



Spanish validation of the Baron Depression Screener for Athletes (BDSA) scale in Chilean athletes

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Abstract: *Introduction:* Sports practice, has been traditionally perceived as a protective factor for mental health, however, in high-performance athletes, significant mental health issues are consistently reported, which appear with a prevalence comparable to that of the general population and are more common among female athletes than male athletes. Although specific tools such as the Baron Depression Screener for Athletes (BDSA) exist, their lack of validation in Spanish-speaking contexts limits their applicability. The aim of this study was to validate the Spanish version of the BDSA, a brief screening instrument for depressive symptoms specifically designed for athletes, by psychometrically comparing it with the Patient Health Questionnaire-9 (PHQ-9), previously validated in Chile and Latin America. *Methods:* An online survey was administered between November 2024 and April 2025 to Chilean adult federated athletes, following translation-cultural adaptation and back-translation approved by the original author. Descriptive analyses, subgroup comparisons, and confirmatory factor analysis (CFA) with Diagonally Weighted Least Squares (DWLS) estimation were conducted, along with a correlation analysis with the PHQ-9 to assess convergent validity. *Results:* A total of 197 athletes participated (54.3% men, 47.5% women), with a mean age of 24.98 years (SD = 7.17). The CFA showed good fit (CFI = 0.997; RMSEA = 0.021), and the scale demonstrated high reliability ($\alpha = 0.878$; $\omega = 0.776$). The correlation with the PHQ-9 was strong ($r = 0.69$), indicating adequate convergent validity. *Conclusion:* In conclusion, the Spanish version of the BDSA is a valid and reliable instrument for screening depressive symptoms in Chilean adult federated athletes.

Keywords: athlete mental health, depressive symptoms, screening instrument validation, Spanish-speaking athletes, sports psychiatry

Introduction

For several years, it has been recognized that individuals engaged in high-level competitive sports are also exposed to mental health problems. Despite the widespread belief that sport protects mental health, high-performance practice does not create immunity against such conditions. Although large-scale prevalence studies remain scarce, it has been suggested that athletes involved in elite sport exhibit rates of mental health problems at least comparable to those of the general population, with distinct prevalence profiles and clinical manifestations in certain conditions

[1, 2, 3]. Globally, WHO data indicate that one in seven people experience a mental health disorder [4], while IOC data suggest that one in three elite athletes present with relevant mental health symptoms [5]. In the context of competition, especially in the high level, sporting and/or non-sporting aspects could expose athletes to psychological problems or pressures, which, associated with psychological traits and sociocultural characteristics, could generate significant psychological distress and mental health problems [3].

Preconceived notions of what it means to be an elite athlete, together with the stigma surrounding mental health in sport [6], often hinder athletes' help-seeking processes,

What is already known on this topic

Depression screening in athletes is needed, but validated brief tools in Spanish are scarce.

What this study adds

Chilean Spanish BDSA showed a stable one-factor structure, good reliability, and strong correlation with PHQ-9.

How this study may affect sports psychiatry practice

Enables rapid, culturally adapted screening to support early detection and referral in sport settings.

reduce access to appropriate care, or result in treatments that fail to account for the physiological, occupational, and cultural particularities of this population, including patoplastic psychopathological phenomena. These issues may lead to deterioration in quality of life, poorer treatment outcomes, and potentially reduced athletic performance [2, 3, 9]. In recent years, the sports and medical communities have advanced efforts to improve and organize mental health care in sport, exemplified by the publication of dedicated books [7, 8], as well as expert consensus statements and recommendations [5, 9, 10].

Among the most studied mental health issues in athletes are mood disorders, particularly depressive disorders and its symptoms, understanding such as persistently low or depressed mood, anhedonia or decreased interest in pleasurable activities, feelings of guilt or worthlessness, lack of energy, poor concentration, appetite changes, psychomotor retardation or agitation, sleep disturbances, or suicidal thoughts, besides others [11]. According to Wolanin et al. [12], who studied male and female NCAA Division I athletes, at least one quarter presented significant depressive symptoms, with higher prevalence in women than in men. Similarly, Geiger et al. [13], in a study of 275 elite German athletes, reported that 28.6% exhibited depressive symptoms. Furthermore, Goutteborge et al. [14], in a systematic review and meta-analysis of mental health symptoms among active and retired athletes, found that 33.6% of active athletes and 26% of retired athletes presented with relevant anxiety and/or depressive symptoms. A recent meta-analysis conducted by Harenberg et al. [15] examined 31 clinical studies ($n = 9,776$ athletes) to evaluate how anonymity of the study affects reporting. They found a broad range of depression prevalence (0%–30.7%) with a pooled estimate of 15.3%, resalting that prevalence rates were almost twice as high when questionnaires were administered anonymously versus non-anonymously [15]. Another study, a systematic review conducted by Golding et al. [16] regarding depressive symptoms in high-performance athletes aged 17 and older, reported prevalence rates ranging from 6.7% to 34.0%. Higher values were observed in female athletes compared to males, as well as in those

participating in individual sports. Risk factors identified for depression included injuries, a history of three or more concussions, female sex, and higher levels of competition [16].

Some studies have assessed the psychometric properties of depression scales among athletic populations, such as the study conducted by Keenan et al. [17], who evaluated a group of student-athletes from the National Collegiate Athletic Association (NCAA) Division II. They reported that the Patient Health Questionnaire-9 (PHQ-9) demonstrated 78% sensitivity, 75% specificity, and a 17.3% positive predictive value. In comparison, the Center for Epidemiologic Studies Depression Scale (CES-D), using a cutoff score of 15, showed 83% sensitivity, 78% specificity, and a 19.7% positive predictive value [17]. In another study, Harenberg et al. [18] examined 1,524 student-athletes from institutions in the North-Eastern United States to conduct a factor analysis of the PHQ-9. Their results indicated an adequate fit and robust overall performance of the scale. Furthermore, the study reported an unusually low prevalence of depressive symptoms among the sampled athletes (3.13%) [18].

In response to the need for improved screening of depressive symptoms, Baron et al. [7] developed the Baron Depression Screener for Athletes (BDSA), a specific screening tool for detecting depressive symptoms in athletes. Unlike other scales, the BDSA provides a sport-contextualized approach, while remaining brief, self-administered, and easy to review by support staff or even by the athletes themselves. Although it does not provide diagnostic scores, as it is a screening tool, total scores greater than 5 points or a positive response to item 10 should prompt referral to health professionals for diagnostic assessment and possible treatment. The scale is also recommended among the screening instruments endorsed by the IOC Consensus Statement on Mental Health in Elite Athletes [5]. However, despite its availability in the Spanish edition of the original authors' book, the scale has not been culturally adapted or validated for Spanish-speaking populations.

In Chile, sports federations - the focus of the present study - encompass a diverse range of frequent athletes, from amateur competitors on the national circuit to elite athletes representing the country in national teams at an elite international competitive level across different disciplines. Furthermore, while each federation maintains diverse professional support teams, many lack mental health professionals for athletes at any competitive level. Where such professionals are available, they are often scarce and primarily focused on highly selected groups, typically those with the highest performance or potential.

General objective

To validate the Spanish version of the BDSA in a group of Chilean adult federated athletes.

Specific objectives

1. To translate and culturally adapt the BDSA into Spanish
2. To assess the internal reliability of the BDSA in the selected sample of national federated athletes (ordinal α and ω)
3. To evaluate the factorial structure of the BDSA in the selected sample of national federated athletes (CFA)
4. To analyze the concurrent validity of the BDSA through its statistical association with the results obtained from the PHQ-9, an instrument validated and widely used for screening depressive symptoms in Chile [8, 9] and Latin America [10]

Methods

Design

A cross-sectional psychometric validation study was conducted to evaluate the Spanish version of the Baron Depression Screener for Athletes (BDSA) in a group of Chilean adult federated athletes using an online survey approach.

Participants

Participants were Chilean federated athletes (men and women) aged 18 years or older. Eligibility criteria included being an active federated athlete, defined as having participated in a national and/or international competition within the previous two years. A total of 250 individuals accessed the survey link. The final sample comprised 197 participants, corresponding to those who completed both the BDSA and the PHQ-9. Participants' mean age was 24.98 years ($SD = 7.17$). The sample included 107 men (54.3%) and 90 women (45.7%). For more details on participant characteristics, please see Table 1.

Instruments

Baron Depression Screener for Athletes (BDSA)

The BDSA (7) comprises 10 items answered on a 3-point response scale (0 = Never; 1 = Sometimes, over a 2-week period; 2 = Most of the time, over a 2-week period). The Spanish version used in this study was obtained through a translation and back-translation process and a cognitive interview (see Procedure). The original and translated items, along with the scale instructions, are presented in Table 2.

Patient Health Questionnaire-9 (PHQ-9)

Depressive symptoms were additionally assessed using the PHQ-9 [19, 20], a 9-item self-report instrument that evalu-

ates the presence of depressive symptoms corresponding to DSM-IV criteria during the previous two weeks. Each item is rated using a four-level severity frequency scale (0 = "never," 1 = "several days," 2 = "more than half the days," 3 = "nearly every day"). The Chilean validation also describes an algorithmic classification of depressive syndromes based on the presence and frequency of symptoms (e.g., major depressive syndrome requiring ≥ 5 symptoms occurring "more than half the days" and including depressed mood or anhedonia). In the present study, the PHQ-9 was used as an external criterion measure to examine associations with BDSA scores.

Rationale for convergent validity measure

The PHQ-9 was selected as the convergent validity criterion because it is a widely used depression screening instrument in Chilean general population settings (e.g., in primary health care and community mental health screening). Given its extensive use and established psychometric support in the local context, the PHQ-9 can be considered a practical reference standard for the screening of depressive symptomatology, allowing an interpretable benchmark to evaluate the degree to which BDSA scores converge with an established measure of depressive symptom severity.

Data analysis

Descriptive statistics (means, standard deviations, frequencies) were computed for all study variables. The factorial structure of the BDSA was evaluated using confirmatory factor analysis (CFA) with the Diagonally Weighted Least Squares (DWLS) estimator [21], which is appropriate for ordinal/categorical item responses. Pearson correlations between BDSA and PHQ-9 total scores were calculated to examine convergent validity. All analyses were conducted in R (v.4.4.3) using the packages *lavaan*, *semTools*, *haven*, *dplyr*, and *corrplot*.

Procedure

Translation and back-translation

To ensure the conceptual and linguistic equivalence of the instrument, a process of direct translation and back-translation was conducted, following the methodological recommendations proposed by Beaton [22]. This procedure allowed verification of the semantic fidelity of the original items and their cultural adequacy to the local context. The original English version of the scale was directly translated into Spanish by the research team, specifically by two federated athletes who were also health professionals and members of the research group. Subsequently, the adapted scale was translated back into English by a bilingual expert in medical translations and then sent to the original author

Table 1. Frequency of descriptive Variables

			N	%
Sex	Man		107	54.3%
	Woman		90	45.7%
Education	Incomplete or lower secondary education		7	3.5%
	Complete secondary education		45	22.8%
	Technical and Vocational Education		9	4.6%
	Incomplete University Professional Education		65	33.0%
	University Professional Education		47	23.9%
	Postgraduate Education		24	12.1%
Competition	National	Yes	185	93.9%
		No	12	6.1%
	International	Yes	144	73.1%
		No	53	26.9%
Mental health treatment	Pharmacological	Yes	19	9.6%
		No	178	90.4%
	Psychotherapy	Yes	24	12.2%
		No	173	87.8%
	Support from a sports psychologist	Yes	63	32.0%
		No	134	68.0%
Participants' federations	Chilean Volleyball Federation		14	7.1%
	Chilean Aeronautical Federation		6	3.0%
	Chilean Basketball Federation		14	7.1%
	Chilean Underwater Sports Federation		7	3.6%
	Chilean Field Hockey Federation		83	42.1%
	Chilean Rugby Federation		12	6.1%
	Chilean Tennis Federation		5	2.5%
	Chilean National Karate Sports Federation		9	4.6%
	Chilean National Rodeo Sports Federation		25	12.7%
	National Table Tennis Sports Federation		8	4.1%
	Other federated athletes ^a		14	7.1%
	Total		197	100.0%

Notes: ^aDue to space limitations, federations with fewer than five athletes were grouped together. The sports are: handball, bridge, cycling, surfing, squash, and fencing.

of the scale, who reviewed and approved it. Before distributing it to athletes, a cognitive interview was conducted with amateur athletes and health professionals to determine the linguistic appropriateness and cultural comprehensibility of the Spanish version of the BDSA.

Data collection

Federations affiliated with the Chilean Olympic Committee were contacted via publicly available email addresses. Federations that agreed to collaborate distributed the survey link to athletes via email or instant messaging while preserving anonymity. Participation was voluntary and conducted through an online form, hosted on SurveyMonkey, that included sociodemographic questions and an informed consent section. Data was collected between November 2024 and April 2025. Only the research team had access

to the dataset. At the end of the survey, participants received information about available mental health resources in case of distress or risk indicators.

Results

Descriptive statistics and reliability

Descriptive analyses indicated low average endorsement of depressive symptomatology in the sample. The BDSA total score showed a mean of $M = 0.45$ ($SD = 0.31$) on the 0–2 response scale, whereas the PHQ-9 presented a mean of $M = 0.54$ ($SD = 0.51$). At the item level, mean responses ranged from 0.05 (Item 10: suicidal ideation) to 1.02 (Item 5: non-restorative sleep), with standard deviations varying

Table 2. Descriptive of items and convergent validity of the model

Factor	α_{ordinal}	ω	# item	Item	M	SD	I
BDSA	.878	.776	01	I feel sad even after a good practice session or successful competition // <i>Me siento triste incluso después de un buen entrenamiento o una competencia exitosa.</i>	.482	.577	.651
			02	I rarely get pleasure from competing anymore and have lost interest in my sport // <i>Rara vez disfruto competir y he perdido el interés por mi deporte.</i>	.457	.548	.567
			03	I get little or no pleasure from my athletic successes // <i>Siento poco o nada de placer por mis éxitos deportivos.</i>	.284	.525	.600
			04	I am having problems with my appetite and weight // <i>Estoy teniendo problemas con mi apetito y peso corporal.</i>	.629	.700	.609
			05	I do not feel rested and refreshed when I wake up // <i>No me siento descansado ni recuperado cuando despierto.</i>	1.02	.606	.600
			06	I am having problems maintaining my focus and concentration during training and competition // <i>Estoy teniendo problemas para mantener mi foco y concentración durante el entrenamiento y la competencia.</i>	.670	.596	.711
			07	I feel like a failure as an athlete and person // <i>Me siento un fracaso como atleta y persona.</i>	.431	.590	.682
			08	I cannot stop thinking about being a failure and quitting sports // <i>No puedo dejar de pensar en ser un fracaso y en abandonar el deporte.</i>	.279	.493	.731
			09	I am drinking alcohol or taking supplements to improve my mood // <i>Estoy bebiendo alcohol o tomando suplementos para mejorar mi estado de ánimo.</i>	.162	.445	.596
			10	I have thoughts of ending my life // <i>Tengo pensamientos sobre terminar con mi vida.</i>	.051	.242	.699

Notes: The instructions for using the BDSA are as follows: "Answer the following questions using the scale below: 0 – Never; 1 – Sometimes (over a 2-week period); 2 – Most of the time (over a 2-week period)" // "Por favor, responda a las siguientes preguntas utilizando la siguiente escala: 0 – Nunca; 1 – Algunas veces (durante un período de 2 semanas); 2 – La mayor parte del tiempo (durante un período de 2 semanas)".

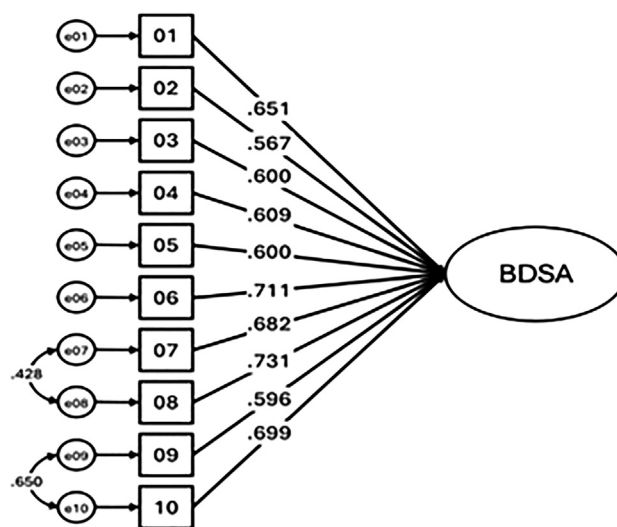
between 0.24 and 0.70, suggesting adequate dispersion for psychometric evaluation (see Table 2).

Convergent validity

Internal consistency estimates supported satisfactory reliability of the Spanish version of the BDSA. Specifically, the scale demonstrated high ordinal internal consistency (ordinal $\alpha = 0.878$) and acceptable McDonald's omega ($\omega = 0.776$), indicating that the items show coherent covariance and provide a reliable assessment of the underlying construct in this sample. The standardized factor loadings of the model (see Table 2 and Figure 1) were adequate, ranging from .567 to .731, all statistically significant ($p < .001$).

Factorial structure

The factorial structure of the BDSA (Figure 1) was examined using confirmatory factor analysis (CFA) with the Diagonally Weighted Least Squares (DWLS) estimator, which is appropriate for ordinal item responses. The one-factor model showed overall good fit to the data¹, $\chi^2(33) = 35.94$, $p = .333$, CFI = 0.997, TLI = 0.996, RMSEA = 0.021

**Figure 1.** Factorial Structure of BDSA.

[0.000, 0.058], and SRMR = 0.086. While incremental fit indices (CFI/TLI) TLI and RMSEA suggested very good fit, the SRMR value indicated acceptable-to-marginal fit. Although there is no universal minimum sample size for

¹ Goodness-of-fit indices: CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; SRMR = Standardized Root Mean Square Residual; RMSEA = Root Mean Square Error of Approximation [24].

CFA, recommendations emphasize that adequacy depends on model complexity, estimator, and the quality of the observed indicators rather than on a single fixed N rule [23, 24]. Given the parsimonious specification of the present model (one factor with 10 ordinal indicators) and the use of DWLS estimation, the sample size ($N = 197$) is consistent with commonly reported ranges for stable estimation in simple CFA models. Moreover, the model converged without estimation problems (e.g., inadmissible solutions), supporting the adequacy of the sample size for the present analysis [25]. Taken together, these results are consistent with a predominantly unidimensional representation of the BDSA in this sample. Given the parsimonious nature of the model (one factor with 10 ordinal items) and the use of DWLS estimation, the sample size ($N = 197$) can be considered adequate for model identification and stable parameter estimation; the model converged without estimation problems.

Concurrent validity

Concurrent validity was tested through correlation with the PHQ-9, showing a strong relationship between the variables ($r = 0.69$) (see Table 3).

Discussion

The present study provides robust psychometric evidence supporting the Spanish (Chilean) version of the Baron Depression Screener for Athletes (BDSA) in a sample of adult federated athletes, addressing a critical gap in the assessment of depressive symptoms within Spanish-speaking sport contexts. Overall, the findings support the scale's unidimensional structure, internal consistency, and convergent validity, consistent with its original conceptualization as a brief, sport-specific screening instrument.

With respect to reliability, the Spanish version of the BDSA demonstrated strong internal consistency, as reflected by high ordinal alpha and acceptable McDonald's omega coefficients. These results indicate coherent item functioning and stable measurement of a single latent construct. Notably, the magnitude of these indices is comparable to, and in some cases exceeds, those reported in previous cultural adaptations of the BDSA, including the Japanese and Turkish validation studies [26, 27]. The convergence of reliability estimates across culturally and linguistically diverse samples reinforces the robustness of the instrument and suggests that its core construct retains conceptual stability across settings. The use of comparable methodological approaches across studies strengthens confidence in the generalizability of the instrument's psy-

chometric properties and facilitates meaningful cross-national comparisons in future research on athlete mental health.

The factorial validity of the BDSA was further supported by confirmatory factor analysis using DWLS estimation, which is appropriate for ordinal data. The one-factor model demonstrated very good overall fit, with excellent incremental fit indices and a low RMSEA. Although the SRMR value approached the upper range of commonly cited thresholds, the consistency of the remaining fit indices, the absence of estimation problems, and the theoretical coherence of a unidimensional solution support the adequacy of the proposed model. Importantly, the parsimony of this structure aligns with the intended purpose of the BDSA as a rapid screening tool rather than a multidimensional diagnostic instrument, enhancing its feasibility for routine use in applied sport and clinical environments.

Convergent validity was supported by a strong positive association between BDSA scores and PHQ-9 total scores. The selection of the PHQ-9 as the external criterion measure warrants particular consideration. In Chile, the PHQ-9 is among the most widely used and institutionally embedded screening tools for depressive symptoms, especially within primary health care and community mental health services. Its extensive local validation and routine clinical application provide a meaningful and contextually relevant benchmark for evaluating the performance of a sport-specific instrument. Although the PHQ-9 was not designed specifically for athletes, its strong convergence with the BDSA suggests that the latter captures depressive symptom severity in a manner that is consistent with established clinical screening standards, while offering content tailored to the athletic context.

From an applied perspective, the use of the PHQ-9 as a reference measure enhances clinical interpretability and translational value of the present findings. Employing a convergent instrument that is already familiar to health professionals facilitates communication, decision-making, and referral processes when elevated symptom scores are identified in athletes. In this sense, the BDSA may serve as a sport-specific entry point into existing mental health care pathways, rather than functioning as an isolated or parallel assessment tool.

The present study should also be interpreted in relation to prior research conducted in Chile examining depressive and anxiety symptoms in physically active populations. A previous study conducted in the country used the Scales of Depression, Anxiety and Stress -21 (DASS-21) and had a primarily focused on estimating symptom prevalence in samples of university students who engage in regular physical activity, often under exceptional contextual conditions such as COVID-19-related confinement [28]. While these studies have provided valuable epidemiological insights,

Table 3. Means, standard deviations, and correlations

	<i>M</i>	<i>SD</i>	BDSA
BDSA	0.45	0.31	
PHQ-9	0.54	0.51	.69**

Notes: M and SD are used to represent mean and standard deviation, respectively. * indicates $p < .05$, ** indicates $p < .01$.

they did not aim to evaluate the psychometric performance of the instruments employed, nor were they conducted in samples of competitive environments. Consequently, they do not address the specific measurement requirements of high performance or frequent competitive level, where organizational demands, performance pressures, and psychosocial stressors differ substantially from those encountered by recreationally active or student populations. The present study therefore contributes novel evidence by validating a sport-specific screening instrument in a population of adult federated athletes assessed outside of a pandemic confinement context.

Several limitations should be acknowledged. The cross-sectional design precludes examination of temporal stability, sensitivity to change, or predictive validity, which would be relevant for longitudinal monitoring across training cycles, injury recovery, or competitive seasons. Although the sample size was adequate for the specified CFA model, larger and more heterogeneous samples would enable more refined analyses, including the establishment of population-specific cutoff scores and the examination of potential differences across sport disciplines, competitive levels, or gender. Future research should also explore associations between BDSA scores and clinically relevant outcomes, such as help-seeking behavior, functional impairment, or confirmed clinical diagnoses.

Despite these limitations, the present findings provide initial and necessary psychometric support for the use of the Spanish version of the BDSA in Chilean federated athletes. Its brevity, clarity, and sport-specific focus make it a practical instrument for early identification of depressive symptoms within athletic organizations, particularly when integrated into structured mental health protocols that include clear pathways for referral and follow-up by qualified health professionals.

Conclusions

The Spanish version of the Baron Depression Screener for Athletes demonstrates satisfactory reliability, a stable unidimensional factorial structure, and strong convergent validity with an established depression screening measure in a sample of Chilean adult federated athletes. These results support its use as a brief, sport-specific screening

tool for depressive symptoms in applied sport settings. While the BDSA is not intended for diagnostic purposes, its implementation may facilitate early detection and timely referral within existing mental health care systems. Future studies with larger samples are warranted to establish population-specific cutoff scores and to further evaluate its applicability across different sport disciplines and competitive levels.

Limitations

Several limitations should be acknowledged. First, participants were recruited through a non-random, voluntary response procedure, which limits statistical generalizability and increases the possibility of self-selection bias (e.g., athletes with greater interest in mental health or greater symptom awareness may have been more likely to participate). Second, the sample included athletes from multiple sports and competitive contexts, introducing heterogeneity that may mask discipline-specific patterns of depressive symptomatology and potentially influence item functioning across sport cultures (e.g., individual vs. team sports, contact vs. non-contact sports). Although this diversity enhances ecological relevance, it limits the extent to which conclusions can be interpreted as representative of any single sport subgroup. Third, data collection depended on the willingness of sports federations to disseminate the survey link, meaning that access to athletes was partially mediated by organizational gatekeeping. This may have introduced additional selection processes at the federation level (e.g., differences in communication practices, institutional priorities, or availability of support staff), potentially affecting who received the invitation and ultimately participated. Fourth, the present validation was conducted exclusively in Chile. Therefore, the extent to which the Spanish version of the BDSA generalizes to other Latin American countries remains unknown. In particular, without multi-country samples and cross-national measurement invariance testing, it is not possible to determine whether the scale's factor structure, item parameters, and score interpretation are equivalent across Latin American contexts. Taken together, these factors suggest that the current findings should be interpreted as preliminary psychometric evidence within a

federated-athlete context, while recognizing that broader representativeness across Chilean sport settings cannot be assumed.

Future research directions

Future studies should seek to replicate these findings using sampling strategies that reduce selection effects and increase coverage, such as systematic recruitment within federations, stratified sampling by sport and competitive level, or recruitment through centralized athlete registries when feasible. Larger samples would also allow psychometric evaluation across more homogeneous subgroups (e.g., sport discipline, competitive tier, sex/gender), including tests of measurement invariance and potential differential item functioning to determine whether the BDSA operates equivalently across sport contexts. In addition, research designs less dependent on federation-mediated dissemination (e.g., direct athlete outreach through independent sport institutions or multi-site collaborations) could help clarify the degree to which organizational gatekeeping shapes participation and observed symptom distributions. Critically, future research should include multi-country Latin American samples to evaluate cross-national generalizability and to test measurement invariance across countries. Establishing configural, metric, and threshold/scalar invariance would clarify whether the Spanish BDSA can be interpreted equivalently across Latin American contexts and would support the development of a regional version intended for broader use beyond Chile. Collectively, these steps would strengthen the external validity of the instrument and support more precise guidance for sport-specific screening and referral pathways.

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Conflict of interest

The authors declare no conflict of interest.

Publication ethics

The study was approved by the Bioethics Committee of the Faculty of Education and Social Sciences at Universidad Andrés Bello (Acta de Aprobación 04/2025, dated April 23, 2025). All participants provided informed consent electronically prior to completing the survey. Participation was voluntary and anonymous, and data confidentiality was maintained. Given the inclusion of an item assessing suicidal ideation, participants were provided with mental health resources at the end of the survey as part of the risk management procedure.

Authorship

Substantial contribution to the conception or design of the work:

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Substantial contribution to the collection, analysis, or interpretation of data: AM, MM, POH, GMZ, PSC, NC, FU, DB

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