



**Berengüí R; Castejón MA; Parra-Plaza FJ; López-Gullón J. (2024).** Burnout and psychological performance: relationships in youth athletes. *Journal of Sport and Health Research*. 16(2):249-258. <https://doi.org/10.58727/jshr.98589>

Original

## BURNOUT Y RENDIMIENTO PSICOLÓGICO: RELACIONES EN JÓVENES DEPORTISTAS

### BURNOUT AND PSYCHOLOGICAL PERFORMANCE: RELATIONSHIPS IN YOUTH ATHLETES

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*Edited by: D.A.A. Scientific Section  
Martos (Spain)*



Received: 22/02/2023  
Accepted: 11/04/2023



## RESUMEN

El rendimiento deportivo está determinado por múltiples factores, teniendo las variables psicológicas un papel básico. Diferentes problemas y psicopatologías, como el burnout, pueden tener un efecto debilitante y perjudicial sobre el rendimiento del deportista. El objetivo de estudio fue analizar la relación del burnout con las características psicológicas relevantes en el rendimiento deportivo, en jóvenes competidores de luchas olímpicas. Participaron 125 deportistas. Se administraron el Inventario de Burnout en Deportistas Revisado (IBD-R) y el Inventario Psicológico de Ejecución Deportiva (IPED). Los resultados mostraron importantes relaciones de las tres dimensiones del burnout con las escalas psicológicas. Agotamiento Emocional y Despersonalización se asociaron negativamente con todas las variables psicológicas evaluadas, y Reducida Realización Personal se relaciona de forma directa con las mismas. También las tres escalas de burnout se mostraron como variables predictoras de las habilidades psicológicas, en especial Reducida Realización Personal y Agotamiento Emocional. En conclusión, el burnout se relaciona con las variables psicológicas básicas en el rendimiento deportivo, y por ello es necesario el trabajo para desarrollar estrategias de prevención e intervención eficaces.

**Palabras clave:** Burnout; rendimiento deportivo; variables psicológicas; deportistas jóvenes; lucha olímpica.

## ABSTRACT

Sports performance is determined by multiple factors, with psychological variables playing a key position. Different problems and psychopathologies, such as burnout, can have a debilitating and detrimental effect on the athlete's performance. The aim of the study was to analyse the relationship between burnout and psychological characteristics relevant to sports performance in young wrestling competitors. A total of 125 athletes participated. The Burnout in Sport Revised Questionnaire (IBD-R) and the Psychological Inventory Athletic Performance (IPED) were administered. The results showed significant relationships of the three dimensions of burnout with the psychological scales. Emotional Exhaustion and Depersonalization were inversely associated with all the psychological variables evaluated, and Reduced Personal Accomplishment was directly related to them. Also, the three burnout scales were shown to be predictive variables of psychological skills, especially Reduced Personal Accomplishment and Emotional Exhaustion. In conclusion, burnout is related to basic psychological factors in sports performance, and therefore work is needed to develop effective prevention and intervention strategies.

**Keywords:** Burnout; sport performance; psychological factors; youth athletes; wrestling.



## INTRODUCTION

Sports performance is an integrated process influenced by multiple contextual, technical, tactical, physical and psychological aspects (Campos-Salinas, 2017; Robles et al., 2016). At the psychological level, variables such as self-confidence, motivation, attentional processes or activation levels of the athlete, among others, have demonstrated their determining effect on performance (Berengüí & López-Walle, 2018).

High-level sport requires the athlete to be immersed in a very demanding training regimen, starting at a very young age (Brenner, 2016). Engaging in high-intensity training and competition throughout the season is part of the athlete's development process, with a view to acquiring the skills necessary for high performance (Liu & Yue, 2020). But such high involvement can have serious consequences. Adequate sports practice has been commonly associated with numerous health benefits, and people decide to participate in sport as a means to obtain enjoyment and well-being, but on many occasions, the high demands of training and competition raise excessive physical, emotional and psychological stress and high wear and tear on the practitioner, causing the athlete to put his or her health at risk (Berengüí & Pelegrín, 2018; Salazar-González et al., 2020).

In addition to various physical problems, sport can be associated with the suffering of different psychopathologies, such as depression, anxiety, eating disorders or burnout, among others, which have a serious impact on the health of the practitioner and lead to the deterioration of their performance (Berengüí & Pelegrín, 2018; Brewer, 2009). It can also have an impact on the age of sports initiation for young athletes.

Among these psychological problems, burnout stands out. Burnout syndrome is a negative experience for the athlete that is composed of elements of a physiological, emotional, cognitive and attitudinal nature (Morano et al., 2020). Although different theoretical models have emerged in sport (Coakley, 1992; Schmidt & Stein, 1991; Smith, 1986), the most widely accepted proposal is based on the theoretical framework developed by Maslach and Jackson (1981) in the workplace, who proposed a three-dimensional model to explain the loss of emotion and

dissatisfaction at work. These three dimensions are manifested as emotional exhaustion (feeling of diminished physical and emotional capacities), depersonalization (distant and impersonal responses to people close to them), and reduced personal accomplishment (loss of confidence and enthusiasm in the activity and a negative self-concept). In sport, burnout means that the athlete "feels physically and psychologically exhausted by the demands of training and competition, perceives a diminished sense of accomplishment and experiences a sporting devaluation in which his or her sporting performance ceases to matter" (Raedeke & Smith, 2004, p.1).

Burnout can lead to a series of adverse outcomes in the sports environment (Graña et al., 2021; Wilczynska et al., 2022), such as affective problems (negative moods and hostility), cognitive problems (such as difficulties in concentration and memory), or physical problems (such as fatigue or increased likelihood of injury) and behavioural problems (such as absenteeism and poor sports performance). A negative consequence cited in the vast majority of studies is the tendency for young athletes to drop out of the activity prematurely (Garcés de Los Fayos, 1995; García-Parra et al., 2016).

A relevant aspect to be analysed is the relationship of burnout with the basic psychological characteristics in sports performance, in this case in wrestling practitioners. Wrestling is a combat sport composed of different modalities (Greco-Roman, Freestyle men's and women's), based on a system of weight categories that tries to balance the physical potential between rivals and therefore increase the percentage of performance that depends on the technical-tactical and psychological skills that each wrestler demonstrates on the mat (García-Pallarés et al., 2011). Studies carried out in wrestling have confirmed the importance of psychological variables on performance, such as self-confidence (Berengüí et al., 2012, 2015; Highlen & Bennett, 1979; López-Gullón et al., 2011, 2012; Russell & Cox, 2002), concentration (Gould et al., 1981), motivation (Berengüí et al., 2012), or lower levels of competitive anxiety (Highlen & Bennett, 1983), among others. Even, at a qualitative level, Spanish Olympic wrestlers affirm that psychological factors are basic and responsible for high performance, considering motivation and self-confidence as the most important



psychological variables, and assumed as conditional and important in sports performance, and predictors of success in wrestling (Argudo et al., 2020).

Also, although the study of the relationships between burnout and psychological variables in wrestling has been very limited, some studies confirm higher values in women of emotional exhaustion, depersonalization and reduced personal accomplishment (Berengüí et al., 2015), lower emotional exhaustion and depersonalization, and higher perception of personal achievement in their sport performance, in wrestlers with higher levels of optimism (Berengüí et al., 2013). And higher coping among wrestlers with lower emotional exhaustion and depersonalization, as well as higher personal accomplishment in athletes with higher motivational levels (Berengüí et al., 2015).

The aim of this study was to analyse the relationship between burnout and psychological characteristics relevant to sports performance in young wrestlers.

## METHODS

### *Participants*

A total of 125 wrestlers participated, 41 women and 84 men. The mean age was 16.93 years ( $SD= 2.019$ ), ranging from 15 to 18 years. The data were collected during technical concentrations in two seasons. All the athletes belonged to the sports technification programs (ages prior to the transition to a professional or high performance sport) of the Royal Spanish Federation of Olympic Wrestling and Associated Disciplines. The mean number of years of experience or years competing in their sport was 5.43 years ( $SD= 2.97$ ), and a mean number of training days per week of 4.32 days ( $SD= 0.91$ ).

### *Measures*

Burnout in Sport Revised Questionnaire (IBD-R). The IBD in its revised version (Garcés de Los Fayos et al., 2012) was used to assess burnout. It consists of 19 items that measure the three dimensions of burnout originally proposed by Maslach and Jackson (1981): 1) Emotional Exhaustion (EE); 2) Depersonalization (D); 3) Reduced Personal Accomplishment (RPA). In the EE and D dimensions, the higher the scores of the subjects, the

higher the level of burnout experienced, whereas, in RRP, the lower the scores, the higher the degree of burnout. The response format is Likert-type, with five options, from I have never felt or thought this (1), to I think or feel this every day (5). In the present study the scales presented a reliability (Cronbach's Alpha) similar to those found in the original, specifically,  $\alpha= 0.75$  in EE,  $\alpha= 0.74$  in D, and  $\alpha= 0.72$  in RPA.

Psychological Inventory of Athletic Performance (IPED). The IPED was used to measure the psychological performance of athletes (Hernández-Mendo, 2006; Hernández-Mendo et al., 2014). It is formed by 42 items, with 5-option Likert-type response scales (from 1 or almost never to 5 or almost always), grouped into seven scales: 1) Self-Confidence (SC): items related to positive cognitions and feelings that indicate the degree of certainty that the athlete has regarding his or her ability to achieve success in a given task; 2) Negative Coping Control (NCC): control by the athlete of negative emotions, such as fear, anxiety, anger, frustration, etc.; 3) Attentional Control (AC): indicates the ability to perceive and assimilate appropriately the information transmitted by the coach and the environment, and detection of significant stimuli of the sport situation; 4) Visual and Imaginative Control (VIC): ability to control situations and experiences at a mental level; 5) Motivational Level (ML): degree of commitment and interest of the athlete for his or her sport, importance given to it, or their disposition and coping with respect to daily training and improvement; 6) Positive Coping Control (PCC): indicator of the athlete's ability to seek dynamization through positive emotions, while keeping negative emotions under control; 7) Attitudinal Control (ATC): control over the predisposition for action and for the classification of objects, people and behaviors in the individual's environment, and over the degree of reaction to them and their evaluative consistency. In addition, we used the total mean of the sum of the seven scales to obtain a total index of mental toughness (MT). The reliability in the different scales was:  $\alpha= 0.80$  in SC,  $\alpha= 0.70$  in NCC,  $\alpha= 0.75$  in AC,  $\alpha= 0.81$  in VIC,  $\alpha= 0.72$  in ML,  $\alpha= 0.76$  in PCC,  $\alpha= 0.71$  in ATC, and  $\alpha= 0.90$  for the total measure of mental toughness (MT).

### *Procedures*



Those responsible for the Royal Spanish Federation of Olympic Wrestling and Associated Disciplines were contacted to explain the objectives and procedure of the study. After obtaining their approval, meetings were held with the different coaches and/or managers of the different national federations to explain the objectives of the study and request permission for data collection. Once participation was accepted, appointments were made prior to the training sessions to administer the questionnaires.

The participation of the athletes was voluntary, and after presenting the study and explaining the confidentiality of the data collected, written consent to participate was obtained, together with that of the supervisors and coaches. Information was provided on the objectives of the study, instructions and guidelines for completing the questionnaires. The participants answered the questionnaires anonymously and collectively. The researchers were present during the administration of the questionnaires to supervise the correct completion of the data and to answer any doubts or questions that might arise. The study was conducted according to the guidelines of the Declaration of Helsinki.

#### Data analysis

Data analysis was performed with the statistical program SPSS v.27.0 (IBM Corp., Armonk, NY, USA). Pearson correlation coefficients were calculated to observe patterns of common variation among the variables. Regression analysis, specifically the stepwise method, was performed to determine the contribution of the independent variables (burnout scales) in explaining the dependent variables (MT and psychological scales). The level of statistical significance in all cases was  $p < 0.05$ .

#### RESULTS

The correlations (Table 1) between EE and D burnout scales and psychological skills are all statistically significant and inverse, and mostly of moderate magnitude. Of particular note are the correlations of EE with ML ( $r = -.558$ ;  $p < .001$ ), PCC ( $r = -.448$ ;  $p < .001$ ), and MT ( $r = -.467$ ;  $p < .001$ ). Also correlations between D and the same scales: ML ( $r = -.477$ ;  $p < .001$ ), PCC ( $r = -.461$ ;  $p < .001$ ), and MT ( $r = -.430$ ;  $p < .001$ ).

Correlations of RPA with the psychological scales are statistically significant and have a positive sign, since the higher the scores, the lower the degree of burnout. As with the other burnout dimensions, the correlations of RPA with ML ( $r = .499$ ;  $p < .001$ ), PCC ( $r = .443$ ;  $p < .001$ ), and MT ( $r = .479$ ;  $p < .001$ ) stand out.

Table 1. Bivariate correlations between burnout dimensions and psychological scales.

	EE	D	RPA	SC	NCC	AC	VIC	ML	PCC	ATC	MT
EE	1										
D	.713**	1									
RPA	-.570**	-.567**	1								
SC	-.281**	-.272**	.372**	1							
NCC	-.339**	-.295**	.357**	.578**	1						
AC	-.345**	-.219*	.268**	.518**	.609**	1					
VIC	-.199*	-.294**	.244**	.180*	.178	.199*	1				
ML	-.558**	-.477**	.499**	.500**	.425**	.469**	.273**	1			
PCC	-.448**	-.461**	.443**	.458**	.546**	.432**	.287**	.593**	1		
ATC	-.308**	-.284**	.328**	.563**	.595**	.418**	.194*	.548**	.666**	1	
MT	-.467**	-.430**	.479**	.746**	.772**	.729**	.438**	.734**	.783**	.801**	1

Note: \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; EE= Emotional Exhaustion; D= Depersonalization; RPA= Reduced Personal Accomplishment; SC= Self-Confidence; NCC= Negative Coping Control; AC= Attentional Control; VIC= Visual and Imaginative Control; ML= Motivational Level; PCC= Positive Coping Control; ATC= Attitudinal Control; MT= Mental Toughness.



Regarding regression analysis (Table 2), RPA is the main predictor variable of MT, accounting for 23% of the variance. Together with EE they explain 30% ( $R^2 = 0.31$ , adjusted  $R^2 = 0.30$ ;  $F(1, 123) = 36.539$ ,  $p < 0.001$ ). In the rest of psychological skills, RPA is the main predictor of SC ( $R^2 = 0.15$ , adjusted  $R^2 = 0.14$ ;  $F(1, 123) = 19.704$ ,  $p < 0.001$ ), NCC ( $R^2 = 0.13$ , adjusted  $R^2 = 0.12$ ;  $F(1, 123) = 17.947$ ,  $p < 0.001$ ) and ATC ( $R^2 = 0.11$ , adjusted  $R^2 = 0.10$ ;  $F(1, 123) = 14.836$ ,  $p < 0.001$ ). Meanwhile, EE explains 12% of the variance in the prediction of AC ( $R^2 = 0.13$ ,

adjusted  $R^2 = 0.12$ ;  $F(1, 123) = 16.570$ ,  $p < 0.001$ ), and D 8% of VIC ( $R^2 = 0.09$ , adjusted  $R^2 = 0.08$ ;  $F(1, 123) = 11.659$ ,  $p < 0.01$ ). EE is the main predictor of ML (30% of the variance) and PCC (23% of the variance). Together with RPA they explain 36% of the variance in ML and 28% in PCC.

Table 2. Regression analysis

	Predictores	B	DE	$\beta$	$t$	$p$
DV: Mental Toughness						
Model 1	Constant	133.838	4.615		29.001	< .001
	RPA	1.305	.216	.479	6.045	< .001
Model 2	Constante	157.515	8.862		17.774	< .001
	RPA	.858	.254	.314	3.376	.001
	EE	-1.078	.349	-.288	-3.092	.002
DV: Self-Confidence						
Model 1	Constant	19.784	1.000		19.792	< .001
	RPA	.208	.047	.372	4.439	< .001
DV: Negative Coping Control						
Model 1	Constant	14.956	1.074		13.924	< .001
	RPA	.213	.050	.357	4.236	< .001
DV: Attentional Control						
Model 1	Constant	25.766	.926		27.824	< .001
	EE	-.261	.064	-.345	-4.071	< .001
DV: Visual and Imaginative Control						
Model 1	Constant	26.010	.900		28.913	< .001
	D	-.281	.082	-.294	-3.415	.001
DV: Motivational Level						
Model 1	Constant	29.794	.721		41.306	< .001
	EE	-.373	.050	-.558	-7.436	< .001
Model 2	Constant	25.775	1.498		17.205	< .001
	EE	-.272	.059	-.406	-4.607	< .001
	RPA	.130	.043	.267	3.032	.003
DV: Positive Coping Control						
Model 1	Constant	28.692	.765		37.484	< .001
	EE	-.329	.053	-.488	-6.202	< .001
Model 2	Constant	24.999	1.605		15.578	< .001
	EE	-.236	.063	-.349	-3.733	< .001
	RPA	.120	.046	-.243	2.602	.010
DV: Attitudinal Control						
Model 1	Constant	19.597	.075		20.094	< .001
	RPA	.176	.046	.328	3.825	< .001

Note: DV= Dependent Variable; EE= Emotional Exhaustion; D= Depersonalization; RPA= Reduced Personal Accomplishment.



## DISCUSIÓN

The aim of the study was to analyse the relationship between burnout and different psychological variables relevant to sports performance in young wrestlers. The results show important relationships of the three dimensions of burnout with the psychological scales. On the one hand, Emotional Exhaustion and Depersonalization were negatively associated with all the psychological variables evaluated, and Reduced Personal Accomplishment was directly related to them. The three burnout scales were also shown to be predictors of psychological skills, especially RPA and EE. All this makes us understand the impact of burnout on psychological skills.

According to Garcés de Los Fayos (2004), EE corresponds to psychological and physical fatigue that is not commensurate with the objective effort, depersonalization implies an emotional distancing of the athlete from the people around him/her in the sports environment, and reduced personal fulfillment entails feelings of not achieving sports objectives and inability to progress in his/her activity. Based on these negative characteristics, among the different findings of the study we can highlight the relationships of the burnout scales with the skills related to psychological performance at a global level, which supports previous approaches on the detrimental effect of burnout on sports performance (Garcés de Los Fayos, 1999; Graña et al., 2021; Wilczynska et al., 2022).

In particular, the burnout dimensions have an important relationship with ML and NCC. In IPED, the motivation scale is proposed as the level of certain internal, external or mixed processes that activate, orient, direct and maintain the individual's behavior towards a goal, giving it intensity and duration, while the NCC is the ability to achieve a better disposition through emotions and positive states (Campos-Salinas et al., 2019; Hernández-Mendo, 2006; Hernández-Mendo et al., 2014). In fact, the experience of burnout has a vital weight on motivation and loss of enthusiasm (Carlin et al., 2012), and therefore its study has been approached from proposals such as Achievement Goals Theory, Self-Determination Theory and Commitment Theory.

The results also find some support in a previous study with wrestlers (Berengüí et al., 2015), in which

it was found that athletes with high scores in RPA also showed higher levels of Motivation, and those with low scores in EE and D presented higher scores in NCC.

In young athletes, and since the beginning of research on the syndrome in Spain (Garcés de Los Fayos, 1995), several negative consequences have been noted, especially the tendency of premature dropout, but also frustration, psychosomatic disorders and behavioral problems. All the results found are in line with the theoretical model adopted (Garcés de Los Fayos, 2004; Garcés de Los Fayos & Cantón, 2007). Sport usually requires from the practitioner an orientation towards high achievement and excessive dedication, and therefore athletes who are also overly motivated, with a high degree of commitment in their activity, and subjected to overflowing levels of stress, may be at risk of developing burnout (Berengüí & Pelegrín, 2018; Chen et al., 2022). In this case, we also found the opposite, that burnout is responsible for impairment in psychological variables.

Despite the fact that physical-sports practice is advisable and fundamental for any person, and even through its practice it has been found to reduce anxiety and increase self-efficacy in workers, attenuating burnout (Chen et al., 2022), due to the serious consequences that burnout can have on athletes, especially among young practitioners, it is essential to work to provide prevention strategies and effective interventions.

Prevention work should be aimed in different directions (Garcés de Los Fayos, 2004). Firstly, through direct intervention with the athlete, using mental training techniques that are usually used to improve the performance of athletes according to their age and sports level (Akhrem & Gazdowska, 2022), basic techniques to control the motivational, emotional and cognitive processes, such as visualization, relaxation, goal setting or self-dialogue, among others (Andersen, 2005; Brewer, 2009; Cantú et al., 2018). In addition, other important lines would be preventive intervention with the athlete's family members, indirect intervention with the coach, and contributions to the social structure of sport, working with sports organizations to improve the conception of sport, especially for children and youths (Garcés de Los Fayos, 2004).



Additionally, it has also been confirmed that interventions based on cognitive-behavioral therapy and mindfulness effectively reduced most dimensions of burnout, and online interventions were significantly more beneficial in this reduction (Wilczynska et al., 2022).

## CONCLUSIONS

Burnout and the fundamental psychological variables in sports performance are associated. Furthermore, burnout has an important negative impact on these variables. Therefore, it is necessary to work to develop strategies for the prevention of burnout and effective interventions for its treatment.

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