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ORIGINAL

APPROACH TO COPING IN COLOMBIAN ELITE ATHLETES: GENDER, AGE AND SPORT

APROXIMACIÓN AL AFRONTAMIENTO EN DEPORTISTAS DE ÉLITE COLOMBIANOS: SEXO, EDAD Y DEPORTE

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ABSTRACT

The aim of the study was to analyse, using the Spanish version of the ACSQ-1, the use of coping strategies considering gender, age, type of sport and sport modality, as well as the correlations themselves. The sample consisted of 334 Colombian elite athletes (156 men and 178 women) with a mean age of 27 years (M = 27.10, SD = 6.57). The most commonly used strategies were emotional calming and cognitive restructuring, with mental withdrawal being the least used. Men had higher values than women for emotional calm and cognitive restructuring. Younger athletes had higher values than older athletes for mental withdrawal and seeking social support. Paralympic athletes showed higher values than Olympic athletes in emotional calmness and cognitive restructuring, and no differences were found depending on the sport modality. Significant correlations were found between most strategies.

KEY WORDS: coping strategies, coping, sport, high performance.

RESUMEN

El objetivo del estudio fue analizar, empleando la versión española del ACSQ-1, el uso de estrategias de afrontamiento considerando sexo, edad, tipo dedeporte y modalidad deportiva, así como las propias correlaciones. La muestra estuvo compuesta por 334 deportistas de élite colombianos (156 hombres y 178 mujeres) con una media de edad de 27 años (M = 27,10, DE = 6,57). Las estrategias más empleadas fueron la calma emocional y la reestructuración cognitiva, siendo la menos usada el retraimiento mental. Los hombres presentaron mayores valores que las mujeres en calma emocional y reestructuración cognitiva. Los deportistas de menos edad presentaron mayores valores que los de más en retraimiento mental y búsqueda de apoyo social. Los deportistas de modalidades paralímpicas mostraron mayores valores que los de olímpicas en calma emocional y reestructuración cognitiva, no encontrándose diferencias en función de la modalidad deportiva. Se encontraron correlaciones significativas entre la mayor parte de estrategias.

PALABRAS CLAVE: estrategias de afrontamiento, coping, deporte, alto rendimiento.

1. INTRODUCTION

(R. Lazarus & Folkman, 1984) define coping as "those constantly changing cognitive and behavioural efforts that are developed to manage specific external and/or internal demands that are assessed as exceeding or overwhelming the individual's resources". Therefore, coping is seen as a changing process, with the individual at times having to use mainly defensive strategies and at others focused on solving the problem, all of the above as their relationship with the environment changes. Stress coping strategies are an important part of the resources that athletes must develop as they progress in the competition, with stress and other emotional reactions being mediated by the process of cognitive assessment that the individual makes about the situation he or she is facing (Romero Carrasco et al., 2010; Trigueros, Aguilar-Parra, Álvarez, Cangas, & López-Liria, 2020). In this sense, applied sport science research emphasises the need for athletes to be able to cope with situations that interrupt or restrict their performance (Coll, 2021; Doron & Martinent, 2017).

In relation to all of the above, in the late 1980s work began to be carried out on coping in sport, with pioneering studies such as that of(Krohne & Hindel, 1988), whose aim was to analyse trait anxiety, state anxiety and coping behaviour as predictors of sports performance in table tennis players, or that of(Madden, Kirkby, & McDonald, 1989), which focused on coping styles in middle-distance competitive athletes. Thus, after these first steps, considering that emotions play a crucial role in the performance of competitive athletes, since the early 1990s a large number of studies examining coping in sport have begun to be developed (R. S. Lazarus, 2000). In this sense, different systematic reviews, such as the

one conducted by (A. R. Nicholls & Polman, 2007) analysing 64 studies published between 1988 and 2004, or the one conducted by (Pereira, Passos, Pesca, & Cruz, 2020) considering 65 empirical articles published between 2008 and 2017, show the growing interest in the study of coping strategies in sport.

Numerous studies have focused on describing the main coping strategies employed by athletes of very different sports, among which we highlight the following: use of strategies with a cognitive approach when facing professional rugby players with acute sources of stress during competition(Anshel, Jamieson, & Raviv, 2001), coping strategies as predictors of injury occurrence in elite football players (Ivarsson, Johnson, & Podlog, 2013), use of phenomenological interviews with elite decathletes seeking to make them aware of key cues(Dale, 2000), analysis of perceived effectiveness in the use of coping strategies in football players(Catala Meson & Peñacoba Puente, 2019), use of task-oriented coping with athletes from different modalities(Amiot, Gaudreau, & Blanchard, 2004), international wrestlers' use of goal-focused strategies (Gould, Eklund, & Jackson, 1993), time management by national figure skating champions (Gould, Finch, & Jackson, 1993) and emotion-focused or problem-focused coping in cricketers(Holt & Mandigo, 2004).

With regard to the different variables addressed in coping in sport, studies focusing on differences in terms of gender (Chamorro, Torregrosa, Miguel, Oliva, & Alonso, 2015; González & Sandoval, 2015; Kolt, Kirkby, & Lindner, 1995), type of sport (A. R. Nicholls & Polman, 2007; Park, 2000) and age (A. Nicholls, Polman, Morley, & Taylor, 2009) should be highlighted. With regard to the instruments used for the study of coping in sport, the systematic review by (Pereira et al., 2020) identified that of the 65 studies analysed, 37 used instruments specific to the sport context and 28 non-specific ones, which had used instruments to measure the construct of coping in sport with an emphasis on competitive situations. Thus, in this review some of the constructs studied were resilience(I. C. Belem, Caruzzo, Nascimento Junior, Vieira, & Vieira, 2014), stress level(I. Belem, Costa, Both, Passos, & Vieira, 2016), self-determined motivation (de Oliveira et al., 2016) and parental support with self-determined motivation(Vissoci, Nascimento Junior, Oliveira, Vieira, & Vieira, 2013), with all the instruments used presenting good psychometric properties that ensured accuracy and reliability in the respective studies.

In relation to the above, although there are studies that analyse coping in sport integrating age and gender variables (Goyen & Anshel, 1998; A. Nicholls et al., 2009), there are fewer that do so including other variables such as years of practice (Rogowska & Kuśnierz, 2012) or type of sport and level of sport performance (A. R. Nicholls, Polman, Levy, Taylor, & Cobley, 2007).

Thus, the main objective of the present study is to analyse the coping strategies employed by a sample of high-performance Colombian athletes, considering as dependent variables gender (male or female), age (25 years and younger or 26 years and older), sport modality (Olympic or Paralympic), type of sport (individual or collective), and level of academic education (basic studies, vocational training or university education).

2. MATERIAL AND METHODS

2.1. Participants

This study involved 334 Colombian high-performance athletes integrated in the programme "Apoyo al Atleta Excelencia Coldeportes", of the Colombian Ministry of Sport: 27 years of age (M = 27.10, SD = 6.57): 156 men aged 28 (M = 28.10, SD = 6.80) and 178 women aged 26 (M = 26.24, SD = 6.25); 284 from Olympic sports aged 26 (M = 26.16, SD = 5.66); 50 from Paralympic sports aged 32 (M = 32.46, SD = 8.59); 287 in individual sports aged 27 (M = 26.86, SD = 6.45) and 47 in team sports aged 29 (M = 28.74, SD = 7.16); 157 aged 25 and under (M = 21.68, SD = 2.59) and 177 aged 26 and over (M = 31.92, SD = 5.12). This programme aims to promote the country's high-achieving sporting development through technical assistance, applied sports science and psychosocial development for athletes with sporting projection, in order to improve sporting results in Olympic, Paralympic and Deaflympic Cycle Games, and international competitions.

2.2. Instruments

The Spanish version of the Approach to Coping in Sport Questionnaire (ACSQ-1) (M.-S. Kim, Duda, Tomás, & Balaguer, 2003)was used, derived in the first instance from the original ACSQ validated by(M. Kim & Duda, 1997), which had 78 items corresponding to 13 factors and, more specifically, from a later reduced version of 32 items and six factors (M.-S. Kim, Duda, & Ntoumanis, 2003) that showed adequate indicators of construct validity(Carrasco, Campbell, López, Poblete, & García-Mas, 2013).

In the Spanish version of the ACSQ-1 used for the present study, its psychometric properties were examined with a sample of 190 Spanish athletes from different sports, obtaining acceptable indicators of fit by means of Confirmatory Factor Analysis (CFA)(M.-S. Kim, Duda, Tomás, et al., 2003). This questionnaire consists of 28 items and 5 factors as opposed to 32 items and 5 factors(M.-S. Kim, Duda, & Ntoumanis, 2003), with the removal of the religiosity subscale, with the athlete having to choose on a 5-point Likert scale (from 1 "never" to 5 "always") the option that reflects the frequency with which he/she uses certain coping strategies in competitive situations.

The ACSQ-1 in its Spanish version allows the assessment of five coping strategies: emotional calm, cognitive restructuring, mental withdrawal, risk behaviours and seeking social support, having been used to analyse the relationship of different coping strategies with well-being and autonomy in young professional tennis players (Carrasco et al., 2013). On the other hand, the adjustment indicators obtained in a study with a sample of football players who regularly competed in federated football at regional and/or national level (Catala Meson & Peñacoba Puente, 2019) are similar to those observed in heterogeneous samples of athletes, as in the aforementioned study with athletes from very different modalities conducted by(M.-S. Kim, Duda, Tomás, et al., 2003).

2.3. Procedure

Convenience sampling was used, requesting the participation of all Colombian athletes integrated in the programme "Support for Athlete Excellence Coldeportes", of the Ministry of Sport of Colombia, through the Directorate of Positioning and Sports Leadership. Data collection was carried out using an online questionnaire sent to participants through the online platform Google Forms (https://docs.google.com/forms/). The questionnaire was sent to a total of 420 athletes (231 women and 189 men) included in the aforementioned programme, of which a total of 334 (79.52%) completed the questionnaire: 358 from Olympic sports, with 284 (79%) and 62 from Paralympic sports, with 50 (81%).

Prior to participation, the procedure to be followed for completing the questionnaire was explained through the aforementioned platform, and consent was given before the start of the questionnaire, in accordance with the Declaration of Helsinki. All procedures were approved by the Research Ethics Committee of the University of Vigo (Spain) (approval number: 57/2020). First, the athletes gave their informed consent and then completed the following items, which we present here in brief and complete form in Appendix 2: Personal information; Spanish version of the Approach to Coping in Sport Questionnaire, ACSQ-1(M.-S. Kim, Duda, Tomás, et al., 2003).

2.4. Statistical analysis

All statistical analyses were performed with the statistical package SPSS for Social Sciences (SPSS 25 for Windows) (IBM Corporation, Armonk, New York, USA) and the significance level was set at $p < .05$. The analysis of differences in the variables gender (women and men), age (25 years and under or 26 years and over), sport modality (Olympic or Paralympic), and type of sport (individual or team) was performed using Student's t-test for independent samples. The effect size was calculated using Cohen's D. Bivariate correlation analysis was performed using Pearson's correlation coefficient to test the association between the ACSQ-1 factors. The results of our study suggest an adequate level of internal consistency, with Cronbach's Alpha ranges from 633 to .78 (Nunnally, 1978; Sijtsma, 2009), with the value of most of the factors being slightly lower than that obtained in the Spanish validation study of the ACSQ-1 (M.-S. Kim, Duda, Tomás, et al., 2003) and slightly higher in almost all of them than that carried out by (Catala Meson & Peñacoba Puente, 2019)(Table 1).

Table 1. Reliability of coping factors

FACTOR	CRONBACH'S ALPHA	NO. OF ITEMS
Emotional calming	.75	7
Cognitive restructuring	.72	6
Mental withdrawal	.63	6
Risk behaviours	.68	4
Social support	.78	5

3. RESULTS

3.1. Descriptive analysis of the items

Descriptive analyses (sample size, minimum value, maximum value, mean and standard deviation) were carried out for the 5 factors corresponding to the 28 items of the ACSQ-1, with the most used strategy being Emotional Calmness (4.14) and the least used strategy being Mental Withdrawal (1.90) (Table 2).

Table 2. Descriptive of coping factors

FACTOR	N	MIN	MAX	MEAN	TD
Emotional calm	334	2,57	5,00	4,14	,48
Cognitive restructuring	334	2,33	5,00	4,02	,52
Mental withdrawal	334	1,00	4,00	1,90	,48
Risk behaviours	334	1,00	5,00	3,09	,71
Social support	334	1,00	5,00	3,14	,84

3.1. Confrontation gap analysis

With regard to the differences found according to the sex variable (women or men), there are significant differences in the variable "emotional calm" (.001), with men (M = 4.23) having a higher mean than women (M = 4.07). On the other hand, in the variable "cognitive restructuring" (.010), men (M = 4.10) have a higher mean than women (M = 3.96) (Table 3).

Table 3. Differences in coping between women and men

FACTOR	SEX	N	MEAN	TD	T	SIG.	ES
Emotional Calm	Male	156	4,23	,48	3,20	,001**	,17
	Woman	178	4,07	,46			
Coginitive Restructuring	Male	156	4,10	,52	2,60	,010*	,15
	Woman	178	3,96	,51			
Mental withdrawal	Man	156	1,86	,49	-1,22	,223	-,06
	Woman	178	1,92	,48			
Behaviours risk	Man	155	3,11	,71	,40	,691	,03
	Woman	178	3,08	,71			
Social support	Man	156	3,16	,78	,42	,673	,04
	Woman	178	3,12	,88			

*p<0,05, **p<0,01; N: 334

With regard to differences according to the variable age (25 years of age or younger and 26 years of age or older), there are significant differences in the variable "mental withdrawal" (.033), with subjects aged 25 years or younger (M = 1.96) having a higher mean than subjects aged 26 years or older (M = 1.84).

On the other hand, in the variable "seeking social support" (.008), subjects aged 25 years or younger (M = 3.27) have a higher mean than subjects aged 26 years or older (M = 3.02) (Table 4).

Table 4. Differences in coping between athletes aged 25 or younger and those aged 26 or older

FACTOR	AGE	N	MEAN	TD	T	SIG.	ES
Emotional Calm	25 o <	157	4,10	,46	-1,42	,157	-,07
	>25	177	4,18	,49			
Coginitive Restructuring	25 o <	157	3,97	,52	-1,84	,067	-,10
	>25	177	4,07	,51			
Mental withdrawal	25 o <	157	1,96	,48	2,14	,033*	,11
	>25	177	1,84	,48			
Behaviours risk	25 o <	156	3,05	,72	-1,05	,295	-,08
	>25	177	3,13	,70			
Social support	25 o <	157	3,27	,80	2,66	,008**	,24
	>25	177	3,02	,85			

*p<0,05, **p<0,01; *N*: 334

With regard to the differences found in the variable type of sport (Olympic or Paralympic), there are significant differences in the variable "emotional calm" (.003), with Paralympic athletes (M = 4.33) having a higher mean than Olympic athletes (M = 4.11). Also, there are significant differences in the variable "cognitive restructuring" (.001), with Paralympic athletes (M = 4.24) having a higher mean than Olympians (M = 3.98) (Table 5).

Table 5. *Differences in coping between Olympic and Paralympic sport*

FACTOR	SPORTING MODALITY	N	MEAN	TD	T	SIG.	ES
Emotional Calm	Olympic	284	4,11	,48	-3,02	,003**	-,22
	Paralympic	50	4,33	,45			
Coginitive Restructuring	Olympic	284	3,98	,51	-3,28	,001**	-,26
	Paralympic	50	4,24	,51			
Mental withdrawal	Olympic	284	1,91	,48	1,71	,087	,13
	Paralympic	50	1,79	,51			
Behaviours risk	Olympic	283	3,08	,69	-,83	,406	-,09
	Paralympic	50	3,17	,81			
Social support	Olympic	284	3,12	,84	-,90	,371	-,11
	Paralympic	50	3,24	,83			

*p<0,05, **p<0,01; *N*: 334

As for the differences found considering the sport modality variable (individual or group), there are no significant differences in any of the factors (Table 6).

Table 6. Differences in coping between individual and collective sportsmen and sportswomen

FACTOR	TYPE OF SPORT	N	MEAN	TD	T	SIG.	ES
Emotional Calm	Individual	287	4,15	,48	,36	,722	,03
	Collective	47	4,12	,46			
Coginitive Restructuring	Individual	287	4,03	,52	,69	,493	,06
	Collective	47	3,97	,54			
Mental withdrawal	Individual	287	1,89	,48	-,63	,528	-,05
	Collective	47	1,94	,47			
Behaviours risk	Individual	286	3,10	,72	,51	,608	,06
	Collective	47	3,04	,65			
Social support	Individual	287	3,17	,83	1,93	,055	,26
	Collective	47	2.92	.84			

*p<0,05, **p<0,01; *N*: 334

3.2. Correlations between the different coping factors

Table 8 shows the correlations between the five ACSQ-1 factors. All correlations are significant, with the exception of mental withdrawal with risk behaviour and social support. The highest correlations are observed between emotional calmness and cognitive restructuring (0.68), with the rest ranging between 0.17 and 0.30. The only negative correlations are observed between mental withdrawal and emotional calmness and cognitive restructuring.

Table 7. Correlations between factors

VARIABLES		EMOTIONAL CALM	COGINITIVE RESTRUCTURING	MENTAL WITHDRAWAL	BEHAVIOURS RISK	SOCIAL SUPPORT
Emotional Calm	r	1				
	Sig.					
	N	334				
Coginitive Restructuring	r	,68**	1			
	Sig.	,000				
	N	334	334			
Mental withdrawal	r	-,40**	-,25**	1		
	Sig.	,000	,000			
	N	334	334	334		
Behaviours risk	r	,21**	,30**	,07	1	
	Sig.	,000	,000	,200		
	N	333	333	333	333	
Social support	r	,17**	,26**	,06	,21**	1
	Sig.	,002	,000	,277	,000	
	N	334	334	334	333	334

**p<0,05, **p<0,01; N: 334*

4. DISCUSSION

In this research, using the Spanish version of the ACSQ-1, the use of coping strategies was analysed considering gender, age, type of sport and sport modality, as well as the correlations themselves. The following is a discussion of the results by sections, following the same sequence as that used in the presentation of the results.

4.1. Extent of use of different coping strategies

The coping strategies most used in the present study by the Colombian elite athletes were emotional calm (4.14) and cognitive restructuring (4.02), while the least used was mental withdrawal (1.90). These results are in line with those found in the validation of the Spanish version of the ACSQ-1 questionnaire(M.-S. Kim, Duda, Tomás, et al., 2003), also carried out with competitive athletes of very different modalities, with the highest and similar values in emotional calm and cognitive restructuring (3.41) and the lowest in mental withdrawal (1.82). The above results coincide with those of the study conducted by (Catala Meson &

Peñacoba Puente, 2019) with a sample of football players with an average age of 21.2 years who regularly competed in federated football at regional and/or national level, where emotional calm and cognitive restructuring were also the most used coping strategies, both with the same value (3.74), while mental withdrawal was the least (2.01). It should be noted that these similarities between the two studies occurred despite the large differences in age and competitive level of the two samples: elite athletes from different sports with an average age of 27.10 years, compared to regional or national footballers with an average age of 15.29 years. Likewise, these results are in line with those of the study with young competitive tennis players carried out by (Romero Carrasco et al., 2010) in which, likewise, the strategies most used by the study sample were emotional calm (3.81) and the least used was mental withdrawal (1.90). Thus, our study reinforces the idea that, regardless of the age, the level of competition of the athletes or the sporting speciality practised, the most used coping strategies are emotional calm and cognitive restructuring, and the least used is mental withdrawal.

4.2. Gender Differences in Coping

In the present study men show significantly higher values than women on the factors emotional calm and cognitive restructuring. In this sense, previous research has suggested that men use more problem-focused coping and women use more emotion-focused coping (Anshel, Porter, & Quek, 1998; Hammermeister & Burton, 2004), these results being contradictory to those of our study, with a higher frequency of use of emotion-based coping, such as emotional calmness, in women than in men. On the other hand, our results are not in line with those of (Iancheva, 2020) study in which the ACSQ-1 was also used with athletes of very different sports during the COVID-19 pandemic, in which only higher values were found in women than in men in the social support strategy. In this regard, the study by (Kolt et al., 1995) noted gender differences, where adolescent competitive gymnasts were more likely to use social support seeking than male gymnasts to cope with declines in performance levels, clearly in line with studies such as that of (McLeod, Kirkby, & Madden, 1994) where compared to elite male basketball players, female players would be more likely to use social support to cope with performance difficulties. However, the results of other studies are congruent with ours, such as the one conducted by (A. R. Nicholls & Polman, 2007) with 749 athletes of very different modalities, which showed that women used more frequently than men certain problem-focused coping strategies, such as planning, communication and technique-oriented coping. In the same vein, the study conducted by (González & Sandoval, 2015) with a sample of young athletes showed that boys have a higher mean, both in the adequate and inadequate management of coping strategies, than girls, scoring higher also in the coping strategies of self-criticism; social support, cognitive restructuring, problem avoidance and social withdrawal, while girls scored higher in problem solving.

4.3. Differences in coping according to age

In relation to the age variable, the results of our study reflect significantly higher values for athletes aged 25 years or younger in the factors mental

withdrawal and social support seeking than subjects aged 26 years or older. These results are in line with those of other studies in which younger athletes' use of emotion-focused strategies increased with age and their use of mental imagery decreased(A. Nicholls et al., 2009), although in contradiction to others in which these were found to decrease with age (Williams & McGillicuddy-De Lisi, 1999). However, these comparisons must be taken with caution since the latter research was carried out only with samples of adolescent athletes. In relation to the above, it may be useful, as athletes get older, to increase the use of mental imagery, as this strategy has been associated with coping efficacy(A. R. Nicholls, Holt, Polman, & James, 2005).

4.4. Differences in coping according to sporting modality

Paralympic athletes had significantly higher values than Olympic athletes on the factors emotional calm and cognitive restructuring. In this sense, the study conducted by (Pensgaard, Roberts, & Ursin, 1999) with Olympic and Paralympic athletes revealed that both samples used similar types of strategies, except that the Olympians used more positive reinterpretation and growth strategies. In relation to the latter study, the Olympians were therefore more often able to put difficulties into perspective, looking for positive aspects of a bad experience, a result that was not expected by the authors, who understood that athletes who have struggled with a disability would make greater use of this type of strategy.

Likewise, our results, in which Olympic athletes obtain higher values of emotional calm, are in line with those of a study conducted by (Martínez-Patiño, Blas Lopez, Dubois, Vilain, & Fuentes-García, 2021) during the COVID-19 pandemic with Olympic and Paralympic athletes of very different modalities, who found that Paralympians felt more able to cope with personal problems and life events and felt less lonely during confinement than Olympians. This is despite the fact that, as reflected in the study by(Clemente-Suárez, Fuentes-García, de la Vega Marcos, & Martínez Patiño, 2020), Paralympians perceived a greater negative impact on their training and performance from confinement than Olympians.

4.5. Differences in coping according to the type of sport

No significant differences were found in any of the factors according to the sport modality (individual or group). These results are in line with those of the study by (Sepúlveda-Páez, Díaz-Karmelic, & Ferrer-Urbina, 2019) in which they also used the ACSQ-1 with high-performance youth athletes in individual (swimming) and group (water polo) aquatic disciplines, finding no significant differences in any of the coping strategies depending on the type of sport practiced, suggesting the interest of replicating their study with other equivalent individual and group practices, increasing the sample sizes, as was carried out in our work (He, 2020). However, other findings, such as those of (A. R. Nicholls et al., 2007), did show that coping efficacy is influenced by the type of sport played, with individual sports using more emotion-focused coping techniques (e.g., relaxation, guilt and visualisation) than team sports, while team sports players use more communication than individual sports players.

4.6. Correlations between the different coping factors

All correlations between coping strategies were significant, with the exception of mental withdrawal with risk behaviours and social support, the only negative correlations being between mental withdrawal and emotional calm and cognitive restructuring (Bodine & Martinez, 2014). Our results are mostly in line with those of the study conducted with football players by (Catala Meson & Peñacoba Puente, 2019), although in the latter case there were also significant positive correlations between mental withdrawal with risk behaviours and social support. On the other hand, our results coincide with those of the validation of the ACSQ-1 to the Spanish version(M.-S. Kim, Duda, Tomás, et al., 2003), with athletes of very different modalities except that in this work there are no significant correlations, as in our study, between mental withdrawal and cognitive restructuring and emotional calm; and there is no significant correlation, as in our study, between mental withdrawal and social support (Martín, 1997).

5. CONCLUSIONS

The present study provides empirical support on the use of coping strategies by elite athletes, the most used being emotional calmness and cognitive restructuring, and the least used being mental withdrawal. Men had higher values than women for emotional calm and cognitive restructuring, while younger athletes had higher values than older athletes for mental withdrawal and seeking social support. Paralympic athletes showed higher values than Olympic athletes in emotional calmness and cognitive restructuring, with no differences depending on the sport modality. Significant correlations were found between most strategies. Future research should analyse these variables in more depth in an attempt to explain why they influence coping.

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REFERENCES

Amiot, C. E., Gaudreau, P., & Blanchard, C. M. (2004). Self-determination, coping, and goal attainment in sport. *Journal of Sport and Exercise Psychology, 26*(3), 396-411.

Anshel, M. H., Jamieson, J., & Raviv, S. (2001). Cognitive appraisals and coping strategies following acute stress among skilled competitive male and female athletes. *Journal of sport behavior, 24*(2), 128.

Anshel, M. H., Porter, A., & Quek, J.-J. (1998). Coping with acute stress in sport as a function of gender: An exploratory study. *Journal of sport behavior, 21*(4), 363.

Belem, I., Costa, L. C. A. d., Both, J., Passos, P. C. B., & Vieira, J. L. L. (2016). STRESS IN MMA: CAN COPING STRATEGIES IMPROVE THE PERFORMANCE OF FIGHTERS? *Revista Brasileira de Medicina do Esporte, 22*, 287-290.

Belem, I. C., Caruzzo, N. M., Nascimento Junior, J. R. A. d., Vieira, J. L. L., & Vieira, L. F. (2014). Impact of coping strategies on resilience of elite beach volleyball athletes. *Revista Brasileira de Cineantropometria & Desempenho Humano, 16*, 447-455.

Bodine, E. N., & Martinez, M. V. (2014). Optimal genetic augmentation strategies for a threatened species using a continent-island model. *Letters in Biomathematics, 1*(1), 23-39. doi:https://doi.org/10.30707/LiB1.1Bodine

Carrasco, A. E. R., Campbell, R. Z., López, A. L., Poblete, I. L., & García-Mas, A. (2013). Autonomy, coping strategies and psychological well-being in young professional tennis players. *The Spanish journal of psychology, 16*, E75.

Catala Meson, P., & Peñacoba Puente, C. (2019). Perceived effectiveness (vs use) of coping (ACSQ) in soccer players. *Revista Internacional de Medicina y Ciencias de la Actividad Física y el Deporte, 19*(76), 655-672.

Chamorro, J. M. L., Torregrosa, M., Miguel, P. A. S., Oliva, D. S., & Alonso, D. A. (2015). Desafíos en la transición a la élite del fútbol: recursos de afrontamiento en chicos y chicas. *Revista Iberoamericana de Psicología del Ejercicio y el deporte, 10*(1), 113-119.

Clemente-Suárez, V. J., Fuentes-García, J. P., de la Vega Marcos, R., & Martínez Patiño, M. J. (2020). Modulators of the personal and professional threat perception of Olympic athletes in the actual COVID-19 crisis. *Frontiers in psychology*, 1985.

Coll, V. G., Mateos, M. E. y Fernandez, R. D. H. . (2021). Psychological coping strategies of Spanish dance companies. . *Retos-Nuevas Tendencias En Educacion Fisica Deporte Y Recreación*(42), 109-117. Retrieved from <Go to ISI>://WOS:000652581200001

Dale, G. A. (2000). Distractions and coping strategies of elite decathletes during their most memorable performances. *The sport psychologist, 14*(1), 17-41.

de Oliveira, L. P., do Nascimento Junior, J. R. A., Vissoci, J. R. N., Ferreira, L., da Silva, P. N., & Vieira, J. L. L. (2016). Self-determined motivation and coping strategies in football players: A study with players at different stages of athletic development. *Revista de Psicologia del Deporte, 25*(2), 261-269.

Doron, J., & Martinent, G. (2017). Appraisal, coping, emotion, and performance during elite fencing matches: a random coefficient regression model approach. *Scandinavian Journal of Medicine & Science in Sports, 27*(9), 1015-1025.

González, J., & Sandoval, J. (2015). Coping and personality in the adaptation of younger in their sport practice. Gender differences. *Sport Tk-Revista Euroamericana De Ciencias Del Deporte, 4*(1), 57-62.

Gould, D., Eklund, R. C., & Jackson, S. A. (1993). Coping strategies used by US Olympic wrestlers. *Research quarterly for Exercise and Sport, 64*(1), 83-93.

Gould, D., Finch, L. M., & Jackson, S. A. (1993). Coping strategies used by national champion figure skaters. *Research quarterly for Exercise and Sport, 64*(4), 453-468.

Goyen, M. J., & Anshel, M. H. (1998). Sources of acute competitive stress and use of coping strategies as a function of age and gender. *Journal of Applied Developmental Psychology, 19*(3), 469-486.

Hammermeister, J., & Burton, D. (2004). Gender differences in coping with endurance sport stress: Are men from Mars and women from Venus? *Journal of sport behavior, 27*(2), 148.

He, J.-H. (2020). A new proof of the dual optimization problem and its application to the optimal material distribution of SiC/graphene composite. *Reports in Mechanical Engineering, 1*(1), 187-191.

Holt, N. L., & Mandigo, J. L. (2004). Coping with Performance Worries Among Youth Male Cricket Players. *Journal of sport behavior, 27*(1).

Iancheva, T. (2020). Psychological consequences of self-isolation and online education of sports students during a pandemic. *Педагогика, 92*(7s), 152-162.

Ivarsson, A., Johnson, U., & Podlog, L. (2013). Psychological predictors of injury occurrence: a prospective investigation of professional Swedish soccer players. *Journal of sport rehabilitation, 22*(1), 19-26.

Kim, M.-S., Duda, J. L., & Ntoumanis, N. (2003). Examination of the Validity and Reliability of the Korean Approach to Coping in Sport Questionnaire (ACSQ-Korean). *International Journal of Applied Sports Sciences, 15*(1).

Kim, M.-S., Duda, J. L., Tomás, I., & Balaguer, I. (2003). Examination of the psychometric properties of the spanish version of the approach to coping in sport questionnaire. *Revista de Psicologia del Deporte, 12*(2), 197-212.

Kim, M., & Duda, J. (1997). Development of a questionnaire to measure approaches to coping in sport. *Journal of Applied Sport Psychology, 9*, S115.

Kolt, G. S., Kirkby, R. J., & Lindner, H. (1995). Coping processes in competitive gymnasts: gender differences. *Perceptual and motor skills, 81*(3_suppl), 1139-1145.

Krohne, H. W., & Hindel, C. (1988). Trait anxiety, state anxiety, and coping behavior as predictors of athletic performance. *Anxiety Research, 1*(3), 225-234.

Lazarus, R., & Folkman, S. (1984). Estrés y procesos cognitivos. Barcelona, España: Martínez Roca. In.

Lazarus, R. S. (2000). How emotions influence performance in competitive sports. *The sport psychologist, 14*(3), 229-252.

Madden, C. C., Kirkby, R. J., & McDonald, D. (1989). Coping styles of competitive middle distance runners. *International Journal of Sport Psychology*.

Martín, M. D., Jiménez, M. P. y García, E. . (1997). Estudio sobre la escala de estilos y estrategias de afrontamiento (E3A). . *Psicología, 1*(2º), 3º.

Martínez-Patiño, M. J., Blas Lopez, F. J., Dubois, M., Vilain, E., & Fuentes-García, J. P. (2021). Effects of COVID-19 home confinement on behavior, perception of threat, stress and training patterns of olympic and paralympic athletes. *International Journal of Environmental Research and Public Health, 18*(23), 12780.

McLeod, S. L., Kirkby, R. J., & Madden, C. C. (1994). Coping in basketball: Differences according to ability and gender. *European Journal of High Ability, 5*(2), 191-198.

Nicholls, A., Polman, R., Morley, D., & Taylor, N. J. (2009). Coping and coping effectiveness in relation to a competitive sport event: Pubertal status, chronological age, and gender among adolescent athletes. *Journal of Sport and Exercise Psychology, 31*(3), 299-317.

Nicholls, A. R., Holt, N. L., Polman, R. C., & James, D. W. G. (2005). Stress and coping among international adolescent golfers. *Journal of Applied Sport Psychology, 17*(4), 333-340.

Nicholls, A. R., Polman, R., Levy, A. R., Taylor, J., & Cobley, S. (2007). Stressors, coping, and coping effectiveness: Gender, type of sport, and skill differences. *Journal of sports sciences, 25*(13), 1521-1530.

Nicholls, A. R., & Polman, R. C. (2007). Coping in sport: A systematic review. *Journal of sports sciences, 25*(1), 11-31.

Nunnally, J. C. (1978). *Psychometric Theory 2nd ed*: Mcgraw hill book company.

Park, J.-K. (2000). Coping strategies used by Korean national athletes. *The sport psychologist, 14*(1), 63-80.

Pensgaard, A. M., Roberts, G. C., & Ursin, H. (1999). Motivational factors and coping strategies of Norwegian Paralympic and Olympic winter sport athletes. *Adapted Physical Activity Quarterly, 16*(3), 238-250.

Pereira, F. S. A., Passos, M. A., Pesca, A. D., & Cruz, R. M. (2020). Coping measurement in the sports context: A systematic review. *Revista de Psicologia del Deporte, 29*(2), 35-46.

Rogowska, A., & Kuśnierz, C. (2012). Coping of judo competitors in the context of gender, age, years of practice and skill level. *Journal of Applied Sport Psychology, 24*(4), 445-464.

Romero Carrasco, A. E., Zapata Campbel, R., Garcia-Mas, A., Brustad, R. J., Garrido Quiroz, R., & Letelier Lopez, A. (2010). COPING STRATEGIES AND PSYCHOLOGICAL WELL-BEING IN ADOLESCENT COMPETITION TENNIS PLAYERS. *Revista de Psicologia del Deporte, 19*(1), 117-133.

Sepúlveda-Páez, G., Díaz-Karmelic, Y., & Ferrer-Urbina, R. (2019). Pre-competitive anxiety and sports coping strategies, in individual and collective water sports in high level youth athletes. *Límite, 14*, 16.

Sijtsma, K. (2009). On the use, the misuse, and the very limited usefulness of Cronbach's alpha. *psychometrika, 74*, 107-120.

Trigueros, R., Aguilar-Parra, J., Álvarez, J., Cangas, A., & López-Liria, R. (2020). THE EFFECT OF MOTIVATION ON THE RESILIENCE AND ANXIETY OF THE ATHLETE. *Revista Internacional de Medicina y Ciencias de la Actividad Física y del Deporte, 20*(77).

Vissoci, J. R. N., Nascimento Junior, J. R. A. d., Oliveira, L. P. d., Vieira, J. L. L., & Vieira, L. F. (2013). Suporte parental percebido, motivação autodeterminada e habilidades de enfrentamento: validação de um modelo de equações estruturais. *Revista da Educação Física/UEM, 24*, 345-358.

Williams, K., & McGillicuddy-De Lisi, A. (1999). Coping strategies in adolescents. *Journal of applied developmental psychology, 20*(4), 537-549.