

# Can performance indicators and skydiving experience prognosticate competitive state anxiety in elite paratroopers?

FRANCISCO JOSÉ BORREGO-BALSALOBRE<sup>1</sup> ✉, FRANCISCO JOSÉ ORTÍN-MONTERO<sup>2</sup>, FÉLIX ZURITA-ORTEGA<sup>3</sup>, ARTURO DÍAZ-SUÁREZ<sup>1</sup>, VICENTE MORALES-BAÑOS<sup>1</sup>

<sup>1</sup>Department of Physical Activity. Faculty of Sport Sciences. University of Murcia. San Javier Campus, Spain.

<sup>2</sup>Department of Basic Psychology and Methodology. Faculty of Psychology. University of Murcia. Espinardo Campus, Spain.

<sup>3</sup>Department of Didactics of Musical, Plastic and Corporal Expression. Faculty of Education Sciences. University of Granada. Cartuja Campus, Spain.

## ABSTRACT

Competition has characteristics that position sport as a fruitful field for the study of human affective processes of interest for psychology, such as anxiety, especially in disciplines such as military parachuting due to its uniqueness. This study aimed to analyse the validity of the Spanish version of the CSAI-2R inventory through a reliable model and to determine the interrelation, both among themselves and with anxiety, of certain specific technical variables related to sports performance in parachuting. The questionnaire was supplied to 42 jumpers in the Spanish National Military Championship. The results indicate that a reliable model has been established, but it is necessary to realise a multivariate relationship between components of competitive anxiety and specific variables of military skydiver's sporting experience in competition. It would be appropriate to reflect on what other psychological and technical variables may influence the sporting performance achieved, because it is a modality that has very particular conditions compared to the rest, not only because of the space, environment and form where and how the activity itself is carried out but also because of the context in which it is framed, as a result of the peculiarities that define the group to which the competitors belong.

**Keywords:** Sport performance, Parachuting skills, Psychological state, Competitive anxiety, Elite jumpers.

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✉ **Corresponding author.** University of Murcia, Faculty of Sport Sciences, Av. Argentina, 19, 30720, San Javier, Spain. <https://orcid.org/0000-0002-9721-7315>

E-mail: [franborrego@um.es](mailto:franborrego@um.es)

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## INTRODUCTION

Anxiety in high-performance athletes covers a great deal of space in the literature on sports psychology. A large number of failures in the competition is a consequence of poor anxiety management (Angosto et al., 2021; Hammermeister & Burton, 2001; Jokela & Hanin, 1999; Rocha & Osorio, 2018).

But to define anxiety correctly, the difference between anxiety as an emotional state and anxiety as a personality trait must be taken into account. The former is an immediate emotional state that changes over time and is characterised by a unique combination of tension, worry, discomfort and nervousness, coupled with physiological changes. By itself, trait anxiety refers to relatively stable individual differences in subject anxiety (Forrest et al., 2021). Unlike state anxiety, trait anxiety is not directly manifested in behaviour and must be inferred from how frequent an individual experiences an increase in state anxiety. In this sense, individuals with high levels of trait anxiety perceive a wider range of situations as threatening and are more likely to experience state anxiety more frequently or with greater intensity. High state anxiety levels are considered very disturbing, so if a person cannot avoid the stress it causes, he or she activates the coping skills needed to deal with threatening situations. If the person is overwhelmed by the anxious state, he or she may initiate a defensive process to reduce the disturbing emotional state. Thus, defence mechanisms affect psychophysiological processes, in a way that when these are successful, the environment is less threatening and anxiety states are attenuated (Knowles & Olatunji, 2020).

In line with what has been established in the field of sports, the physical and mental load that the athlete endures both during training and in competition generates a continuous exposure to stressful situations that can lead to a drop in sporting performance caused by the widespread anxiety generated. This situation is also influenced by other factors resulting from the constant exposure of sporting performances to a multitude of interpersonal and environmental variables that undermine the athlete's self-confidence and generate continuous situations of insecurity (Gonzalez et al., 2018). Thus, regardless of the positive or negative sense that a given stimulus may have, some characteristic situations contribute to favouring anxiety to a greater or lesser extent.

However, it should be noted that the emotional state of nervousness, worry and apprehension, linked to the activation of the organism, does not necessarily harm sporting performance (Kemarat et al., 2022). In this sense, it is important to bear in mind that the stress associated with physical and mental activation in competitive situations in adequate doses is sometimes considered to be something that can be taken advantage of, due to the benefits it brings to the athlete to keep him/her attentive and active in competition. In this sense, following the theory of the inverted U (Shih & Lin, 2017) which formulates that the relationship between sports performance and activation responds to a curvilinear "U" shape, it is established that very high or low levels of activation negatively affect performance. For this reason, the optimal level of activation to tackle a task will correspond to an intermediate point that allows it to be more efficient (Muse et al., 2003).

Following on from the above, to understand how anxiety can affect the athlete, it is essential to establish that it can be manifested as Trait Anxiety or as Competitive State Anxiety. The latter being the subject of the present study due to its greater level of concreteness, insofar as, starting from a stable competitive trait anxiety, the state anxiety will be the one that definitively marks the state of anxiety of the athlete and their readiness for the competition (Sanader et al., 2021). In this sense, it should be clarified that state anxiety is defined by the following constructs (G. Jones, 1995):

- The cognitive part is related to negative thoughts, restlessness, feelings of insecurity, negative expectations and loss of concentration.

- The physical or somatic part is usually associated with an increase in heart rate, respiration and muscle tension and a decrease in peripheral temperature.
- Self-confidence does not directly assess anxiety, but its absence reflects the possibility that the athlete is experiencing cognitive anxiety.

On the other hand, pre-competition anxiety is a negative state, which occurs during the twenty-four hours before a competition. It results from an imbalance between perceived capabilities and the demands of the sporting environment. When there is a balance between the two, an optimal state of alertness/vigilance is experienced. Pre-competition anxiety results when the athlete's skill and ability are not perceived as equivalent to those of the opponent and this perception can be affected by several different factors (Martinent & Ferrand, 2007).

Within the same, concerning personal-situational factors, some characteristic situations can influence the appearance of states of anxiety in the athlete. These may include changes in the usual situation, insufficient or erroneous information, overload in the processing channels, the importance of the event, the imminence of the stimulus, lack of ability to control the situation, self-esteem, etc. (Cox et al., 2003; Dunn & Syrotuik, 2003).

Furthermore, about the perception of the rival, when an athlete knows the rival, he is going to compete with, from that moment on he starts to worry if he knows that he is superior to him. He will not be relaxed, and therefore he will have many worries that will decrease his performance significantly (Vermeulen et al., 2014).

In addition to the above, the type and characteristics of the event the athlete is facing, as well as the type of sport and the experience in competition (Mellalieu et al., 2004) can influence the degree to which symptoms of pre-competition anxiety manifest themselves in an athlete.

The military environment provides an optimal model for the exploration of the above because military institutions impose on their personnel the regular practice of physical activity with high rates of physical load. The purpose of this training is to keep them active in a twofold sense. On the one hand, to ensure that soldiers maintain a physical state of adequate preparation for possible future tactical interventions, and on the other hand, to encourage their participation in selected sporting events within and outside their organisations. This paradigm characterises their regular activity by selective and intense physical exercise, which can result in the constitution of a practice scenario that can generate a stress response (de Lira et al., 2021; Tanguy et al., 2018).

This is especially relevant in disciplines such as military parachuting, where the internal agents of the activity itself, such as, among others, the military nature of the activity and the continuous development of the professional career of the jumper on the one hand, together with the sporting career on the other, are potential elements to be taken into account for the anxiety that can be generated in the profile of the athlete in competition (Lane et al., 2012). However, in addition to the internal agents, as differentiating characteristics from other sports modalities, it is necessary to take into account the external ones, such as the uncertainty involved in carrying out the sporting action in a natural, hostile space in which the athlete assumes a great risk to his or her physical integrity by simply carrying out the activity (Pons et al., 2020; Pons et al., 2018).

This is why being able to understand to what extent the different constructs that makeup state anxiety in competition can interact with each other in sports that, like military parachuting, have very specific characteristics, and how they can be influenced by different variables such as the type of event or previous

sporting experience, is a challenge, insofar as it allows us to evaluate how the establishment of strategies to better control the activity carried out by the athlete in non-conventional sports modalities and with very specific conditions can optimise sporting performance (Wilczynska et al., 2022).

Thus, the objectives of this work are as follows:

- To analyse the validity of the Spanish version of Andrade's Revised Competitive State Anxiety Inventory-2 (CSAI-2R) (Fernandez et al., 2007), establishing a reliable model so that the availability of the scale in Spain can significantly expand the possibilities of diagnosing competition anxiety in sports with very particular and special characteristics such as military parachuting.
- To know the interrelationship, both between each other and with the competitive state anxiety, of certain technical variables specific to military parachuting, which are related to sporting performance and can justify experience in the discipline.

## MATERIAL AND METHODS

### **Participants**

The study sample consisted of 42 jumpers competing in the National Military Parachuting Championship held annually at the Alcantarilla Air Base. Among the participating teams were members of the different Armies and the Guardia Civil, with 14 of the competitors belonging to the PAPEA (Patrulla Acrobática de Paracaidismo del Ejército del Aire y el Espacio - Air and Space Army Acrobatic Parachuting Patrol).

The average age was 40.86 ( $\pm 7.35$ ) years old, the average number of years as a skydiver was 17.86 ( $\pm 8.89$ ) years old and the average number of jumps 2405.57 previous launches performed by the skydivers during their professional career.

### **Measurements**

This research used the Spanish version of the Revised Competitive State Anxiety Inventory-2 (CSAI-2R) in Spanish skydivers to assess competitive anxiety (Fernandez et al., 2007). This scale is composed of 18 items with responses on a Likert scale ranging from 1 (not at all) to 4 (very much). At the top, a series of socio-demographic data and objective indicators of skydiving skills were asked. The variables indicating the jumper's experience included membership or not of the PAPEA (the elite national military parachuting team), the number of jumps made during his or her career and the number of years as a skydiver, the latter two variables being data that are always recorded in the jumper's file.

### **Procedure**

Ethics approval was obtained from the Research Ethics Committee of the University of Murcia. All procedures performed in studies with human participants were performed by the ethical standards of the institutional and/or national research committee and with the 1964 Declaration of Helsinki. This proposal, in addition, was reviewed for approval, including the battery of questionnaires that were used, both by the Colonel in Chief of the Alcantarilla Air Base and by the different Heads of the units and teams that were going to participate in the Championship, as by the Head of the Central Board of Physical Education of the Air Force. Written informed consent was obtained from all participating parents.

Data collection was carried out during the competitors' rest periods throughout the week of the championship in a space set aside for researchers in the competition camp. The initial meeting of the championship organisers with all the jumpers and team leaders was used as an opportunity to give instructions about the championship and to explain to the participants, in a brief intervention, what the study was going to consist

of and its objectives. The confidentiality of the data processing was always guaranteed. An online questionnaire was also made available so that those who had not been able to participate during the championship could do so during the following days, once they had returned to their original jobs.

### Data analysis

The SPSS statistical package (version 28) and the AMOS program (version 26), both from IBM, were used for data analysis. An exploratory factor analysis was carried out in order to review the dimensions of the different items, an analysis of the correlations of the items for each factor and the internal consistency of the different factors, and a confirmatory factor analysis to determine the overall fit of the proposed model and the behaviour of its individual components. The exploratory and confirmatory factor analyses were used here in a complementary fashion, in the sense proposed by Gorsuch (Gorsuch, 1997a, 1997b). In addition, a series of correlational analyses of indicator variables of sporting performance in the discipline used in the study were carried out with the dimensions established in the factor analysis.

## RESULTS

From the exploratory factor analysis, it was found that the values for the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) and Bartlett's test of sphericity were acceptable ( $\chi^2 = 572.120$ ;  $p < .01$ ; KMO = 0.774). The factorisation was carried out by the principal axis extraction method and with varimax rotation. The number of factors extracted from the oblique rotation, taking into account the eigenvalue 1, was four by default, but from the interpretation of the sedimentation graph and the detailed study of the literature previously carried out, it was determined to establish a fixed number of three factors in the extraction. Thus, the ratio of the 18 items established, distributed among the three factors (Table 1), accounted for a cumulative % of 68.624 of the total variance explained.

Table 1. Rotated component matrix.

	Component		
	1	2	3
CSAI4	.861		
CSAI9	.773		
CSAI6	.654		
CSAI12	.620		
CSAI1	.608		
CSAI17	.581		
CSAI18	.340		
CSAI15	.215		
CSAI10		.888	
CSAI13		.887	
CSAI3		.804	
CSAI7		.757	
CSAI16		.727	
CSAI8			.647
CSAI14			.628
CSAI11			.569
CSAI5			.388
CSAI2			.284

Note. CSAI: Competitive State Anxiety Inventory plus several item.

As can be seen, the first factor collected all the items belonging to somatic anxiety (SMA) with values above 0.50 except for 15 and 18. Similarly, the second factor collected the items belonging to self-confidence (AUTO CF) with all its factor loadings above 0.72 value. Finally, the third factor referred to cognitive anxiety (CGA), where the items collected exceeded a value of 0.50, except for 2 and 5.

As for the analysis of the correlations, high values were obtained, with the lowest values for items 8 and 15, but still above a value of .50, with both items coinciding in the result (with a value of .562). On the other hand, regarding internal consistency, Cronbach's Alpha yielded a value of .880 for factor 1, .896 for factor 2 and .882 for factor 3, with no improvement if any of the items grouped for the different factors were eliminated, except item 8 where, if the item was eliminated, there was a slight improvement, as can be seen in Table 2, but even so it was decided that it should remain in the set.

Table 2. Total item statistics.

		Scale average if the item has been removed	Scale variance if the item has been suppressed	Total correlation of corrected items	Cronbach's alpha if the item has been removed
Factor 1	CSAI4	11.31	16.902	.696	.859
	CSAI6	11.74	18.052	.620	.867
	CSAI9	11.02	15.731	.750	.854
	CSAI12	11.76	18.088	.722	.858
	CSAI15	11.95	18.729	.562	.873
	CSAI17	11.76	18.283	.647	.865
	CSAI18	11.98	19.731	.652	.870
	CSAI1	11.31	17.341	.605	.870
Factor 2	CSAI3	12.76	4.869	.737	.878
	CSAI7	12.40	5.271	.744	.873
	CSAI10	12.62	5.168	.801	.861
	CSAI13	12.67	5.350	.775	.868
	CSAI16	12.60	5.418	.681	.887
Factor 3	CSAI2	8.71	11.819	.769	.845
	CSAI5	9.14	12.028	.657	.872
	CSAI8	9.62	13.900	.562	.889
	CSAI11	9.00	11.073	.800	.836
	CSAI14	9.33	11.154	.809	.834

Note. CSAI: Competitive State Anxiety Inventory plus several item.

Taking the exploratory analysis as a starting point, confirmatory factor analysis was carried out to determine to construct validity. A model composed of three interrelated factors, linked to each of their items without correlation between the error terms was proposed, which in turn established 3 hypotheses to be corroborated (Figure 1). To this end, firstly, we analysed whether there was a normal distribution of the results by analysing the skewness and kurtosis. To this end, the statistic was run using the Maximum Likelihood (ML) method. Once the assessment of normality had been checked, it could be verified that, as far as univariate normality was concerned, it was fulfilled for all the items that  $-3 < \text{Skewness} < +3$  and that  $-7 < \text{Kurtosis} < +7$ , with only the items outside the margin  $-1.96 < \text{c.r.} < +1.96$  for items 2, 5 and 7. On the other hand, regarding the multivariate normality, normality was not fulfilled because of the Multivariate Kurtosis  $< 5$  ( $k = 22.799$ ), and because  $-1.96 < \text{c.r.} < +1.96$  ( $\text{c.r.} = 2.753$ ).

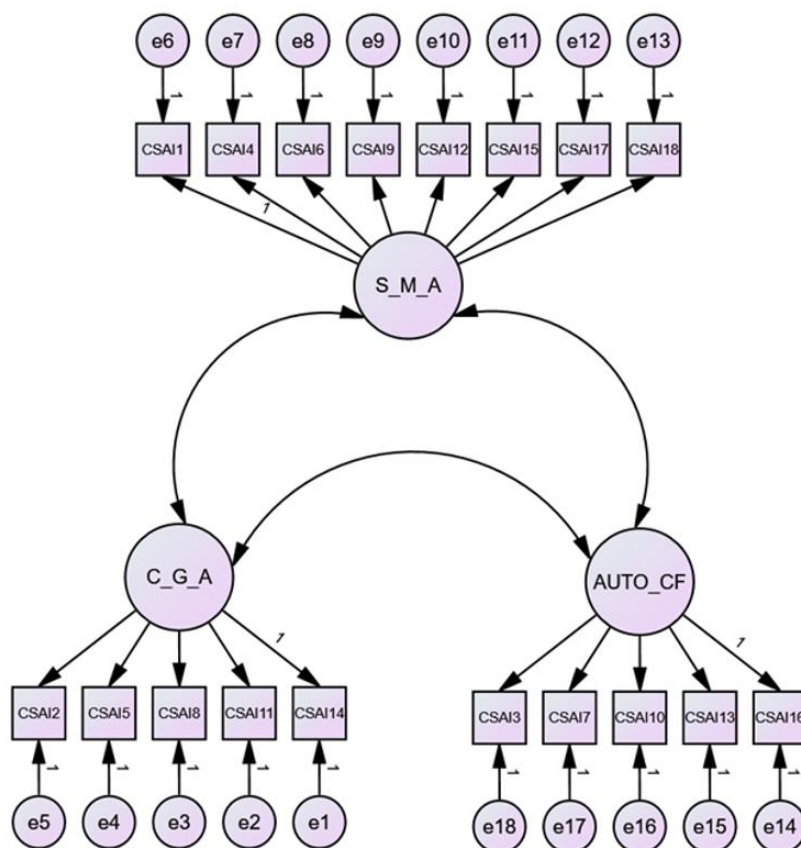


Figure 1. Model of three factors of competitive anxiety.

Despite the robustness of the ML method which allowed that the bootstraps could be applied running in the statistic together with the output, even if the normality of the sample distribution was not fulfilled, the results regarding the goodness-of-fit measures were not very appropriate, because the only acceptable values were those relating to the Chi-square ratio with the degrees of freedom ( $X^2/gl = 0.001$ ) in the absolute adjustment and the Chi-square normed in the parsimony adjustment, which, with a value of 2.087, was less than 3.

This is why, taking into account that the literature suggests the option of opting for other estimation methods, especially when dealing with ordinal variables for small samples that do not comply with normality in their distribution, it was decided to run the statistic again, this time using the Unweighted test squares (ULS) as a method in the discrepancy of the estimation, where the results improved considerably, as can be seen in Table 3.

About the correlations established between the parameters indicating sporting performance in skydiving and competitive anxiety, it was found that, of the three factors that made up the same, Spearman's Rho or Pearson's correlation coefficient, as appropriate, showed significant correlations of CGA with SMA ( $p < .001$ ) and with AUTO CF ( $p = .011$ ) (in the opposite direction). For this, the Shapiro-Wilks test of normality for samples smaller than 50 was previously performed to determine whether a parametric test was appropriate or not. It was also found that SMA correlated significantly with AUTO CF ( $p < .011$ ) (also in the reverse direction). However, both the Student's t-test and the Mann-Whitney U-test for independent samples showed that SMA and AUTO CF did not correlate with any of the three factors established in this study as indicators of skydiver skill. On the other hand, CGA did correlate with the indicator variable of PAPEA membership or

not ( $p = .042$ ), although once again there was no relationship between this factor and the other two variables related to the jumper's experience, namely the number of jumps and years as a skydiver.

Table 3. Goodness-of-fit measures of the model established by the ULS method.

Goodness of fit	Acceptable adjustment levels	Value	Acceptability
<b>Absolute adjustment</b>			
X <sup>2</sup>		133.5	
P value Chi-square	> .05	.447	
X <sup>2</sup> /gl	< 3	1	Acceptable
NCP	< 2	1.501	Acceptable
GFI	> .90 Acceptable; > .95 Optimal	.958	Optimal
RMSEA	< .06 Optimal; < .08 Acceptable	.017	Optimal
<b>Comparative adjustment</b>			
NFI	> .90 Acceptable; > .95 Optimal	.254	Not acceptable
CFI	> .90 Acceptable; > .95 Optimal	.942	Acceptable
TLI	> .90 Acceptable; > .95 Optimal	.933	Acceptable
<b>Parsimony adjustment</b>			
PGFI	Next to 1	.739	Acceptable
PNFI	Next to 1	.219	Not acceptable
AIC		211.501	
Chi-square normed	< 3	1.011	Acceptable

## DISCUSSION

The present study aimed, through factor analysis, to analyse the theoretical validity of the Spanish version of the CSAI-2R and to determine the extent to which certain variables indicating the parachuting experience linked to sports performance could influence the constructs determined in the analysis. Thus, the exploratory analysis revealed the existence of three factors, coinciding with the three constructs of competitive anxiety established as hypotheses and with what has been established by other authors (Fernandes et al., 2013; Martens & Simon, 1976).

From the data obtained in the rotated matrix, all factors exceeded the value of 0.5 ( $f_1 = .5815$ ;  $f_2 = .8126$ ;  $f_3 = .5032$ ), as did their respective items, except for the item "*I feel an emptiness in my stomach*", which did not have much impact on the total, because in the questionnaire it is proposed as an alternative to item 12, which had a good value above the total mean of the factor, and also except for the item "*my hands are sweaty*", coinciding with those established by previous studies (Fernandez et al., 2007). In the same way that happened with these two items belonging to factor 1, it happened with the item "*I am worried about not performing as well as I could in this competition*" and the item "*I am worried about losing*", both belonging to factor 3.

As for the confirmatory analysis, the data showed that the proposed model was acceptable, establishing significant two-way multivariate relationships between the different constructs that make up competitive anxiety, coinciding with what has been established by previous studies (Ong & Chua, 2021; Ramis et al., 2010; Tomczak et al., 2022).

On the other hand, when performing the bivariate correlation of the factors previously established in the factor analysis, statistical significance was obtained between them, which in turn allowed us to confirm the model



established in the confirmatory analysis, insofar as the more cognitive anxiety of the skydivers, the more somatic anxiety and less self-confidence; likewise, the more somatic anxiety the less self-confidence (E. S. Jones et al., 2019).

On the other hand, no significant differences were obtained for these variables or components of anxiety when they were related to the two indicator variables of skydiving experience, the number of jumps and years as a skydiver, which, despite appearing in the jumper's record, led to the deduction that it was possible to ensure their experience as a skydiver within their professional career. This could lead to the deduction that their experience as a skydiver within their professional career could be reassured, but not their experience in competition within their sporting career, and, therefore, that this veteran status exempted them from being exempt from competitive anxiety in the jumps carried out within the championship, so that it could be the case that jumpers with long careers had little experience in competition about other skydivers.

However, when grouping the athletes according to whether they belonged to the PAPEA or not (because they were considered the most skilled jumpers and/or national elite skydivers), there was a significant correlation with cognitive anxiety but not with somatic anxiety and self-confidence. The latter two are probably due to the fact that many of the participants in the championship had been in their ranks in previous stages. However, in this competition they participated representing other army units, although their extensive experience in the PAPEA serves to mediate the values of competitive physical anxiety.

Similarly, it could be the case of participants who could vouch for extensive and proven experience in competition at a national level, although they had never belonged to the PAPEA. On the other hand, in contrast, a significant relationship was found between the variable belonging or not to the PAPEA and the mental component of anxiety. Thus, skydivers belonging to the Aerobatic Patrol experienced higher levels of cognitive anxiety. This could be due to the extra stress that some of their members are subjected to in order to achieve better sporting results than their peers. These colleagues are under less pressure because they are stationed in other units with more tactical or training tasks rather than sporting tasks within parachuting. In addition, the latter have a lot of experience and have even belonged to the PAPEA ranks in previous stages, being able to obtain similar or even better competitive results at a given moment, despite having a lower sports training load in recent years (Arruda et al., 2017).

Regarding the bivariate correlations, it was also found that there were significant differences between the skydivers who belonged to the PAPEA and those who did not, in the sense that the former were those who had fewer years of experience as skydivers, but more jumps, justified by the intense skydiving activity they carried out daily through training, exhibitions and/or competitions (Balyan et al., 2016). In this sense, these results supported what was established in the previous paragraph because high values of the cognitive state of anxiety showed concern about the possible failure and the aversive consequences that could be derived, such as the possible exit from the team (Martens & Gill, 1976). Moreover, this was in line with the results of previous work in which, psychological skills were evaluated in terms of the professional athlete's experience. It was found that these skills were not innate, but learned through training and that most athletes who became experts in their sport learned them through skills acquired through a combination of discipline work and training over time (Farrow & Robertson, 2017).

### **Future research**

This invites, for future aligned work, to try to establish models where these three traditional indicators of skydiving skill can be related in a multivariate way beyond their linear relationship, adapting them to the experience in the competition, so that the years competing can be valued instead of simply the years as a

skydiver. Similarly, the number of jumps in competition can be evaluated without taking into account those made during the training period, in the revalidation period, in tactical mode and sports training, or discriminating between them. Likewise, having belonged at some point in one's sporting career to the elite team or national parachuting team may be taken into account, as this is the unit whose main activity is devoted to sporting competition and exhibition, as opposed to others. Furthermore, once these aspects have been taken into account, to determine in a more concrete way the skydiving experience and how it can affect sporting performance, it would also be useful to see how all these variables could have an impact at the same time in a multivariate way, both among themselves and with the different components of anxiety in competition, without forgetting other psychological variables that can condition this performance, coinciding with what has been established in previous research (Fletcher et al., 2012; Mellalieu et al., 2004).

In addition to this, it would also be of interest to propose future lines of work in which it would be possible to take into account the extent to which anxiety or other psychological variables may be affected by the test carried out, since, within military parachuting, there are traditionally three tests, two individual (except in the absolute count of each test) (style and accuracy landing) and one teamwork test (of four components plus the cameraman) (formation team). In this sense, the levels of anxiety of the jumper may be affected from one test to another, depending on the technical and tactical mastery of each one due to the different requirements involved, and the collective nature of the formation team test may influence because an individual failure may affect the team's work as a whole, generating added stress compared to the other two tests, in line with what has been established in previous studies (Appleby et al., 2018; Gould et al., 1999).

## CONCLUSION

According to the findings, it has been possible to establish a reliable model so that the availability of the CSAI-2R scale can significantly expand the diagnostic possibilities of anxiety in competition in sports with very particular and special characteristics such as military parachuting, but it is necessary to establish a multivariate relationship between different components of competitive anxiety and specific variables of military skydivers sporting experience in competition.

In addition to the possible significance obtained, it would be useful to reflect on what other psychological and technical variables of this sport may influence the sporting performance achieved, because it is a modality that has very particular conditions compared to the rest, not only because of the space, environment and form where and how the activity itself is carried out, but also because of the context in which it takes place, but also due to the context in which it takes place, as a consequence of the peculiarities that define the group to which the competitors belong, to which we must also add the continuous exhaustion that can be caused by the permanent presence of the development of two parallel careers in the military jumper, the professional and the sporting. These results should be used to understand, define and reflect more deeply on which aspects can be specifically controlled to establish appropriate work strategies to optimise sporting performance in elite military skydivers.

## AUTHOR CONTRIBUTIONS

FJB-B, FZ-O and VM-B contributed to the design. FO-M and AD-S recruited participants and collected data for the study. FJB-B and VM-B analysed the data. FJB-B and FO-M wrote the first draft. FZ-O and AD-S contributed to the manuscript revision, read, and approved the submitted version.

## **SUPPORTING AGENCIES**

No funding agencies were reported by the authors.

## **DISCLOSURE STATEMENT**

No potential conflict of interest was reported by the authors.

## **ETHICS APPROVAL STATEMENT AND CONSENT TO PARTICIPATE**

Ethics approval was obtained from the Research Ethics Committee of the University of Murcia. All procedures performed in studies with human participants were performed by the ethical standards of the institutional and/or national research committee and with the 1964 Declaration of Helsinki.

This proposal, in addition, was reviewed for approval, including the battery of questionnaires that were used, both by the Colonel in Chief of the Alcantarilla Air Base and by the different Heads of the units and teams that were going to participate in the Championship, as by the Head of the Central Board of Physical Education of the Air Force.

Written informed consent was obtained from all participating parents.

## **DATA AVAILABILITY**

Dataset can be made available upon request.

## **RESEARCH DEVELOPMENT**

Both the analysis of the collected data, as well as the interpretation of the same and the complete writing of this work were carried out within the framework of the research stay at the University of Granada by the professors FJB-B and VM-B at the University of Murcia called "*Evaluation of psychological variables in skydiving*" with study licenses granted with seat numbers REGAGE22s00024697424 and REGAGE22s00024697434.

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- To all the participating teams: BRIPAC, ACINF, GC, EADA, EZAPAC, and PAPEA.

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