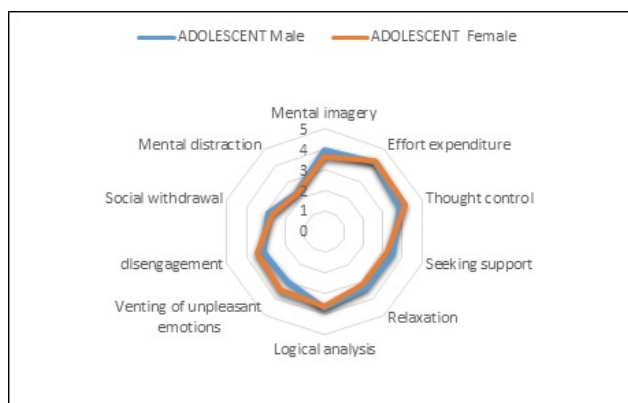
- The effort expenditure
- The thought control

In addition, adult male and female athletes use the following strategies in the same way (Table 7 and Figure 2):

- The relaxation
- The mental distraction

**Table 6.** The level of first order coping in male and female adolescents.

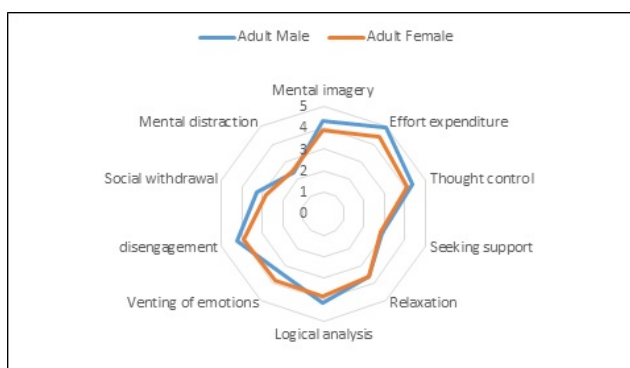
Adolescent	Mental imagery	Effort expenditure	Thought control	Seeking support	Relaxation	Logical analysis	Venting of emotion	disengagement	Social withdrawal	Mental distraction	4,727c
Male	Mean	3,99	4,19	3,88	3,50	3,44	3,71	2,99	3,14	2,89	2,33
	SD	,79	,87	,77	,87	,82	,90	1,06	1,20	,95	1,07
	N	178	178	178	178	178	178	178	178	178	178
Female	Mean	3,62	4,25	4,15	3,23	3,21	3,60	3,60	3,42	2,65	2,30
	SD	,79	,82	,82	,92	,88	,84	,94	1,06	,96	,91
	N	85	85	85	85	85	85	85	85	85	85



**Figure 1.** The level of first-order coping among male and female adolescents.

**Table 7.** The level of first-order coping in adult males and females.

		Mental imagery	Effort expenditure	Thought control	Seeking support	Relaxation	Logical analysis	Venting of emotion	disengagement	Social withdrawal	Mental distraction
Adult Male	Mean	4,34	4,95	4,35	2,87	3,61	4,19	3,43	4,21	3,25	2,39
	SD	,69	,11	,29	,86	,73	,39	,80	,64	,79	,88
	N	100	100	100	100	100	100	100	100	100	100
Adult Female	Mean	3,90	4,43	4,07	2,79	3,65	3,85	3,83	3,93	2,83	2,46
	SD	,69	,69	,52	,85	,56	,78	,57	,63	1,06	,81
	N	56	56	56	56	56	56	56	56	56	56



**Figure 2.** The level of first-order coping among adult males and females.

**The level of second-order coping in male and female adolescents:**  
 For second-order coping, male adolescent athletes use more task-oriented and distraction coping strategies, whereas female adolescent athletes use more coping strategies oriented towards disengagement (Table 8 and Figure 3).

**The level of second-order coping in adult males and females:**  
 Adult male athletes use more task-oriented and distraction-oriented coping. Whereas adult female athletes are also committed to coping oriented towards disengagement (Table 9 and Figure 4).

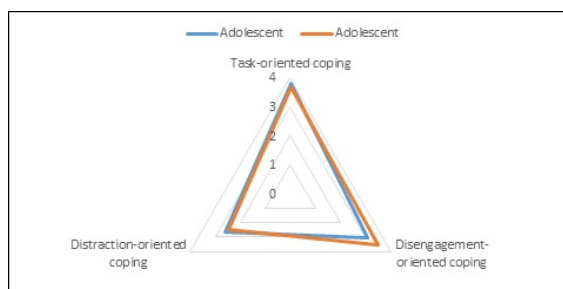
## Discussion

### The effect of age and sex

The MANOVA multiple variance analysis indicates that age has a significant effect on the coping repertory used by Tunisian athletes in a sport team. Our results are corroborated by some studies. The perception of the stressful situation during adolescence is not necessarily the same in adulthood. This may be related to the development of the level of experience

**Table 8.** The level of second order coping in adolescent males and female athletes.

Second order coping	Adolescent					
	Man			Woman		
	Mean	SD	N	Mean	SD	N
Task-oriented coping	3,80	,54	178	3,68	,52	85
Disengagement-oriented coping	3,06	1,04	178	3,50	,85	85
Distraction-oriented coping	2,61	,82	178	2,46	,65	85



**Figure 3.** The level of second order coping in adolescent males and female athletes.

**Table 9.** The level of second-order coping in adult male and female athletes.

Second order coping	Adult					
	Homme			Femme		
	Mean	SD	N	Mean	SD	N
Task-oriented coping	4,05	,20	100	3,78	,36	56
Disengagement-oriented coping	3,82	,46	100	3,88	,48	56
Distraction-oriented coping	2,81	,60	100	2,65	,80	56

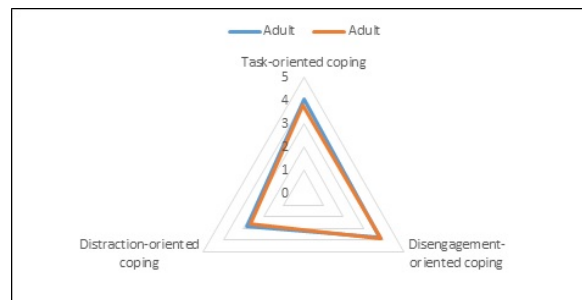


Figure 4. Second-order coping in adult male and female athletes.

and the evolution of the coping repertoire [26].

The framework of temporal dynamics [27], explains the relationship between age and coping strategies [28-30]. Tamminen et al. [2] support the concept that adaptation is a capacity that can evolve with experience and age. On the other hand, the MANOVA multiple variance analysis conducted as part of this study confirms the influence of gender on the coping repertoire among our participants. Our findings are corroborated by several studies, Callahan et al. [31], indicate that numerous studies on coping demonstrate the influence of sex on the choice of adaptation used to overcome the threatening situation.

### The level of coping with age and sex

Our work confirms that female adolescent athletes are using more exit-oriented coping strategies, such as Venting of unpleasant emotions and disengagement. On the other hand, male teen athletes are more oriented towards coping task, such as mental imaging strategies, seeking support, relaxation, logical analysis and social withdrawal. On the other hand, adult female athletes are moving more towards coping focused on disengagement and distraction, such as strategies of evacuating unpleasant emotions and mental distraction. However, male adult athletes are more task-oriented coping, such as effort spending strategies, thought control, logical analysis and mental imaging.

The results revealed by our study are consistent with most studies in the field of sport. Compas et al. [26] and McCormick et al. found that adolescent athletes can better adapt to stressful events. Reeves et al. confirm that the average adolescent athlete benefits more from emotion, but that the early adolescent athlete is more concerned about problem-based strategies. De Boo et al. show that older children are moving more towards cognitive strategies. Kowalski et al. reported that adolescents sometimes opt for avoidance-based adaptation through behavioural and cognitive leakage. On the other hand, Chabrol et al. [31], point out that young people are more focused on emotional strategies.

The increasing age makes it easier to use problem-oriented strategies. Adult athletes manage stress and better control their emotional reactions [32-38]. However, women generally seek social support to cope with stressful situations in sport [1,26,39-42]. In general, some studies show that men and women use different coping strategies [44,45]. However, other research finds no difference between the two sexes [46-48], such as the study by Anshel et al. which indicate that no difference was found in soliciting social support and magical thinking among men and women.

## Conclusion

This study, which examines the repertoire of contextual coping used by Tunisian athletes to collective sport, confirms that age and gender have an influence on adaptation strategies. In addition, our participants use coping strategies randomly and not selectively, which may be consistent with the failure of mental preparation and competitive stress management. Task and distraction-oriented coping strategies dominate the coping repertoire of adolescent Tunisian male athletes. In contrast, adolescent Tunisian female athletes are more likely to use coping strategies geared towards disengagement.

On the other hand, task-oriented and disengagement coping strategies dominate the repertoire of coping among Tunisian adult male athletes. However, female Tunisian adult athletes are more demanding coping strategies oriented towards distraction and disengagement. In the high-level, task-oriented coping strategies are always positively associated with performance, and even to selection in a professional level.

On the other hand, strategies oriented towards disengagement and distraction are negatively associated with performance. Therefore, this study seems useful to understand how the coping process unfolds through age and gender. Moreover, how it manifests itself through the different situations encountered in the context of the collective sport in male and female Tunisian athletes.

## Limits

One of the limitations of this study, on which we focused only on contextual adaptation, and we neglected the dispositional or intra-individual that is directly associated with personality traits and is characterized by its stability. Studies in the sports context have determined the effect of stable personality traits on coping choice.

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