

Catalá Mesón, P. y 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 vol. 19 (76) pp. 655-672  
[Http://cdeporte.rediris.es/revista/revista76/artefectividad1083.htm](http://cdeporte.rediris.es/revista/revista76/artefectividad1083.htm)  
DOI: 10.15366/rimcafd2019.76.007

## ORIGINAL

### PERCEIVED EFFECTIVENESS (VS USE) OF COPING (ACSQ) IN SOCCER PLAYERS

### EFFECTIVIDAD PERCIBIDA (VS USO) DEL AFRONTAMIENTO (ACSQ) EN FUTBOLISTAS

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**Código UNESCO / UNESCO code:** 611104 Medida de la Personalidad/  
Personality assessment

**Clasificación Consejo de Europa / Council of Europe classification:** 15  
Psicología del Deporte/ Sport Psychology

**Recibido** 3 de enero de 2018 **Received** January 3, 2018

**Aceptado** 9 de diciembre de 2018 **Accepted** December 9, 2018

## ABSTRACT

This study examined the factorial structure of the Spanish version (Kim, Duda, Tomás and Balaguer, 2003) of the Approach to Coping in Sport Questionnaire (ACSQ-1, Kim, 1999; Kim and Duda, 1997) in 562 soccer players. Additionally, a second aim of this study has been to analyze the psychometric properties of an adapted version of ACSQ designed to assess perception of effectiveness. The results of CFA provided a satisfactory fit for both models, ACSQ-use and ACSQ-effectiveness, showing better indexes for the effectiveness model ( $\chi^2/df = 2.57$ ; CFI = .913; TLI = .904; RMSEA = .058). Moreover, the associations between ACSQ-use, ACSQ-effectiveness and the external variables (anxiety and self-confidence) show the different roles of both criteria, and the need, therefore, to contemplate both indicators in the assessment of coping in sport.

**KEYWORDS:** coping, use, effectiveness, sport, soccer players.

## RESUMEN

Este estudio analiza la estructura factorial de la versión española (Kim, Duda, Tomás y Balaguer, 2003) del Cuestionario de Aproximación al Afrontamiento en el Deporte (Approach to Coping in Sport Questionnaire, ACSQ-1, Kim, 1999; Kim y Duda, 1997) en 562 futbolistas. Adicionalmente, se plantea la validación de una versión adaptada del ACSQ diseñada para valorar la percepción de efectividad. Los resultados del CFA ponen de manifiesto un ajuste satisfactorio para ambos modelos ACSQ-uso y ACSQ-efectividad, observándose mejores indicadores para el modelo de efectividad ( $\chi^2/gf=2.57$ ; CFI= .913; TLI= .904; RMSEA= .058). Por otro lado, las relaciones de las diferentes dimensiones de afrontamiento en su versión uso y en su versión efectividad con las variables externas consideradas (ansiedad y autoconfianza) ponen de manifiesto el diferente papel de ambos criterios, y la necesidad, por lo tanto, de contemplar ambos indicadores en la valoración del coping en el ámbito deportivo.

**PALABRAS CLAVE:** estrategias de afrontamiento, coping, uso, efectividad, deporte, fútbol.

## INTRODUCTION

Research into coping in sport psychology has increased exponentially over the last few decades (Doron, Stephan and Le Scanff, 2013). Since the initial studies conducted by Madden, Kirbkby and McDonald (1989), several authors have focused on the strategies most frequently used by players (Cirimele, 2011; Johnson and Ivarsson, 2011), the differences in use in the different individual and collective sports (Park, 2000), differences by gender (Chamorro, Torregrosa, Sánchez-Miguel, Sánchez-Oliva and Amado, 2015; Kaiseler, Polman and Nichols, 2012), or the association between coping and stress (Flores et al., 2017; Ivarsson, Johnson and Podlog, 2013; Kristiansen, Murphy and Roberts, 2012) and resilience (Aranzana et al., 2016; García, Molinero, Ruiz, Salguero, Vega and Márquez, 2014).

Therefore, it is of no surprise that, within this increasing interest regarding coping in sports, there has been a wide use of different measures, with many of them being adaptations of instruments designed for general population such as the Ways of Coping Questionnaire (WOCQ; Folkman and Lazarus, 1985) or the COPE Inventory (Carver, Scheier and Weintraub, 1989), or sporting adaptations such as the Ways of Coping for Sport (WOCS; Madden et al., 1989) and the Modified Ways of Coping Questionnaire (MWOCQ; Crocker, 1992) based on the WOCQ or the Modified-COPE (MCOPER; Crocker and Graham, 1995) based on the COPE Inventory.

Nevertheless, the concept of coping as a process and the need to take into account the variables specific to each situation (Frydenberg and Lewis, 1994; Sellers, 1995), has led to the creation of specific questionnaires for sports, such

as the Athletic Coping Skill Inventory-28 (ACSI-28; Smith, Schultz, Smoll and Ptacek, 1995) or the Inventaire des Strategies de Coping en Competition Sportive (ISCCS; Gaudreau and Blondin, 2002) among others. In this context, Kim and Duda (1997) designed the Approach to Coping in Sport Questionnaire (ACSQ). Initially, there were 78 items that conceptually encompassed thirteen dimensions of coping (Kim and Duda, 1997), it underwent the appropriate validation process in Korea (Kim and Duda, 1997) and later in The USA (Kim, 1999). Nevertheless, the low consistency of some of the dimensions and the results from the new exploratory factorial analyses showed a structure of six coping strategies (cognitive restructuring, emotional calming, mental withdrawal, social support seeking, behavioral risk and turning to religion). Based on this factorial structure, a reduced version of the ACSQ (32 items) was then applied to a sample of Korean athletes (Kim, Duda and Ntoumanis, 2003); this study replicated the six factor structure and showed adequate construct validity. Kim, Duda, Tomás and Balaguer (2003) examined the psychometric properties of the Spanish version of the ACSQ in a sample of 190 athletes, and by means of a CFA obtained acceptable adjustment indicators. Nevertheless, the Spanish validation used 28 items, and assessed only 5 of the six dimensions (cognitive restructuring, emotional calming, mental withdrawal, social support seeking and behavioral risk), this was due to the resistance shown by the sample regarding the application of the turning to religion subscale, therefore it was excluded. The ACSQ has been used to analyze the associations between different coping strategies with wellbeing and autonomy (Romero, Zapata, Letelier, López and García-Mas, 2013), as well as with the satisfaction, enjoyment and persistence in sport (Kim, 1999).

An especially relevant finding in the literature about coping in sport has been that there is a need to distinguish between use of certain strategies and their perceived effectiveness. This fact was pointed out by Márquez (2006) who suggested that an important limitation of the different instruments used for coping in sport is that they focus only on the 'use', and completely disregard the 'effectiveness'. Thus, for athletes, using a strategy does not guarantee that it will be effective. The aim of an effective strategy is to minimize certain types of cognitions and to reduce the amount of self-oriented thoughts, at least in situations that require a quick physical response. Also, the thoughts can be considered unadaptive for the players' wellbeing (Márquez, 2006). In any case, because the failure in triggering the correct response to stress often means there is a worsening of the ability to execute or even the abandonment of the sport, it is evident that athletes that participate in competitive sports need to use effective psychological skills and coping strategies to be able to satisfy their expectations and improve their performance (Romero et al., 2013).

Although no specific studies are known about the differentiation between the use and perceived effectiveness of coping strategies in sport, in general, different results have been found for the different strategies. Thus, the literature has shown that in this specific context the most frequently used strategies are positive reappraisal, social support, increase in effort, focusing on aims, action, planning, communication and problem solving (Giacobbi, Lynn, Wetherington, Jerkins, Bodenforf and Langley, 2004; Holt and Hogg, 2002; Kim, Duda, Tomás y Balaguer, 2003). Nevertheless, the few studies that have been carried out

about perceived effectiveness suggest that emotional calming, active planning or behavioral risk are the most effective strategies (Romero et al., 2013).

To the best of our knowledge, in spite of the interest in understanding the indicators both of use and of perceived effectiveness in coping strategies in sport, there are no studies analyzing the differentiating aspects of both criteria; this could be because there is also a lack of specific instruments to measure perceived effectiveness of coping in sports. As an exception, and precisely using the ACSQ, Romero, Zapata, Gracia-Mas, Brustad, Garrido and Letelier (2010) analyzed the possible differentiating effect of perceived effectiveness, adding to the Spanish version of the ACSQ a specific item for its measure in each of the subscales.

In this context, the current study has two main aims. In first place, and due to the fact that the only validation of the Spanish version of the ACSQ was carried out in athletes in general, one of our aims has been to validate its factorial structure in a Spanish sample of soccer players. Secondly, in response to the criticism by Márquez (2006) and to that first approximation by Romero et al. (2010), we have also wanted to carry out a comparative analysis of the factorial structure of the original Spanish version of the ACSQ ('use') and of an adaptation that uses the criterion for perceived effectiveness (ACSQ-effectiveness).

## **MATERIAL AND METHODS**

### **PARTICIPANTS**

A sample of 562 soccer players, all male, belonging to six teams from the Community of Madrid participated. The mean age was 15,29 years old (S.D.= 1,86, CI [12-19 years]). All participants train between two and three times a week and regularly compete in federative soccer at a regional or national level. The distribution of participants in the categories were as follows: "infantile" (28,3%, n=159), "cadet" (32,7%, n=184) and "juvenile" (39%, n=219).

### **INSTRUMENTS**

Coping strategies in sport: The Approach to Coping in Sport Questionnaire was used (ACSQ-1) in its Spanish version (Kim, Duda, Tomás and Balaguer, 2003). The questionnaire is made up by 28 items that the athlete must answer on a 5 point Likert type scale (ranging from 1 'never' to 5 'always'), answers indicated the frequency of use of certain coping strategies during competitions. The instrument allows for the assessment of five coping strategies: emotional calming, cognitive restructuring, mental withdrawal, risk behavior and social support seeking.

To study the perceived effectiveness of the use of coping strategies, an additional column where the players had to indicate the effectiveness was added to each of the 28 items from the original Spanish version of the ACSQ-1 (above described), these also used a 5 point Likert type scale (from 1 'not at all

effective' to 5 'very effective'). Therefore, the adaptation yields a measure of 'use' and of 'perceived effectiveness' for each item.

Competition anxiety. The Competitive State Anxiety Inventory 2 was used (CSAI-2; Martens, Burton, Vealey, Bump and Smith, 1990) in its Spanish version by Capdevila (1997). This questionnaire assesses the cognitive and somatic components of state anxiety and self-confidence in relation to sporting performance during competitions. It is made up by 27 items, using a Likert type scale of 4 points (from 1 'nothing' to 4 'a lot'). The Cronbach alpha values in our sample for the different dimensions were as follows: somatic anxiety (0,82), cognitive anxiety (0,76) and self-confidence (0,82).

## **PROCEDURE**

A convenience sample was obtained by requesting the participation of six clubs within the Community of Madrid. These clubs were known by the research team by different means, either because the researchers were participating as psychologists for the team or because they were part of a research-teaching program between the University and the club. Through the sport coordinators of the clubs, the trainers and parents were informed, and the latter gave consent to use the self-report questionnaires. These were given to the children and adolescents by one of the researchers before the beginning of training so as to avoid fatigue and/or possible emotional responses (i.e. after a good or bad training session). A total of 620 questionnaires were handed out, of which 562 were returned and were fully completed (return rate of 90.64%).

## **STATISTICAL ANALYSIS**

Data analyses were carried out using either the Mplus 6,0 (Muhten and Muthen, 1998-2010) or the SPSS for Social Sciences (SPSS 21) (Armonk, Nueva York, EE.UU.). To calculate descriptives, internal consistency and the associations between the dimensions of the ACSQ and the external variables (competition anxiety) we used the SPSS, whilst the analysis of the internal structure of the questionnaire was carried out using the Mplus 6.0. The statistics and the adjustment criteria used are explained fully in each corresponding results section.

## **RESULTS**

### **DESCRIPTIVE ANALYSIS OF THE ITEMS**

Descriptive analyses were carried out (mean, standard deviation, asymmetry and kurtosis) for the 56 items: 28 'use' items (Table 1) and 28 'perceived effectiveness' items (Table 2). Following the recommendations by Bollen and Log (1994), it can be seen that the asymmetry and kurtosis indexes are close to zero and below 2, which would indicate a normal curve. Therefore, we proceeded to use factorial techniques of maximum likelihood in the confirmatory factorial analysis.

**Table 1.** Descriptives and factorial weights of the ACSQ-Use items

Factor	Item	Mean	SD	Asym.	Kurt.	Weight
EC	I imagined myself doing the right technique	3,87	1,10	-0,92	0,19	0,50
EC	I imagined myself handling the situation better	3,73	1,11	-0,67	-0,21	0,60
EC	I tried to block the negative thoughts	3,77	1,20	-0,65	-0,68	0,59
EC	I remained calm and focused on what I was doing	3,80	1,08	-0,76	0,00	0,60
EC	I stayed emotionally positive to counteract the problems that my negative thoughts were causing	3,59	1,13	-0,60	-0,28	0,59
EC	I kept my mind on the important aspects of my task	3,77	1,03	-0,72	0,01	0,67
EC	I took some deep breaths to relax	3,64	1,19	-0,55	-0,59	0,41
CR	I tried to find something good in what had happened	3,71	1,07	-0,54	-0,25	0,57
CR	I did what I had to, one thing at a time	3,58	1,13	-0,52	-0,40	0,42
CR	I considered the situation as a chance to learn	3,95	1,04	-0,82	0,12	0,62
CR	I thought about the best way to manage the problem	3,75	1,03	-0,58	-0,26	0,63
CR	I deeply considered what to do next	3,64	1,05	-0,59	-0,11	0,59
CR	I thought of new aims for that situation	3,84	1,01	-0,74	0,17	0,48
MW	I thought there was nothing to be done and accepted it	2,20	1,20	0,61	-0,62	0,43
MW	I stopped working on my weak points (I gave up)	1,66	1,14	1,58	1,24	0,76
MW	I gave up on achieving my aims	1,69	1,15	1,51	1,04	0,83
MW	I accepted my feelings and realized that the situation couldn't be changed	2,53	1,34	0,33	-1,11	0,59
MW	I stopped trying to reach my goal	1,70	1,23	1,57	1,04	0,78
MW	I realized that I couldn't do anything about what was happening	2,30	1,28	0,57	-0,82	0,54
BR	I used more complex techniques to face the situation	3,36	1,01	-0,25	-0,37	0,54
BR	I tried to use more complex skills and techniques to face the situation	3,44	1,12	-0,46	-0,42	0,70
BR	I tried to use skills, strategies and techniques that I had hardly practiced before	3,07	1,23	-0,04	-0,95	0,59



BR	I constantly changed from one technique to another	2,69	1,23	0,26	-0,88	0,36
SSS	If my parents were at the game, I spoke to them about how I felt	2,90	1,47	0,05	-1,37	0,40
SSS	I asked the trainer for advice on how to handle the situation	3,12	1,27	-0,21	-0,93	0,60
SSS	I told my trainer how I was feeling to gain their understanding	2,66	1,31	0,19	-1,11	0,72
SSS	I sought emotional support from my trainer or team mates	2,78	1,26	0,07	-1,01	0,64
SSS	I spoke to someone (trainer, team mates or parent) that could do something specific about the problem	3,14	1,21	-0,18	-0,82	0,68

EC: Emotional calming; CR: Cognitive restructuring; MW: mental withdrawal; BR: behavioral risk; SSS: Social support seeking

Table 2. Descriptives and factorial weights of the ACSQ-effectiveness items

Factor	Item	Mean	SD	Asym,	Kurt,	Weight
EC	I imagined myself doing the right technique	3,69	1,09	-0,54	-0,39	0,53
EC	I imagined myself handling the situation better	3,61	1,08	-0,32	-0,74	0,69
EC	I tried to block the negative thoughts	3,83	1,14	-0,74	-0,35	0,62
EC	I remained calm and focused on what I was doing	3,98	1,08	-0,99	0,38	0,62
EC	I stayed emotionally positive to counteract the problems that my negative thoughts were causing	3,80	1,08	-0,68	-0,16	0,63
EC	I kept my mind on the important aspects of my task	3,87	1,06	-0,70	-0,31	0,68
EC	I took some deep breaths to relax	3,93	1,15	-0,91	-0,06	0,48
CR	I tried to find something good in what had happened	3,71	1,06	-0,54	-0,25	0,60
CR	I did what I had to, one thing at a time	3,58	1,13	-0,53	-0,40	0,56
CR	I considered the situation as a chance to learn	3,95	1,04	-0,82	0,12	0,62
CR	I thought about the best way to manage the problem	3,81	1,05	-0,73	-0,03	0,63
CR	I deeply considered what to do next	3,75	1,09	-0,70	-0,12	0,62
CR	I thought of new aims for that situation	3,93	1,02	-0,77	0,08	0,61



MW	I thought there was nothing to be done and accepted it	3,07	1,44	-0,15	-1,28	0,58
MW	I stopped working on my weak points (I gave up)	3,21	1,65	-0,25	-1,59	0,78
MW	I gave up on achieving my aims	3,08	1,67	-0,13	-1,64	0,83
MW	I accepted my feelings and realized that the situation couldn't be changed	3,12	1,39	-0,15	-1,19	0,67
MW	I stopped trying to reach my goal	3,15	1,74	-0,17	-1,72	0,87
MW	I realized that I couldn't do anything about what was happening	2,99	1,44	-0,06	-1,33	0,67
BR	I used more complex techniques to face the situation	3,45	1,00	-0,16	-0,48	0,49
BR	I tried to use more complex skills and techniques to face the situation	3,48	1,11	-0,40	-0,50	0,67
BR	I tried to use skills, strategies and techniques that I had hardly practiced before	3,33	1,25	-0,28	-0,92	0,52
BR	I constantly changed from one technique to another	3,10	1,29	-0,06	-1,08	0,53
SSS	If my parents were at the game, I spoke to them about how I felt	3,31	1,35	-0,32	-1,23	0,44
SSS	I asked the trainer for advice on how to handle the situation	3,58	1,25	-0,63	-0,55	0,64
SSS	I told my trainer how I was feeling to gain their understanding	3,12	1,34	-0,22	-1,09	0,63
SSS	I sought emotional support from my trainer or team mates	3,31	1,37	-0,37	-1,05	0,66
SSS	I spoke to someone (trainer, team mates or parent) that could do something specific about the problem	3,46	1,24	-0,51	-0,66	0,76

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EC: Emotional calming; CR: Cognitive restructuring; MW: mental withdrawal; BR: behavioral risk; SSS: Social support seeking

## CONFIRMATORY FACTORIAL ANALYSIS

To study the internal structure we performed a confirmatory factorial analysis. Because of the data's ordinal nature, we chose the Weighted Least Squares Mean and Variance Adjusted (WLSMV) as estimate. Due to the scarcity of missing values, it was considered that it would be acceptable to treat them using the technique of elimination by pairs (Graham, 2009; Muthén and Muthén, 1998-2010). For this analysis we used the original data matrix to corroborate the following models, for each version of the ACSQ (ACSQ-use, ACSQ-effectiveness).

The following were used as adjustment indicators: chi-square/degrees of freedom ratio ( $\chi^2/df$ ; Wheaton, Muthén, Alwin and Summers, 1977), Comparative Fit Index (CFI; Bentler, 1990), Tucker-Lewis Index (TLI; Bentler and Bonett, 1980) and Root Mean Square Error of Approximation (RMSEA; Steiger and Lind, 1980). It is generally accepted that the incremental adjustment indexes should be above .90 with RMSEA values below .08 (Hu and Bentler, 1995). The results showed a better fit for the effectiveness model ( $\chi^2/df= 2,57$ ; CFI= 0,913; TLI= 0,904; RMSEA= 0,058) in comparison to the use model ( $\chi^2/df= 2,76$ ; CFI= 0,889; TLI= 0,879; RMSEA= 0,059).

### CORRELATIONS BETWEEN SCALES

Table 3 shows the correlations between the ten dimensions of the ACSQ (both for use and effectiveness). The correlations between use and effectiveness for each strategy show interesting and varying results. These correlations are positive and significant in every case, ranging between 0,60 and 0,70 for three of the strategies (emotional calming, cognitive restructuring and social support seeking), being lower for risk behavior (0,49). The correlations for use and effectiveness are very weak for mental withdrawal (0,12).

**Table 3.** Correlations between ACSQ-use and ACSQ-effectiveness factors

Factor	2	3	4	5	6	7	8	9	10
1.Use emotional calming	0,69**	- 0,19**	0,27**	0,25**	0,65**	0,55**	0,10*	0,30**	0,28**
2.Use cognitive restructuring		- 0,13**	0,29**	0,26**	0,55**	0,69**	0,13**	0,41**	0,29**
3.Use mental withdrawal			0,26**	0,25**	- 0,28**	- 0,26**	0,12**	0,07	0,02
4. Use risk behaviors				0,30**	0,14**	0,20**	0,06	0,49**	0,21**
5.Use social support seeking					0,13**	0,16**	0,09*	0,15**	0,61**
6.Effectiveness emotional calm						0,73**	0,19**	0,41**	0,39**
7. Effectiveness cognitive restructuring							0,21**	0,49**	0,43**
8. Effectiveness mental withdrawal								0,41**	0,34**
9. Effectiveness risk behaviors									0,36**

10. Effectiveness  
social support  
seeking

p<0,05, \*\*p<0,01

In relation to the use of the different coping strategies, all the correlations were significant and mostly positive. The strongest correlations were for emotional calming and cognitive restructuring (0,69), the rest ranged between 0,25 and 0,30. The only negative correlations were found between mental withdrawal and emotional calming and cognitive restructuring.

Regarding the perception of effectiveness, positive and significant correlations were found for all strategies, with the strongest correlations being found for emotional calming and cognitive restructuring (0,73) and the lowest for mental withdrawal and emotional calming (0,19) and cognitive restructuring (0,21).

## DESCRIPTIVES AND INTERNAL CONSISTENCY OF THE SCALES

As can be seen in Table 4, the scores for the ACSQ are very similar (ranging between 3 and 4), and in general, the scores for effectiveness are higher than for use. The lowest scores are for use of mental withdrawal; this strategy also receives the lowest scores regarding perception of effectiveness. The highest scores both for use and effectiveness are for emotional calming and cognitive restructuring.

**Table 4.** Descriptives, internal consistency and correlations between the ACSQ-use and ACSQ-effectiveness with anxiety and self-confidence

Factor	Mean	SD	alpha	Range	Asym	V1	V2	V3
1.Use emotional calming	3,74	0,68	0,71	1-5	-0,37	-0,06	0,00	0,29**
2.Use cognitive restructuring	3,74	0,65	0,67	1-5	-0,35	-0,06	-0,01	0,26**
3.Use mental withdrawal	2,01	0,80	0,73	1-4,5	0,76	0,20**	0,21**	-0,15**
4. Use risk behaviors	3,14	0,76	0,57	1-5	-0,07	0,04	0,11*	0,07
5.Use social support seeking	2,92	0,86	0,70	1-5	-0,11	0,19**	0,14**	0,09*
6.Effectiveness emotional calm	3,82	0,70	0,76	1-5	-0,52	-0,10*	-0,10*	0,27**
7. Effectiveness cognitive restructuring	3,80	0,71	0,74	1-5	-0,54	-0,10*	-0,10*	0,27**
8. Effectiveness mental withdrawal	3,09	1,14	0,82	1-5	-0,18	0,03	0,01	0,10*
9. Effectiveness risk behaviors	3,34	0,77	0,57	1-5	-0,11	-0,04	0,03	0,18**
10. Effectiveness social support seeking	3,36	0,89	0,71	1-5	-0,28	0,05	0,01	0,15**

\* p<0,05, \*\*p<0,01; V1: somatic anxiety; V2: cognitive anxiety; V3: self-confidence

In relation to the internal consistency of the scale, most values ranged between 0,70 and 0,80, with the lowest scores being for risk behaviors (both for use and effectiveness,  $\alpha=0,57$ ).

## **EXTERNAL VALIDITY OF THE SCALE**

To obtain the external validity indicators for the ACSQ-use and the ACSQ-effectiveness we proceeded to carry out Pearson correlations between the different scales of both questionnaires and the variables of cognitive anxiety, somatic anxiety and self-confidence (see Table 4).

With regards to the use of the strategies, positive correlations were found between mental withdrawal and social support seeking both with somatic and cognitive anxiety. Furthermore, the use of risk behaviors also correlated positively with cognitive anxiety. Self-confidence correlated positively with emotional calming strategies, cognitive restructuring and social support seeking, and negatively with mental withdrawal.

In relation to perception of effectiveness, negative correlations were found both with emotional calming and cognitive restructuring with both somatic and cognitive anxiety. Self-confidence maintained positive and significant correlations with all dimensions of the ACSQ-effectiveness, with lowest scores for mental withdrawal and highest for emotional calming and cognitive restructuring.

## **DISCUSSION**

The current study aimed to confirm the factorial structure of the ACSQ in a sample of Spanish soccer players, and to additionally assess the possible differential behavior (both in relation to the factorial structure and external validity) of the two possible versions of the questionnaire: the traditional 'use' version and the 'perception of effectiveness' version, which was specifically designed for this study.

In relation to the traditional version, which is focused on the 'use' of different coping strategies, due to the lack of previous studies, it was considered to be of interest to validate the factorial structure of the ACSQ in a sample of specific athletes, in this case soccer players. This decision is relevant because since the conception of coping as a process, the use (and also the perception of effectiveness) of coping has been subject to great heterogeneity, due to the personal, contextual and relational differences with the perception of the level of threat (Frydenberg and Lewis, 1994; Sellers, 1995). If we consider the contextual variables, different studies have shown an interest in analyzing the psychological variables in soccer players due to their differentiating characteristics in comparison to other collective competitive sports (Laurin, Nicolas, and Lacassagne, 2008; Readdy, Raabe, and Harding, 2014).

The ACSQ in its 'use' version behaves similarly to what has been found in other heterogeneous athlete samples (Kim, Duda, Tomás and Balaguer, 2003). The adjustment indicators found with the sample here presented ( $\chi^2/df= 2,76$ ; CFI= 0,889; TLI= 0,879; RMSEA= 0,059) are very similar to, although slightly lower, than the ones found by Kim, Duda, Tomás and Balaguer (2003) (CFI = 0,90, TLI = 0,88, RMSEA = 0,048 and SRMR = 0,068). To explain these differences, it is important to be reminded that the adjustment indicators for the Kim et al. (2003) study were obtained after re-adjusting the original model, as it was not satisfactory, including the co-variance of some of the items in several factors. The indexes for internal consistency are also similar to the ones found by Kim, Duda, Tomás and Balaguer (2003) in a Spanish sample of heterogeneous athletes (between 0,70 and 0,80). The low internal consistency of risk behaviors should be pointed out, as this is consistent with the findings by Kim, Duda, Tomás and Balaguer (2003). Nevertheless, the low reliability of this dimension was not found in samples from the USA or from Korea (Kim, Duda and Ntoumanis, 2003).

In relation to the external validity of the 'use' of the different coping strategies, positive correlations were found for mental withdrawal, social support seeking and the use of risk behaviors with anxiety (somatic and/or cognitive), this was also found by Kim, Duda, Tomás and Balaguer (2003). An interesting find has been that there is a differentiating role of the coping strategies depending on if the result variable is linked to a disorder (anxiety, stress) or to health (self-confidence, psychological wellbeing). The data here presented shows that whilst risk behaviors and social support seeking are associated to higher degrees of anxiety, the use of emotional calming and cognitive restructuring are more associated to higher levels of self-confidence. The use of mental withdrawal seems to play a mixed role, as it contributes equally to increasing anxiety levels and to lower levels of self-confidence. Although the fact that psychological health determinants aren't the same than the illness determinants is well-known (Gantt, 2016), this is something that has largely been ignored. In the world of sports, and with the use of the ACSQ, our data are coherent with what has been found previously in studies which have positively associated self-confidence, autonomy and wellbeing with the use of emotional calming and cognitive restructuring (Pinto and Vázquez, 2013; Romero et al., 2013).

Similarly to what Kim, Duda, Tomás and Balaguer (2003) found in Spanish, Koran and USA samples, we found that the higher scores for use were for emotional calming and cognitive restructuring. Romero et al. (2010), in a sample of tennis players, found that emotional calming was the most frequently used strategy. Nevertheless, if we take into consideration the particular Spanish sample used by Kim, Duda, Tomás and Balaguer (2003), differences can be found in comparison to the one here presented of soccer players in relation to the use of the remaining strategies. In particular, Kim, Duda, Tomás and Balaguer (2003) found considerably higher scores for social support seeking and lower scores for risk behaviors. The soccer players here sampled showed higher scores for risk behaviors, even higher than for social support seeking. Soccer has a technical-tactical, physical, psychological and social order that makes it organized and therefore favors rational and logical decisions. Furthermore, it possesses a dynamic balance, as it tries to maintain a certain

organization and efficacy within limits. When one of the elements is broken, it does not affect that element exclusively as it affects the performance of the whole system (Arruiz, 2009). In this sense, and although publications on this are lacking, it is considered that there are players who in the face of being able to show off their talent will use techniques or skills that they have hardly ever practiced before or that are considered to be more complex. This is thought to be done to benefit the rest of the team and to show their social setting what they are capable of, which will in turn increase their own self-concept. Although more research is needed in this regard, in any case, this differential data found here in comparison to other athletes, suggests the need to pay more attention to personal and situational factors to be able to understand the coping processes in sport (Kim, 1999).

In relation to the 'perception of effectiveness' of the strategies, it was found that the factorial structure of the ACSQ-effectiveness replicates the factorial structure of the five dimensions, with adjustment indicators that are even better than for the traditional ACSQ-use version. Internal consistency of the different coping strategies was also greater than the one found for 'use' (except for risk behaviors, which had the same low alpha values). The scores for effectiveness on all dimensions were very homogeneous and considerably higher, with the highest being for emotional calming and cognitive restructuring, and the lowest for emotional withdrawal. In relation to the external variables, negative correlations were found between emotional calming and cognitive restructuring with anxiety; whilst 'perception of effectiveness' in all the dimensions correlated positively with self-confidence.

In spite of the thoughts by Márquez (2006) in relation to the need to include perception of effectiveness as an essential part of the assessment of coping, to the best of our knowledge, this has been ignored in the world of sport. In the study by Romero et al. (2010) they suggest that emotional calming and cognitive restructuring to be the most effective strategies for tennis players in relation to competitive performance. Following this study, we hoped to validate the factorial structure of the ACSQ-effectiveness version, and we have been able to find very satisfying adjustment indicators, even better than the ones for the ACSQ-use, showing therefore that the use and perception of efficacy are differentiating criteria for coping. As proof we have the moderate correlations found between each strategy for both use and effectiveness. The highest were found for, as expected, the adaptive strategies (as is the case of emotional calming and cognitive restructuring), whilst the lowest were for mental withdrawal. It would seem, therefore, that in the case of the less adaptive strategies, players are able to differentiate that even if they are using a certain one, it may not necessarily be effective.

Also, it is important to highlight that if a soccer player perceives a strategy to be effective, independently of whether it is adaptive or not, it will contribute to self-confidence. Nevertheless, only perception of effectiveness in the adaptive ones (emotional calming and cognitive restructuring) contributes to decreasing anxiety levels.



The current study has several limitations. In first place, the validation was carried out on a sample that, in spite of being numerous enough in comparison to previous studies, has some limitations in relation to the geographical area and gender, that can affect the generalizability of the results. Another limitation is the low internal consistency indexes found for risk behaviors (both for use and effectiveness), although this was also found in the validation of the original Spanish version (Kim, Duda, Tomás and Balaguer, 2003). Finally, we should point out that because it is a correlational study no cause-effect relations can be inferred.

## CONCLUSIONS

The current study offers support for the factorial structure of the ACSQ-use in a sample of Spanish soccer players. Furthermore, to the best of our knowledge, it is the first study to validate the same structure for the ASCQ using the 'perception of effectiveness' criterion. The results show a higher congruence between use and effectiveness in the adaptive strategies (emotional calming and cognitive restructuring). Furthermore, perceived effectiveness (as opposed to use) of coping strategies, whether adaptive or not, is associated significantly to the players' self-confidence.

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