An adaptation of the Psychological Capital Questionnaire for the sports environment

Erika Borrajo[1], Garazi Azanza[2], Itziar Urquijo[3]

Abstract

Identifying the psychological strengths of athletes is necessary to improve their performance. With the objective of comprehensively assessing those, the present study aimed to adapt and validate the Spanish version of the PCQ (Azanza et al., 2014) in a sample of athletes from different disciplines. Participants were 540 athletes recruited to participate in the study with the assistance of university students. The factor structure of the SPCQ was tested with a confirmatory factor analysis (CFA), and a correlational analysis was carried out to analyze the relationship between Sport PsyCap and personality. Statistical analyses showed that the questionnaire obtained adequate psychometric properties regarding reliability, construct validity and convergent validity. These confirmed the existence of four first-order factors (self-efficacy, optimism, hope, and resilience) and a second-order factor (PsyCap), following the structure of both the original questionnaire (Luthans et al., 2007), and the version adapted to the Spanish sample (Azanza et al., 2014). The SPCQ is presented as a suitable way to measure psychological capital both in the field of research and professional practice, offering a reliable tool for the identification and subsequent intervention in different psychological aspects that can improve performance.

Keywords: psycap, psychological capital, sports, performance, positive psychology

Introduction

Athletes have among their primary objectives to achieve a high level of performance. In this process it is also expected that the psychological health is maintained, achieving a positive psychological state (perseverance, motivation, optimism) that allows an integral state of well-being. Therefore, it is important to identify and evaluate the psychological strengths and potentialities that can establish an optimal level of performance (Kim, Do Kim, & Lee, 2020). However, according to Reardon et al. (2019) 35% of the elite athletes suffer from psychological, eating disorders, burnout, depression, or anxiety. In the last decades, the empirical focus of psychological functioning has changed from fixing the worst things in life to constructing the best ones (Seligman, 2002). Therefore, psychology has centered its study on knowing and developing the strengths of people and their optimal functioning instead of detecting and intervening in their weaknesses (Seligman & Csikszentmihalyi, 2000). Within this need to give attention to the positive characteristics of people, a new concept emerged, psychological capital, hereafter, PsyCap (Luthans, 2002). This term arises from the organizational sphere as a redefinition of economic capital, emphasizing the relevance of prioritizing people's wellbeing to achieve better performance (Luthans & Youssef, 2004). These authors defined PsyCap as people's positive state aimed at increasing personal resources characterized by "(1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success" (Luthans, Youssef, & Avolio, 2015).

The study of the characteristics that can enhance the performance and well-being of athletes is an essential aspect for evaluation and intervention in sport (Giles et al., 2020). Thus, the present study aimed to adapt a Psycap measurement questionnaire, previously developed in the organizational setting. A literature review of the factors that make up the concept of psychological capital is presented below. We then analyze the factorial structure of the questionnaire and discuss the findings and their practical implications.

Literature Review

Historically, the four components of Psycap have been independently defined. Firstly, Bandura (1977); Bandura and

[1] University of Deusto, Spanin; borrajo.erika@deusto.es
[2] University of Deusto, Spain; garazi.azanza@deusto.es
[3] University of Deusto, Spain; itziar.urkijo@deusto.es

Ramachaudran (1994) was the forerunner of the concept of *self-efficacy* and defined it as those beliefs that people have about their own abilities to achieve an optimal level of performance under various circumstances. Secondly, Peterson and Seligman (1984) defined *optimism* as the cognitive process by which people have positive outcome expectations in the face of positive events and internal, stable, and global causal attributions. Thirdly, for Snyder (2002), *hope* is the ability of an individual to find the paths that lead to their goals, as well as the motivation to achieve them. Finally, resilience is considered a dynamic process where individuals develop the ability to adapt positively to the adversities of the context (Egeland, Carlson, & Sroufe, 1993).

Even though PsyCap components have been addressed separately, it has been proposed as a second-order factor that would predict performance more effectively than studying the four components independently (Luthans et al., 2007). According to these authors, individuals with high levels of PsyCap tend to evaluate situations positively and base the probability of achieving success on effort and perseverance. Moreover, they would generally base their performance and results on the hope of achieving their goals, would have a realistically optimistic view of achieving positive results, and have greater confidence in themselves in pursuing their goals (Avey et al., 2011; Imran & Shahnawaz, 2020; Newman et al., 2014; Vizoso-Gómez, 2020).

Many authors pointed out the common issues of organizational and sports areas and suggested that some organizational aspects could be reflected in sports dynamics, such as the factors that affect success or the perception of team roles and leadership (Fletcher & Wagstaff, 2009; Gardner, 1995). Specifically, recent studies showed that group cohesion or the type of leadership would influence performance, both in sports and organizational settings (e.g., Mach, Ferreira, and Abrantes (2021); Song et al. (2020)). Moreover, the use of tools such as the establishment of objectives, as well as the evaluation of results, have become inherent aspects of the sports context itself, just as they are in the organizational field (D'Isanto et al., 2019; González-Campos, Rodríguez-López, & Castañeda-Vázquez, 2018). Despite all these points in common, PsyCap research in the sports field is scarce. The only studies to date have focused on the practice of physical activity in different populations such as young people in exclusion (Morgan, Parker, & Roberts, 2019) or university students (Zhang et al., 2020). To our knowledge, nothing related to performance has been investigated.

Together with the boom that positive psychology has had in sports, several studies have analyzed the impact of the different factors that make up the PsyCap separately. Regarding self-efficacy, previous studies have shown that higher levels of perceived self-efficacy would improve performance in diverse sports disciplines (Hepler & Chase, 2008; LaForge-MacKenzie & Sullivan, 2014; Moritz et al., 2000; Yang, 2020). This might be because self-efficacy could be a protective factor against competitive anxiety (Besharat & Pourbohlool, 2011), as well as a precursor to successful decision-making during competition (Hepler, 2016). In relation to optimism, the scientific literature underlined the correlation with performance in diverse sport discipline (Ortín-Montero & Garcés de los Fayos, 2012; Ortin-Montero et al., 2018; Seligman et al., 1990). In particular, athletes experiencing an optimistic style instead of pessimism tend to increase performance levels even in the face of adverse situations with negative outcomes (Gordon, 2008). Thus, higher levels of optimism have been related to the reduction of physiological and psychological stress (Aranzana Juarros et al., 2016), higher levels of mental toughness (Nicholls et al., 2008) or more self-confidence (Ortín-Montero, De-la-Vega, & Gosálvez-Botella, 2013), as well as an adaptive pre-competitive profile of perfectionism (combination of high effort and low worries; Dunn et al. (2020)).

On the other hand, hope would be shown as a requirement in obtaining higher levels of motivation towards achieving goals among athletes, as well as knowing the direction to take to achieve them (Gustafsson et al., 2013). There would be a positive relationship between hope and sports performance levels, beyond other physical aspects such as training or athletic skills and other psychological aspects such as self-esteem or mood (Curry et al., 1997). In addition, hope would be negatively related to burnout in its three dimensions (emotional/physical exhaustion, devaluation of sport, and sense of achievement; Gustafsson, Hassmén, and Podlog (2010)). Among injured athletes, hope could predict rehabilitation behavior, subjective well-being, and beliefs about rehabilitation (treatment efficacy, self-efficacy, rehabilitation evaluation, susceptibility, and severity; Lu and Hsu (2013)).

Finally, those athletes with resilient traits would cope with the stressors of competition in a more adaptive way, more frequently using a task-focused coping style, a positive reappraisal of adverse situations, or a greater search for social support (Nortes, Díaz, & García, 2021; Truan et al., 2020). In addition, they would present higher levels of self-efficacy and satisfaction with life (Varela et al., 2020). In sports teams, on the other hand, the results would show an improvement in group efficacy and social capital (Morgan et al., 2019). Even sports practice seems to benefit the development of a resilient profile, with the levels of resilience being higher among these people (Cevada et al., 2012).

Regarding the study of PsyCap as a unitary construct in sport, only the study carried out by Ruan and Liu (2021) has been found who underlined that psychological capital, together

with group cohesion, improved satisfaction with performance and psychological well-being among female athletes. However, these authors measured the construct using only eight of the original questionnaire items (Luthans et al., 2007).

The Psychological Capital Questionnaire (PCQ) developed by Luthans et al. (2007) consists of 24 items. Other versions of it have been subsequently developed, such as the reduced version of 12 items (Avey et al., 2011). Likewise, the instrument has been translated into various languages, in addition to different cultures (Caza et al., 2010; Rus et al., 2012; Wernsing, 2014). The adaptation and subsequent validation of the tool in the Spanish sample was carried out by Azanza et al. (2014), obtaining high reliability as well as adequate convergent and discriminant validity.

However, the lack of presence of Psycap in the sports field is the consequence of a series of limitations. On the one hand, the lack of a comprehensive view of the construct in this context has hindered its measurement as a unitary characteristic. And on the other hand, the lack of validation in Spanish and in the sports context of some scales of the dimensions that compose it, for example, optimism (Sport Attributional Style Questionnaire; Hanrahan, Grove, and Hattie (1989)), or hope (Sport Hope Scale; Chen and Chi (2014)). In addition, the lack of unanimity in the use of tools, as is the case with self-efficacy, has also contributed (Cantón Chirivella & Checa Esquiva, 2012; García-Naveira, 2018). Resilience is presented as the only characteristic with validated instruments in the sports context: the Resilience Scale (Wagnild & Young, 1993) validated in a Spanish sample by Ruiz-Barquín et al. (2012); and the Connor-Davidson Resilience Scale (Connor & Davidson, 2003), validated in Spanish by Extremera et al. (2017). Psychological capital among athletes, as a unique characteristic, is only presented, to our knowledge, in the study by Ruan and Liu (2021). These authors developed an instrument in which psychological capital is included as one of the five factors that make up the measure: group cohesion, authentic leadership, satisfaction with performance, psychological well-being, and psychological capital. However, although the questionnaire shows an adequate factorial structure, it does not follow the original proposal of Luthans et al. (2007).

Thus, due to the need to obtain a measure in the sports field that comprehensively assesses the psychological strengths of athletes, the present study aimed to adapt and validate the Spanish version of the PCQ developed by Azanza et al. (2014) in a sample of athletes from different disciplines.

Method

Participants

The study sample consisted of 547 (61% men, 39% women) with ages ranging from 15 to 60 years (M = 21.8 years, SD = 6.22). Associated athletes were recruited to participate in the study with the assistance of Sports Science university students. Regarding the sport practiced, 77% of the sample practiced collective sport (42% football, 68% basketball).

Instruments

The Psychological Capital Questionnaire (PCQ) was adapted to a sports environment, which we called the Sport Psychological Capital Questionnaire (SPCQ) using the Spanish version of the PCQ (Azanza et al., 2014).

The Sport Psychological Capital Questionnaire (SPCQ) is composed of 23 items and it includes four dimensions: efficacy (six items, e.g., "I feel confident in representing my team in important competitions"), hope (six items, e.g., "If I should find myself in a jam during my sports practice, I could think of many ways to get out of it"), resilience (five items, e.g., "I usually take stressful things of the sports practice in stride") and optimism (six items, e.g., "I'm optimistic about what will happen to me in the future as it pertains to the sports practice"). Participants were asked to indicate the extent to which they agreed with the 23 statements on a six-point scale from 1 (strongly disagree) to 6 (strongly agree).

In addition, personality was measured to assess criterion validity using the short form of Goldberg's Bipolar Adjectives (Goldberg (1992); Spanish adaptation by García, Aluja, and García (2004)). The questionnaire is composed of 25 items consisting of pairs of adjectives (e.g., introverted-extraverted; negligent-conscientious) rated on a 9-point scale. The factors measured are consistent with the Big Five dimensions (extraversion, agreeableness, conscientiousness, emotional stability and openness). Cronbach's alpha for the overall scale was .96.

Procedure

Experts on the subject collaborated in the adaptation of items to the sport context. To conduct this adaptation, we modified the Spanish version of the PCQ to the sport context which we have called the Sport Psychological Capital Questionnaire (SPCQ). The adaptation process resulted on a 23-item version. Once the adaptation of the items was completed, we conducted a pilot test on a small number of players and made the necessary adjustments to obtain the final version of the questionnaire. Finally, the participants received an invitation to participate in the study via e-mail, in which the objectives of the study were described, and the confidentiality of their answers was guaranteed. The invitation included a link to the online questionnaire. Participation in the study was voluntary. Informed consent was obtained from all participants, and they were assured of confidentiality for their responses.

Data analysis

Descriptive statistics (means, standard deviations, skewness, and kurtosis) were computed for the 23 items

which are components of the questionnaire, to examine the normalcy of our data. The factor structure of the SPCQ was tested with a confirmation factor analysis (CFA) using the program Amos 28 and using the method of maximum likelihood. The analyses used in the present study are those already used by previous studies (e.g., Azanza et al. (2014)). A correlational analysis was carried out using the Pearson coefficient between the four psychological capital factors together with the global score. The internal consistency of the SPCQ was analyzed using Cronbach's alpha. Finally, using Pearson's correlations, we analyzed the association between Sport PsyCap and personality.

Results

Descriptive Statistics

Table 1 shows the descriptive statistics for the SPCQ at the item level. The values of central tendency, variability, skewness, and kurtosis are offered for each of them. Generally, levels less than 3 are accepted for skewness and values less than 10 for kurtosis (Kline, 2005). All the items of the SPCQ are less than 2 for skewness and kurtosis.

Table 1

Descriptive Statistics of the Items in the Sport Psychological Capital Questionnaire

Ítems	*Mean*	*SD*	Skewness	Kurtosis
SPCQ1	4.67	.91	-.73	1.00
SPCQ2	4.81	1.08	-.84	.31
SPCQ3	4.65	1.10	-.80	.45
SPCQ4	4.86	.96	-.85	.75
SPCQ5	3.70	1.34	-.16	-.69
SPCQ6	4.83	1.06	-.90	.64
SPCQ7	4.43	1.01	-.55	.09
SPCQ8	4.33	1.28	-.61	-.19
SPCQ9	4.97	1.02	-1.07	1.17
SPCQ10	4.02	1.23	-.62	-.01
SPCQ11	4.35	1.10	-.80	.49
SPCQ12	4.10	1.27	-.56	-.11
SPCQ13	3.87	1.39	-.26	-.97
SPCQ14	4.40	1.00	-.69	.43
SPCQ15	4.17	1.27	-.54	-.38
SPCQ16	4.51	1.10	-.58	-.06
SPCQ17	4.48	1.01	-.42	-.15
SPCQ18	4.15	1.10	-.46	-.20
SPCQ19	2.86	1.32	.57	-.40
SPCQ20	2.74	1.16	.47	-.33
SPCQ21	4.35	1.20	-.69	.07
SPCQ22	2.82	1.31	.46	-.54
SPCQ23	3.01	1.31	.45	-.42

Confirmatory Factor Analysis

Three different models were contrasted through confirmatory factor analysis (Table 2). The first model, formed by only a first order factor (PsyCap) and 23 indicators obtained the following adjustment indices: $\chi 2$ (230) = 1364.33, *CFI* = .75 and *RMSEA* = .09. The second measurement model consisted of a second order factor (PsyCap), four first-order factors (efficacy, hope, resiliency and optimism) and 23 indicators. The confirmatory factor analysis performed on this model (M2) obtained the following fit indices: $\chi 2$ (224) = 847.58, *CFI* = .86 and *RMSEA* = .07. The model (M3) was re-specified, removing the items with a low factor load (SPCQ13 = -.13, SPCQ19 = .04, SPCQ20 = -.77, SPCQ22 = .03, and SPCQ23 = -.36). The goodness-of-fit indices obtained showed a significantly more satisfactory fit: $\chi^2(129) = 490.03$, *CFI* =.90 y *RMSEA* = .07.

Table 2

Fit Indices for the three contrasted models.

Model	χ^2	*Gl*	*CFI*	*RMSEA*	$\Delta\chi^2$
M1	1364.33	230	.75	.09	-
M2	847.58	224	.86	.07	M1 - M2 = 516.75**
M3	490.03	129	.90	.07	M2 – M3 = 357.55**

** $p < .01$

Due to the self-reporting nature of the data. There were possibilities of variance by a common method. The Harman single factor test (Podsakoff & Organ, 1986) was performed on IBM SPSS 28. The results suggested that the variance of the common method is not a probable contaminant, since the total variance extracted by a factor is 38.31%, less than the recommended threshold of 50%.

Reliability Analysis

The SPCQ showed good internal consistency with a Cronbach's Alpha of .91, and, as shown in Table 3, the factor loading of the indicators and the reliability of the scales were acceptable. Hair et al. (2006) point out the desirability of using Cronbach's alpha values above 0.70 (0.60 in exploratory studies) but explained how a greater number of items increases the value of this index, even when the correlation between items remains constant. Although in this case, the optimism subscale does not reach this level, the effect of scale size could be considered. Correlation with the criterion is as or more important than the correlation between items, and therefore we selected the items that had previously shown the highest correlations with the total subscale scores in Spanish samples.

Table 3

Individual loadings (λ), Cronbach's alpha (α), and t values.

Construct	Indicators	Λ	t	α
Efficacy	SPCQ1	.67	11.07	.82
	SPCQ2	.70	14.03	
	SPCQ3	.69	13.80	
	SPCQ4	.77	15.01	
	SPCQ5	.54	11.07	
	SPCQ6	.69	13.74	
Hope	SPCQ7	.57	12.22	.83
	SPCQ8	.71	16.23	
	SPCQ9	.55	11.91	
	SPCQ10	.77	16.23	
	SPCQ11	.75	15.87	
	SPCQ12	.72	15.27	
Resiliency	SPCQ14	.65	11.77	.75
	SPCQ15	.59	12.89	
	SPCQ16	.70	12.26	
	SPCQ17	.76	12.89	
Optimism	SPCQ18	.67	13.84	.65
	SPCQ21	.73	13.84	

Discriminant validity

One of the criteria for discriminant validity is the correlation of a construct with its indicators, therefore, the square root of the AVE must be superior to the correlation between constructs (Fornell & Larcker, 1981). Table 4 shows the correlations between constructs and on the diagonal the square root of the AVE. Our results show that there is discriminant validity between the constructs. Since all the elements on the diagonal are greater than the elements outside the diagonal in the corresponding rows and columns.

Table 4

Descriptive statistics, correlations and discriminant validity.

	M(SD)	1	2	3	4
PsyCap	4.42 (.71)				
1. Efficacy	3.78 (.66)	***.68***			
2. Hope	4.37 (.85)	.61	***.68***		
3. Resiliency	4.39 (.83)	.57	.54	***.67***	
4. Optimism	4.25 (.99)	.54	.60	.62	***.70***

** $p < .01$. Square root of the *AVE* on the diagonal.

Criterion Validity

To examine the criterion validity of the SPCQ, we conducted a correlational analysis PsyCap and personality. As shown in Table 5, significant correlations were found between the four subscales of psychological capital and all the personality dimensions.

Table 5

Correlation coefficients between the dimensions of PsyCap and personality

	PsyCap	Hope	Optimism	Resiliency	Efficacy
Extraversion	.21**	.19**	.15**	.15**	.16**
Agreeableness	.25**	.21**	.17**	.22**	.19**
Conscientiousness	.23**	.20**	.17**	.16**	.20**
Emotional Stability	.34**	.26**	.29**	.30**	.25**
Openesss	.26**	.24**	.15**	.21**	.20**

** $p < .01$.

Discussion

The main objective of this study was to adapt the Psychological Capital Questionnaire (PCQ) to the sports context in a sample of Spanish athletes. The results confirmed the existence of four first-order factors (self-efficacy, optimism, hope and resilience) and a second-order factor (PsyCap), following the structure of both the original questionnaire (Luthans et al., 2007), and of the version adapted to the Spanish sample (Azanza et al., 2014). Statistical analyzes showed that the questionnaire obtained adequate psychometric properties in terms of reliability, construct validity and convergent validity. Thus, this questionnaire is presented as an appropriate way to measure psychological capital both in the field of research and in practice.

Regarding the internal consistency of the questionnaire, although the scale shows a structure similar to the original questionnaire (Azanza et al., 2014), the model showed better adjustment indices when those items with a lower factor load were eliminated (Item13, Item19, Item20, Item22 and Item23). This had an effect on the resilience dimension, but especially on the optimism dimension. This may be due to the adaptation of the content of the items to the sports context, requiring a future revision of the same.

Regarding the validity of the construct, the four dimensions of the PsyCap showed significant relationships with the personality dimensions (extraversion, agreeableness, conscientiousness, emotional stability and openness). These results follow the line of previous studies, who have also found these associations (Choi & Lee, 2014; Hong, Dyakov, & Zheng, 2020; Lorenz et al., 2016; Thomas & Tankha, 2017; Yildiz, 2018). Thus, those people with higher personality traits in extraversion, conscientiousness, open-mindedness and affability, as well as greater emotional stability would also present higher levels of psychological capital (Bozgeyikli, 2017).

This study is not without limitations. In the first place, the sample was mainly made up of athletes from a specific discipline (football), thus limiting the generality of the results to other disciplines. Future studies should expand

the knowledge of sports psychological capital to other disciplines, both team and individual ones. Secondly, for the research a student-recruited sampling was used. Despite this technique has been widely used in previous studies and have shown good reliability (Hochwarter, 2014), the fact of having more predisposition when collecting data difficulty, the generalization of results. In order to ensure a better generalization, future studies could make use of traditional data collection. In addition, future studies should analyze whether the psychometric properties of the questionnaire hold across cultures, as the concept of positive psychology may vary between countries. Finally, future studies should take into account the possible relationships that the Psycap factors could have with other psychological variables, with the intention of knowing and deepening in those characteristics likely to enhance the improvement of mental performance of athletes.

Conclusion

Despite these limitations, the present study offers robustness to the PsyCap construct in a different cultural and linguistic group. Moreover, a simple and brief scale that is easy to use for Spanish researchers is presented in order to be able to measure the construct and contribute to the literature. In this way, it will be possible to deepen the analysis of PsyCap in different contexts and realities, seeing how it behaves when evaluating it together with other variables. Relating to this, evidence of the relationship between Psycap and personality has been shown, opening a field within sports psychology. In addition, from an applied perspective, it could help sport psychologist in the analysis of individual characteristics related to performance and well-being of athletes to improve future interventions. This would involve knowing those psychological skills that have a greater presence in the athlete, to further develop these, or focus the intervention on those that need further development. With this, an integral training of the athlete would be achieved, with the ultimate goal of achieving an adequate level of performance, which can be maintained over time. Finally, the present study offers a valid measurement tool to identify those psychological strengths that can help athletes of different disciplines in the integral improvement of their performance level.

References

Aranzana Juarros, M., Salguero del Valle, A., Molinero González, O., Zubiaur González, M., De la Vega Marcos, R., Ruiz Barquín, R., & Márquez Rosa, S. (2016). Influence of Resilient Profile, Dispositional Optimism, Coping Strategies and Training Load on Stress-Recovery Levels in Swimmers. *Kronos, 15*(1), 8.

Avey, J. B., Reichard, R. J., Luthans, F., & Mhatre, K. H. (2011). Meta-analysis of the impact of positive psychological capital on employee attitudes, behaviors, and performance. *Human resource development quarterly, 22*(2), 127-152. https://doi.org/10.1002/hrdq.20070

Azanza, G., Domínguez, Á. J., Moriano, J. A., & Molero, F. J. (2014). Capital psicológico positivo. Validación del cuestionario PCQ en España. *Anales de Psicología/Annals of Psychology, 30*(1), 294-301. https://doi.org/10.6018/analesps.30.1.153631

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological review, 84*(2), 139-191. http://dx.doi.org/10.1016/0146-6402(78)90002-4

Bandura, A., & Ramachaudran, V. S. (1994). *Self-efficacy encyclopedia of human behavior*. Academic Press.

Besharat, M. A., & Pourbohlool, S. (2011). Moderating effects of self-confidence and sport self-efficacyon the relationship between competitive anxietyand sport performance. *Psychology, 2*(07), 760-765. http://dx.doi.org/10.4236/psych.2011.27116

Bozgeyikli, H. (2017). Big Five Personality Traits as the Predictor of Teachers' Organizational Psychological Capital. *Online Submission, 8*(18), 125-135. https://files.eric.ed.gov/fulltext/ED578029.pdf

Cantón Chirivella, E., & Checa Esquiva, I. (2012). Los estados emocionales y su relación con las atribuciones y las expectativas de autoeficacia en el deporte. *Revista de psicología del deporte, 21*(1), 171-176. https://archives.rpd-online.com/article/download/1043/1043-3030-1-PB.pdf

Caza, A., Bagozzi, R. P., Woolley, L., Levy, L., & Caza, B. B. (2010). Psychological capital and authentic leadership: Measurement, gender, and cultural extension. *Asia-Pacific Journal of Business Administration, 2*(1), 53-70. https://doi.org/10.1108/17574321011028972

Cevada, T., Cerqueira, L. S., Moraes, H. S. d., Santos, T. M. d., Pompeu, F. A. M. S., & Deslandes, A. C. (2012). Relationship between sport, resilience, quality of life, and anxiety. *Archives of Clinical Psychiatry (São Paulo), 39*, 85-89. https://doi.org/10.1590/S0101-60832012000300003

Chen, C. W., & Chi, L. K. (2014). The revision and factorial structure validation of sport hope scale. *Physiological Education Journal, 47*, 221–232. https://doi.org/10.6222/pej.4702.201406.1206

Choi, Y., & Lee, D. (2014). Psychological capital, big five traits, and employee outcomes. *Journal of Managerial Psychology, 29*(2), 122-140. https://doi.org/10.1108/JMP-06-2012-0193

Connor, K. M., & Davidson, J. R. (2003). Development of a new resilience scale: The Connor-Davidson resilience scale (CD-RISC). *Depression and anxiety, 18*(2), 76-82. https://doi.org/10.1002/da.10113

Curry, L. A., Snyder, C., Cook, D. L., Ruby, B. C., & Rehm, M. (1997). Role of hope in academic and sport achievement. *Journal of personality and social psychology, 73*(6), 1257–1267. https://doi.org/10.1037//0022-3514.73.6.1257

D'Isanto, T., D'Elia, F., Raiola, G., & Altavilla, G. (2019). Assessment of sport performance: Theoretical aspects and practical indications. *Sport Mont, 17*(1), 79-82. https://doi.org/10.26773/smj.190214

Dunn, J. G., Gotwals, J. K., Dunn, J. C., & Lizmore, M. R. (2020). Perfectionism, pre-competitive worry, and optimism in high-performance youth athletes. *International Journal of Sport and Exercise Psychology, 18*(6), 749-763. https://doi.org/10.1080/1612197X.2019.1577900

Egeland, B., Carlson, E., & Sroufe, L. A. (1993). Resilience as process. *Development and psychopathology, 5*(4), 517-528. https://doi.org/10.1017/S0954579400006131

Extremera, M. O., Moreno, E. O., González, M. C., Ortega, F. Z., & Ruz, R. P. (2017). Validation of resilience scale (CD-RISC) in elite athletes through a structural equation model. *RETOS. Nuevas Tendencias en Educación Física, Deporte y Recreación,* (32), 96-100. https://www.redalyc.org/pdf/3457/345751100019.pdf

Fletcher, D., & Wagstaff, C. R. (2009). Organizational psychology in elite sport: Its emergence, application and future. *Psychology of sport and exercise, 10*(4), 427-434. https://doi.org/10.1016/j.psychsport.2009.03.009

Fornell, C., & Larcker, D. F. (1981). Structural Equation Models with Unobservable Variables and Measurement Error: Algebra and Statistics. *Journal of Marketing Research, 18*(3), 382-388. https://doi.org/10.1177/002224378101800313

García-Naveira, V. (2018). Self-efficacy and performance in soccer players. *Cuadernos de Psicología del Deporte, 18*(2), 68-79. https://www.cabdirect.org/cabdirect/abstract/20183195769

García, O., Aluja, A., & García, L. F. (2004). Psychometric Properties of Goldberg's 50 Personality Markers for the Big Five Model1. *European Journal of Psychological Assessment, 20*(4), 310-319. https://doi.org/10.1027/1015-5759.20.4.310

Gardner, F. (1995). The coach and the team psychologist: an integrated organizational model. In *Sport psychology interventions.* (pp. 147-175). Human Kinetics Publishers. https://www.cabdirect.org/cabdirect/abstract/19951809091

Giles, S., Fletcher, D., Arnold, R., Ashfield, A., & Harrison, J. (2020). Measuring well-being in sport performers: Where are we now and how do we progress? *Sports Medicine, 50,* 1255-1270. https://doi.org/10.1007/s40279-020-01274-z

Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological assessment, 4*(1), 26-42. https://doi.org/10.1037/1040-3590.4.1.26

González-Campos, G., Rodríguez-López, M., & Castañeda-Vázquez, C. (2018). Evaluation of a motivational program to goal setting to optimize performance in high level athletes: a qualitative approach. *Cuadernos de Psicología del Deporte, 18*(3), 12-25. https://www.cabdirect.org/cabdirect/abstract/20183355936

Gordon, R. A. (2008). Attributional style and athletic performance: Strategic optimism and defensive pessimism. *Psychology of sport and exercise, 9*(3), 336-350. https://doi.org/10.1016/j.psychsport.2007.04.007

Gustafsson, H., Hassmén, P., & Podlog, L. (2010). Exploring the relationship between hope and burnout in competitive sport. *Journal of Sports Sciences, 28*(14), 1495-1504. https://doi.org/10.1080/02640414.2010.521943

Gustafsson, H., Skoog, T., Podlog, L., Lundqvist, C., & Wagnsson, S. (2013). Hope and athlete burnout: Stress and affect as mediators. *Psychology of sport and exercise, 14*(5), 640-649. https://doi.org/10.1016/j.psychsport.2013.03.008

Hair, J., Black, W., Babin, B., Anderson, R., & Tatham, R. L. (2006). *Multivariate data analysis.* Prentice Hall.

Hanrahan, S. J., Grove, J. R., & Hattie, J. A. (1989). Development of a questionnaire measure of sport-related attributional style. *International Journal of Sport Psychology, 20*(2), 114-134. https://findanexpert.unimelb.edu.au/scholarlywork/1097753

Hepler, T. J. (2016). Can self-efficacy pave the way for successful decision-making in sport? *Journal of Sport Behavior, 39*(2), 147-159. https://www.proquest.com/openview/88c8c7cdf43c63a332a06074eb1c61bf

Hepler, T. J., & Chase, M. A. (2008). Relationship between decision-making self-efficacy, task self-efficacy, and the performance of a sport skill. *Journal of Sports Sciences, 26*(6), 603-610. https://doi.org/10.1080/02640410701654280

Hochwarter, W. (2014). On the merits of student-recruited sampling: Opinions a decade in the making. *Journal of Occupational and Organizational Psychology, 87*(1), 27-33. https://doi.org/10.1111/joop.12043

Hong, M., Dyakov, D. G., & Zheng, J. (2020). Self-esteem and psychological capital: Their mediation of the relationship between Big Five personality traits and creativity in college students. *Journal of Psychology in Africa, 30*(2), 119-124. https://doi.org/10.1080/14330237.2020.1744286

Imran, M., & Shahnawaz, M. G. (2020). PsyCap and performance: Wellbeing at work as a mediator. *Asia-Pacific Journal of Management Research and Innovation, 16*(2), 93-102. https://doi.org/10.1177/2319510X20915999

Kim, M., Do Kim, Y., & Lee, H.-W. (2020). It is time to consider athletes' well-being and performance satisfaction: The roles of authentic leadership and psychological capital. *Sport Management Review, 23*(5), 964-977. https://doi.org/10.1016/j.smr.2019.12.008

Kline, T. J. B. (2005). *Psychological testing: A practical approach to design and evaluation.* Sage Publications. https://methods.sagepub.com/book/psychological-testing

LaForge-MacKenzie, K., & Sullivan, P. J. (2014). The relationship between self-efficacy and performance within a continuous educational gymnastics routine. *International Journal of Sport and Exercise Psychology, 12*(3), 206-217. https://doi.org/10.1080/1612197X.2014.909511

Lorenz, T., Beer, C., Pütz, J., & Heinitz, K. (2016). Measuring psychological capital: Construction and validation of the compound PsyCap scale (CPC-12). *PloS one, 11*(4), e0152892. https://doi.org/10.1371/journal.pone.0152892

Lu, F. J., & Hsu, Y. (2013). Injured athletes' rehabilitation beliefs and subjective well-being: The contribution of hope and social support. *Journal of athletic training, 48*(1), 92-98. https://doi.org/10.4085/1062-6050-48.1.03

Luthans, F. (2002). The need for and meaning of positive organizational behavior. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior, 23*(6), 695-706. https://doi.org/10.1002/job.165

Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel psychology, 60*(3), 541-572. https://doi.org/10.1111/j.1744-6570.2007.00083.x

Luthans, F., & Youssef, C. M. (2004). Human, Social, and Now Positive Psychological Capital Management: Investing in People for Competitive Advantage. *Organizational Dynamics, 33*(2), 143-160. https://doi.org/10.1016/j.orgdyn.2004.01.003

Luthans, F., Youssef, C. M., & Avolio, B. J. (2015). *Psychological capital and beyond.* Oxford University Press. https://lawcat.berkeley.edu/record/375038

Mach, M., Ferreira, A. I., & Abrantes, A. C. M. (2021). Transformational leadership and team performance in sports teams: A conditional indirect model. *Applied Psychology, 71*(2), 662-694. https://doi.org/10.1111/apps.12342

Morgan, H., Parker, A., & Roberts, W. (2019). Community sport programmes and social inclusion: what role for positive psychological capital? *Sport in Society, 22*(6), 1100-1114. https://doi.org/10.1080/17430437.2019.1565397

Moritz, S. E., Feltz, D. L., Fahrbach, K. R., & Mack, D. E. (2000). The relation of self-efficacy measures to sport performance: A meta-analytic review. *Research quarterly for exercise and sport, 71*(3), 280-294. https://doi.org/10.1080/02701367.2000.10608908

Newman, A., Ucbasaran, D., Zhu, F., & Hirst, G. (2014). Psychological capital: A review and synthesis. *Journal of organizational behavior, 35*(S1), S120-S138. https://doi.org/10.1002/job.1916

Nicholls, A. R., Polman, R. C., Levy, A. R., & Backhouse, S. H. (2008). Mental toughness, optimism, pessimism, and coping among athletes. *Personality and individual differences, 44*(5), 1182-1192. https://doi.org/10.1016/j.paid.2007.11.011

Nortes, E. S., Díaz, M. G., & García, C. R. (2021). Resiliencia y optimismo en gimnasia rítmica. *Retos: nuevas tendencias en educación física, deporte y recreación,* (41), 581-588. https://dialnet.unirioja.es/descarga/articulo/7953249.pdf

Ortín-Montero, F. J., De-la-Vega, R., & Gosálvez-Botella, J. (2013). Optimismo, ansiedad estado y autoconfianza en jugadores de balonmano. *Anales de Psicología/Annals of Psychology, 29*(3), 637-641. https://doi.org/10.6018/analesps.29.3.175751

Ortín-Montero, F. J., & Garcés de los Fayos, E. J. (2012). Influence of optimism in physical activity and sport. *Revista Universitaria De La Educación Física y el Deporte, 5*(5), 15-22.

Ortin-Montero, F. J., Martinez-Rodriguez, A., Reche-Garcia, C., de los Fayos, E. J. G., & Gonzalez-Hernandez, J. (2018). Relationship between optimism and athletic performance. Systematic review. *Anales de psicología, 34*(1), 153-161. http://dx.doi.org/10.6018/analesps.34.1.270351

Peterson, C., & Seligman, M. E. (1984). Causal explanations as a risk factor for depression: theory and evidence. *Psychological review, 91*(3), 347. https://doi.org/10.1037/0033-295X.91.3.347

Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of management, 12*(4), 531-544. http://dx.doi.org/10.1177/014920638601200408

Reardon, C. L., Hainline, B., Aron, C. M., Baron, D., Baum, A. L., Bindra, A., Budgett, R., Campriani, N., Castaldelli-Maia, J. M., & Currie, A. (2019). Mental health in elite athletes: International Olympic Committee consensus statement (2019). *British journal of sports medicine, 53*(11), 667-699. https://doi.org/10.1136/bjsports-2019-100715

Ruan, Z., & Liu, W. (2021). Coach authentic leadership connected with performance satisfaction and psychological well-being of team: The mediating role of team cohesion and psychological capital. *Revista de Psicología del Deporte (Journal of Sport Psychology), 30*(1), 189-203. https://mail.rpd-online.com/index.php/rpd/article/view/299

Ruiz-Barquín, R., de la Vega-Marcos, R., Poveda, J., Rosado, A., & Serpa, S. (2012). Psychometric analysis of the resilience scale in the sport of football. *Revista de psicología del deporte, 21*(1), 143-151. https://archives.rpd-online.com/article/view/1059.html

Rus, C. L., Băban, A., Jesus, S. N. d., & Andrei, D. (2012). An analysis of the psychometric properties of the Psychological Capital Questionnaire-12. *Journal of Educational Sciences & Psychology, 2*(1), 110-122. https://www.proquest.com/openview/5fc36255c4eede663259bed4a91d3233

Seligman, M. E. (2002). Positive psychology, positive prevention, and positive therapy. In *Handbook of positive psychology* (Vol. 2, pp. 3-12). http://www.positiveculture.org/uploads/7/4/0/7/7407777/seligrman_intro.pdf

Seligman, M. E., Nolen-Hoeksema, S., Thornton, N., & Thornton, K. M. (1990). Explanatory style as a mechanism of disappointing athletic performance. *Psychological Science, 1*(2), 143-146. https://doi.org/10.1111/j.1467-9280.1990.tb00084.x

Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55*(1), 5-14. https://doi.org/10.1037//0003-066X.55.1.5

Snyder, C. R. (2002). Hope theory: Rainbows in the mind. *Psychological inquiry, 13*(4), 249-275. https://doi.org/10.1207/S15327965PLI1304_01

Song, Y., Fang, Y., Wang, M., & Shi, J. (2020). A multiplex view of leadership structure in management teams. *Personnel psychology, 73*(4), 615-640. https://doi.org/10.1111/peps.12388

Thomas, E. R., & Tankha, G. (2017). Big five personality and psychological capital among final year medical students. *International Journal of Advanced Research (IJAR), 91*(1), 123-135. http://dx.doi.org/10.21474/IJAR01/2861

Truan, J. C. F., Castellano, D. C., Ucha, F. E. G., & Hoyos, Y. M. (2020). Resiliencia psicológica y afrontamiento al estrés en deportistas juveniles de béisbol cubanos. *Revista liminales. Escritos sobre Psicología y Sociedad, 9*(17), 25-37. https://doi.org/10.54255/lim.vol9.num17.352

Varela, S. M., Hanrahan, S. J., DeCano, P., Cook, C. R., & Barrett, P. M. (2020). Promoting positive development: Coaches as trainers in sports-based resilience programs. *Australian Journal of Rural Health, 28*(2), 209-214. https://doi.org/10.1111/ajr.12626

Vizoso-Gómez, C. (2020). Caracterización del capital psicológico en el profesorado: una revisión sistemática. *Estudios sobre Educación, 39*, 267-295. https://doi.org/10.15581/004.39.267-295

Wagnild, G. M., & Young, H. M. (1993). Development and psychometric. *Journal of nursing measurement, 1*(2), 165-178. https://pubmed.ncbi.nlm.nih.gov/7850498

Wernsing, T. (2014). Psychological capital: A test of measurement invariance across 12 national cultures. *Journal of Leadership & Organizational Studies, 21*(2), 179-190. https://doi.org/10.1177/1548051813515924

Yang, Z. (2020). An Empirical Analysis of the Relationship between Self-efficacy, Motivation, and Team Performance of High-level Basketball Players. *Revista de Psicología del Deporte (Journal of Sport Psychology), 29*(4), 221-231. https://rpd-online.com/index.php/rpd/article/view/243

Yildiz, E. (2018). A case study on relationships between psychological capital, personality and organizational commitment. *International Journal of Business Administration, 9*(2), 99-122. https://doi.org/10.5430/ijba.v9n2p99

Zhang, B., Xu, Q., Han, S., & Jiao, L. (2020). Analysis on influences of college students' psychological capital in entrepreneurial learning engagement. *Frontiers in Psychology, 11*, 2029. https://doi.org/10.3389/fpsyg.2020.02029

ANEXO

Anexo 1. The questionnaire adapted to the sports context in its Spanish version.

A continuación, indique su opinión sobre cómo se ajustan los siguientes ítems a lo que usted piensa sobre usted mismo, utilizando la siguiente escala para indicar su nivel de acuerdo o desacuerdo en cada frase.

Muy en desacuerdo	En desacuerdo	Algo en desacuerdo	Algo de acuerdo	De acuerdo	Muy de acuerdo
1	**2**	**3**	**4**	**5**	**6**

Self-efficacy

1. Me siento seguro/a analizando un problema a largo plazo para encontrar una solución
2. Me siento seguro/a al representar a mi equipo en competiciones importantes
3. Me siento seguro/a al participar en los debates sobre estrategia/táctica con mi equipo/entrenador
4. Me siento seguro/a ayudando a establecer objetivos en mi entorno deportivo
5. Me siento seguro/a contactando con personas externas a mi equipo (patrocinadores, agencias deportivas, representantes…) para discutir los problemas
6. Me siento seguro/a al presentar información a mis compañeros/as de equipo

Hope

7. Si estuviese en apuros en mi práctica deportiva, se me ocurrirían muchas formas de salir de la situación
7. En la actualidad estoy persiguiendo enérgicamente mis objetivos deportivos
7. Hay muchas formas de darle la vuelta a cualquier problema
7. Actualmente creo que estoy teniendo bastante éxito en mi práctica deportiva
7. Se me ocurren muchas formas de alcanzar mis actuales objetivos deportivos
7. En este momento, estoy alcanzando los objetivos deportivos que me he establecido

Resilience

13. Por lo general, manejo las dificultades de una manera u otra en la práctica deportiva
13. Normalmente me tomo con calma los aspectos estresantes de la práctica deportiva
13. Puedo superar las épocas deportivas difíciles porque ya me he enfrentado antes a las dificultades
13. Siento que puedo manejar muchas cosas a la vez en esta práctica deportiva

Optimism

17. Cuando las cosas son inciertas para mí en la práctica deportiva, por lo general, espero lo mejor
17. En lo que respecta a mi práctica deportiva, soy optimista en cuanto a lo que me deparará el futuro