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Psychometric properties of the Satisfaction with Life Scale in Brazilian Para athletes

Propiedades psicométricas de la Escala de Satisfacción con la Vida en Para atletas Brasileños

Propriedades psicométricas da Escala de Satisfação com a Vida em Para atletas Brasileiros

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RESUMEN

El objetivo del presente estudio fue evaluar las propiedades psicométricas de la Escala de Satisfacción con la Vida (ESV) para atletas brasileños, así como su estructura factorial, confiabilidad e invariancia. 309 paratletas, reclutados por conveniencia, de ambos sexos, fueron evaluados online mediante un cuestionario sociodemográfico y la versión ESV de Gouveia et al. (2009). Se utilizó el análisis factorial confirmatorio para evaluar la estructura unidimensional de la escala utilizando el método de extracción *Robust Diagonally Weighted Least Squares* (RDWLS). El modelo unidimensional ESV mostró un buen ajuste a los datos ($\chi^2 = 1.906 / df = 5; p = 0.86; CFI = 1.000; SRMR = 0.019; RMSEA = 0.000$ [IC 90%: 0.000 – 0.042] y adecuada consistencia interna McDonald's Omega (0,88) y buena confiabilidad compuesta (0,88). Además, se confirmó la invariancia factorial entre género, discapacidad, deporte y nivel de competencia. La versión brasileña del ESV en atletas paralímpicos mostró propiedades psicométricas satisfactorias y puede usarse para medir satisfacción con la vida en el contexto paralímpico.

Palabras clave: bienestar subjetivo; satisfacción de vida; deportes para personas con discapacidad; estudio de validación

ABSTRACT

The aim of the present study was to evaluate the psychometric properties of the Satisfaction with Life Scale (SWLS) for Brazilian athletes, as well as its factor structure, reliability, and invariance. Three hundred nine Para athletes recruited by both sex were evaluated online using sociodemographic, sex, and the SWLS version by Gouveia et al. (2009). Confirmatory factor analysis was used to evaluate the one-

dimensional structure of the scale using the Robust Diagonally Weighted Least Squares (RDWLS) extraction method. The SWLS one-dimensional model showed a good fit to the data ($\chi^2 = 1.906 / df = 5$; $p = 0.86$; CFI = 1.000; SRMR = 0.019; RMSEA = 0.000 [90% CI: 0.000 – 0.042] and adequate internal Omega of McDonald's (0.8) and good composite reliability (0.88). The Brazilian version of the SWLS in Paralympic athletes showed satisfactory psychometric properties and can be used to measure life satisfaction in the Paralympic context.

Keywords: subjective well-being; life satisfaction; sports for persons with disabilities; validation study

RESUMO

O objetivo do presente estudo foi avaliar as propriedades psicométricas da *Satisfaction with Life Scale* (SWLS) em paratletas brasileiros, bem como sua estrutura fatorial, confiabilidade e invariância. 309 paratletas recrutados por conveniência, de ambos os sexos, foram avaliados, de forma online, por meio de um questionário sociodemográfico e da versão SWLS de Gouveia et al. (2009). Foi utilizada a análise fatorial confirmatória para avaliar a estrutura unidimensional da escala usando o método de extração *Robust Diagonally Weighted Least Squares* (RDWLS). O modelo unidimensional SWLS apresentou um bom ajuste dos dados ($\chi^2 = 1.906 / df = 5$; $p = 0.86$; CFI = 1.000; SRMR = 0.019; RMSEA = 0.000 [90% IC : 0.000 – 0.042] e consistência interna adequada Ômega do McDonald's (0,88) e boa confiabilidade composta (0,88). Além disso, a invariância fatorial entre gênero, deficiência, esportes e nível de competição foi confirmada. A versão brasileira da SWLS em atletas paralímpicos apresentou propriedades psicométricas satisfatórias e pode ser utilizada para mensurar a satisfação com a vida no contexto paralímpico.

Palavras-chaves: bem-estar subjetivo; satisfação de vida; esportes para pessoas com deficiência; estudo de validação

INTRODUCTION

The Paralympic movement, throughout its development, ceased to be centered on rehabilitation and started to focus on high performance. This process has brought athletes with a disability to a status where they see potential rather than limitations. This outstanding condition allows the Paralympic movement to develop actions that promote the inclusion, rights, and health of people with disabilities (PWDs) (Blauwet & Willick, 2012). Furthermore, sports practice improves physical fitness, performance, mental health, and social group integration, promoting life satisfaction in PWDs (Martin, 2018; Swartz, Hunt, Bantjes, Hainline, & Reardon, 2019). Moreover, health status and life satisfaction are two essential dimensions of

subjective well-being reported in the literature (Lin & Cheng, 2019; Pavot & Diener, 2009).

Concerning well-being, it can be of paramount importance for athletes with disabilities due to the obstacles inherent in living with a disability, such as dealing with discriminatory attitudes, accessibility, and lack of professional training (Iezzoni, 2009; Macdougall, O'Halloran, Shields, & Sherry, 2015; Pensgaard, Roberts, & Ursin, 1999). Subjective well-being is a construction alluding to the human being's perception of life and how humans evaluate it (Pavot & Diener, 2009). This construct consists of two components, an affective one that refers to emotional aspects (positive or negative effects) and a cognitive one that refers to intellectual aspects, how the individual evaluates their own life. As a cognitive component, satisfaction

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with life is the sum of current situations experienced with internalized patterns (Diener, 2012).

The well-being theory originates in the Greek and Roman eras and Eastern traditions that proposed two lines of thought created to understand human needs and desires during life: hedonism and eudaimonism (Ryan & Deci, 2001). Hedonism is a dimension of subjective well-being that minimizes pain and maximizes happiness and pleasure that, theoretically, constitutes long-term affection and life satisfaction (Diener, 2009). On the other hand, eudaimonism is a dimension of psychological and social well-being that invites people to live according to their true selves, their daemon (Ryan & Deci, 2001). Both perspectives were portrayed in the sports context by researcher Lundqvist (2011) through the integrated well-being model that conceptualizes well-being at global and sport-specific levels.

It can be particularly relevant for para-athletes, who may experience individual, interpersonal, and organizational risk factors due to sport and disability (e.g., problems with sport para-classification, adequate access to training facilities or venues), which generally do not affect Olympic athletes (Macdougall et al., 2015; Olive et al., 2022). Moreover, this has the potential to compromise mental health and personal well-being. On the other hand, para-athletes increased their well-being as athletes increased their competitive level and participation in the Paralympic movement (Macdougall, O'Halloran, Sherry, & Shields, 2016). Nevertheless, the increase in well-being was due to personal growth, optimism, mental health protection, social support networks, and community participation compared to non-para athletes (Macdougall et al., 2016; Olive et al., 2022; Powell & Myers, 2017).

The previous study showed that the overall mood and life satisfaction in Para athletes were lower than in Olympic athletes. In contrast, the same study showed a strong correlation between athletic identity and life satisfaction in Para athletes (Wiśniowska, Tasiemski, & Bauerfeind, 2012). At the same time, the adapted sport improves physical fitness, mental health, and general mood (Aitchison et al., 2021).

Furthermore, it increases self-esteem, self-confidence, independence, and greater self-efficacy in elite athletes with disabilities (Aitchison et al., 2021). Given the benefits of sport for Para athletes, it is possible to verify that Paralympic sport has the potential to improve mood, coping skills, and, consequently, performance and well-being (Martin, 2018).

Among the instruments that assess subjective well-being is the Satisfaction with Life Scale (SWLS) proposed by Diener et al. (1985), who evaluated North American adults. The SWLS assesses how satisfied human beings are with their lives, considering the perception of particular interests and values through items of a global nature distributed in one factor (Diener et al., 1985). Psychometric properties of SWLS were evaluated in multiple countries as Lithuania (Dirzyte, Perminas, & Biliuniene, 2021); Korea (Kim, Kim, & Han, 2021); Germany (Hinz et al., 2018); Canada (Emerson, Guhn, & Gadermann, 2017); Iran (Maroufizadeh, Ghaheri, Samani, & Ezabadi, 2016); Spain (Lucas-Carrasco, Sastre-Garriga, Galan, Den Oudsten, & Power, 2014); Brazil (Gouveia, Milfont, Da Fonseca, & de Miranda Coelho, 2009); United States of America (Pavot, Diener, Colvin, & Sandvik, 1991). These studies confirmed good consistency (most reliability coefficients between 0.77 and 0.95) and the one-dimensional structure of the scale.

In Brazil, the psychometric properties of SWLS were evaluated in different groups, including young adults (Silva, Campos, Silva, Marôco, & Campos, 2021), students, teachers, physicists, and the general population (Gouveia et al., 2009), the elderly (de Albuquerque, de Sousa, & Martins, 2010), and Olympic athletes (Silva, Ferrari, Vieira, Melo, & Cardoso, 2018).

On the other hand, it is possible to observe that despite the diversity of SWLS applications in Brazil, no study has used the scale in athletes with disabilities. However, previous studies have highlighted that SWLS is an excellent instrument for assessing satisfaction with life in different populations with impairment, such as people with

amputation (Pereira, Ramos, Lobarinhas, Machado, & Pedras, 2018); spinal cord injury (Karatas et al., 2020; Tasiemski, Kennedy, Gardner, & Taylor, 2005); intellectual impairment (Lucas-Carrasco & Salvador-Carulla, 2012) and physical impairment (Kim et al., 2021).

Furthermore, the literature highlights that PWDs who perform physical exercise have a better mean SWLS score when compared to non-practitioners (Nemček, 2016; Pagan, 2018; Van Koppenhagen et al., 2014; Yazicioglu, Yavuz, Goktepe, & Tan, 2012). In addition, studies have demonstrated that adapted sports and recreational activities improve quality of life and consequently increase life satisfaction, functional independence, and self-efficacy (Groff, Lundberg, & Zabriskie, 2009; Kim et al., 2021; Nemček, 2016; Rodrigues et al., 2021; Yazicioglu et al., 2012).

Despite the results presented, there is still a gap in the assessing life satisfaction in adapted sports, as previous studies did not assess the psychometric properties of the SWLS scale (Nemček, 2016; Van Koppenhagen et al., 2014; Yazicioglu et al., 2012). Thus, to verify the validity and reliability of a measurement instrument, that is, psychometric properties must be adequately evaluated (Souza, Alexandre, & Guirardello, 2017). At the same time, analyze the internal consistency using $\hat{\Omega}$ coefficients to verify the instrument's reliability (Dunn, Baguley, & Brunnsden, 2014).

The psychometric evaluation of an instrument never ends; it can be revalidated over time. It can be observed that most of the published validation studies are related to conventional athletes, which brings challenges to parasports and reinforces the need to validate specific instruments for that population.

In that regard, due to the need for a valid and reliable instrument, the main aim was to evaluate the psychometric properties of SWLS for Brazilian Para athletes. In addition, (a) to evaluate its measurement invariance as a function of competitive level, sex, type of disability, and sports and (b) to evaluate its reliability.

METHODS

Participants

A total of 576 Brazilian Para athletes were invited via e-mail, WhatsApp, and social networks. However, 309 Paralympic athletes (age 33.08 ± 9.85 years; national experience 9.34 ± 5.72 years; international experience 8.06 ± 5.19 years) agreed to participate in the present study, representing 53.64%, and most participants were male (69%). Participants were intentionally chosen from the following inclusion criteria: minimum age of 18 years, practice the sport modality for at least one year in a competitive way. Characteristics of the Para athletes are shown in Table 1.

Athletes were divided into individual and team sports. Individual sports were classified into the following sports modalities: athletics ($n = 60$), archery ($n = 8$), boccia ($n = 12$), cycling ($n = 6$), powerlifting ($n = 13$), rowing ($n = 6$), swimming ($n = 28$), triathlon ($n = 10$), canoeing ($n = 1$), cross country skiing ($n = 1$), shooting ($n = 9$), wheelchair fencing ($n = 4$), wheelchair tennis ($n = 4$), badminton ($n = 10$), judo ($n = 4$), table tennis ($n = 16$) and taekwondo ($n = 4$). Team sports were classified into the following sports modalities: 5-a-side football ($n = 8$), goalball ($n = 10$), sitting volleyball ($n = 26$), wheelchair basketball ($n = 22$), and wheelchair rugby ($n = 48$).

Measures

Demographic data of the participants

Participants reported age, sex, disability etiology, impairment type, first competition, first international competition, and competitive level. In addition, self-reported variables were used to contribute to the instrument's validity.

Satisfaction with Life was evaluated by the Brazilian Version of SWLS (Gouveia et al., 2009). The five items of the SWLS are: (1) "In most ways my life is close to my ideal", (2) "The conditions of my life are excellent", (3) "I am satisfied with my

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Table 1. Descriptive analysis of the participants.

	Male (n=214)	Female (n=95)	Total (n=309)
	n (%)	n (%)	n (%)
Impairment Type			
Congenital	67 (61.5)	42 (38.5)	109 (35.3)
Acquired	147 (73.6)	53 (26.4)	200 (64.7)
Type of disability			
Spinal cord injury	70 (80.5)	17 (19.5)	87 (28.1)
Limb Deficiency	49 (71.0)	20 (29.0)	69 (22.3)
Visual impairment	26 (68.4)	12 (31.6)	38 (12.3)
Impaired muscle power	13 (43.3)	17 (56.7)	30 (9.7)
Leg Length Difference	18 (64.3)	10 (35.7)	28 (9.0)
Coordination Impairment	20 (64.5)	11 (35.5)	31 (10.0)
Impaired Passive Range of Movement	12 (85.7)	2 (14.3)	14 (4.5)
Short stature	3 (42.9)	4 (57.1)	7 (2.3)
Intellectual impairment	1 (33.3)	2 (66.7)	3 (1.2)
Others	2 (100)	0 (0.0)	2 (0.6)
Competition level			
Paralympic	79 (59.8)	53 (40.2)	132 (42.7)
International	57 (69.5)	25 (30.5)	82 (26.6)
National	78 (82.3)	17 (17.7)	95 (30.7)
Sports			
Team-sports	93 (80.9)	22 (19.1)	115 (37.2)
Individual sports	121 (62.6)	73 (37.4)	194 (62.8)

life”, (4) “So far I have gotten the important things I want in life”, and (5) “If I could live my life over, I would change almost nothing”(Diener et al., 1985). Each of the five items is answered by a 7-point Likert scale, ranging from 1 = "strongly disagree" to 7 = "strongly agree". The sum of all items calculates the total score. It ranges from 5 to 35 points, being categorized into very high / highly satisfied (30-35 points), high (25-29 points), and medium (21-24 points). A score of 20 points represents the midpoint between satisfied and dissatisfied with life, slightly below average (15-19 points), dissatisfied (10-14

points), and extremely dissatisfied (5-9 points) (Diener et al., 1985).

Procedures

This study is instrumental quantitative, where the psychometric properties of SWLS were analyzed (Ato, López-García, & Benavente, 2013). Data was collected from April 2020 to October 2020 using the Qualtrics® software that automatically records all responses. The survey was accessed by link, was confidential and anonymous, and took approximately two to five minutes to complete.

Ethics Statement

All procedures in the current study were by the ethical standards of the institutional research committee (Ethics Committee of the São Paulo Federal University - n° 0796/2020) and with the 1964 Helsinki Declaration. Moreover, informed consent was obtained from all participants included in the study, highlighting the voluntary participation, confidentiality, and anonymity of the responses.

Data Analyses

The analyzes were performed using the Statistical Package for Social Science (SPSS) version 21.0 and JASP 0.14 software. Demographic data were represented by mean, standard deviation, and frequency. Missing was replaced using the expectation-maximization (EM) algorithm (Dempster, Laird, & Rubin, 1977), and the normality of items was assessed using the Shapiro-Wilk test.

The original study demonstrates that the SWLS scale is one factor (Diener et al., 1985). The same result was observed in validating and translating the SLWS scale for the Brazilian population (Gouveia et al., 2009). So, to confirm the one-dimensional structure of the scale, confirmatory factor analysis (CFA) was used (Rica, Sastre, & Sepúlveda, 2022, Nogueira-Neves et al., 2018). We performed a CFA considering the Robust Diagonally Weighted Least Squares (RDWLS) estimator. The model's adequacy was evaluated using the fit indices: Chi-square (χ^2 ; $p > 0.05$); χ^2 /df ratio (< 3.0); Root Mean Square Error of Approximation (RMSEA < 0.08); Standardized Root Mean Square Residual (SRMR < 0.08); Goodness of Fit Index (GFI > 0.95); Comparative Fit Index (CFI > 0.95) and Tucker-Lewis Index (TLI > 0.95) (Brown, 2015; Hooper, Coughlan, & Mullen, 2008; Hu & Bentler, 1999).

The invariance of the model for different groups was performed by Multigroup Confirmatory Factor Analysis (MCFA) to analyze the subgroups: sex, sports, disability etiology, and competition level. We tested: a) configural invariance (equivalence of

structure), b) metric invariance (equivalence of factor loadings), and c) scalar invariance (equivalence of intercepts). The invariance of the measure was assumed using the CFI difference test ($\Delta\text{CFI} < 0.010$) and the difference of the Gamma Hat test ($\Delta\Gamma < 0.001$) when compared to the previous model (Cheung & Rensvold, 2002).

The reliability was obtained through Cronbach's Alpha (α) and McDonald's Omega (ω), where values greater than 0.70 are acceptable (Viladrich, Angulo-Brunet, & Doval, 2017). Finally, the average variance extracted (AVE > 0.50) and composite reliability (CR > 0.70) was calculated the one factor (Valentini & Damásio, 2016).

RESULTS

The statistics used to evaluate the on-factor CFA model yielded the following coefficients: $\chi^2 = 1.906$, $df = 5$, $p = 0.86$, $\chi^2/df = 0.38$, CFI = 1.000, GFI = 1.000, TLI = 1.007, SRMR = 0.019, and RMSEA (90% IC) = 0.000 [0.000 – 0.042]. The no significance of the χ^2 goodness-of-fit statistic suggests a good fit to the data. All fit indices showed an acceptable value to the data and supported the unidimensional model. The factor loadings ranged from 0.60 to 0.89. A path diagram with standardized loadings is presented in Figure 1.

Multigroup Confirmatory Factor Analysis

MCFA was performed considering the following hierarchy for the model, from less to more rigorous: (a) configural invariance, (b) metric invariance, and (c) scalar invariance. The results demonstrate that Portuguese SWLS is an equivalent measure for male/female, congenital/acquired disease, team/individual sports, and competition level, allowing for group comparison (Table 2).

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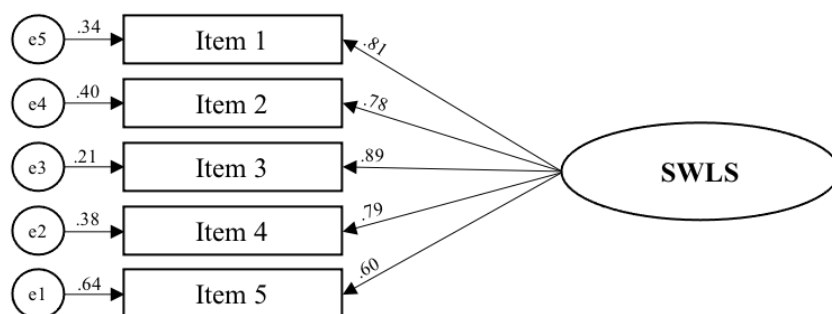


Figure 1. Factor loadings of one-factor structure for SWLS Brazilian Paralympic athletes

Note: SWLS, Satisfaction with Life Scale.

Table 2: Multigroup confirmatory factor analysis fit index.

	RMSA (90%IC)	SRMR	CFI	Δ CFI	$\hat{\Gamma}$	$\Delta\hat{\Gamma}$	TLI
Gender (male vs female)							
Configural invariance	0.000 [0.000 – 0.055]	0.039	1.000	--	1.005	--	1.009
Metric invariance	0.000 [0.000 – 0.050]	0.047	1.000	0.00	1.006	0.001	1.007
Scalar invariance	0.000 [0.000 – 0.046]	0.047	1.000	0.00	1.007	0.001	1.007
Impairment Types (congenital vs acquired)							
Configural invariance	0.000 [0.000 – 0.000]	0.025	1.000	--	1.010	--	1.016
Metric invariance	0.000 [0.000 – 0.000]	0.035	1.000	0.000	1.012	0.002	1.014
Scalar invariance	0.000 [0.000 – 0.000]	0.038	1.000	0.000	1.013	0.001	1.012
Sports (team-sports vs individual sports)							
Configural invariance	0.000 [0.000 – 0.000]	0.030	1.000	--	1.008	--	1.014
Metric invariance	0.000 [0.000 – 0.052]	0.047	1.000	0.000	1.006	0.002	1.007
Scalar invariance	0.000 [0.000 – 0.031]	0.043	1.000	0.000	1.009	0.003	1.009
Competition level (Paralympic vs International vs National)							
Configural invariance	0.000 [0.000 – 0.046]	0.041	1.000	--	1.008	--	1.015
Metric invariance	0.000 [0.000 – 0.054]	0.068	1.000	0.000	1.008	0.000	1.009
Scalar invariance	0.000 [0.000 – 0.031]	0.064	1.000	0.000	1.013	0.005	1.012

Note: RMSEA: root mean squared error of approximation; SRMR: Standardized Root Mean Square Residual; CFI: Comparative Fit Index; $\hat{\Gamma}$: Gamma Hat Index; TLI: Tucker-Lewis fit index.

Internal consistency and Reliability

The internal consistency of the SWLS showed good in the sample ($\omega = 0.88$). The values of Cronbach's Alpha (α) and McDonald's Omega (ω) if an item dropped are presented in Table 3, with a correlation between the instrument items. All items are positively, moderately to strongly, and significantly correlated ($p < 0.0001$). To further examine the quality of a measure of the scale, the

average variance extracted (AVE) and composite reliability coefficients (CR) were analyzed (Hu & Bentler, 1999). Our study shows that the CR (0.884) and AVE (0.608) values were satisfactory for one factor.

Table 3: Descriptive, internal consistency, and Spearman Correlation for SWLS items.

	Mean (SD)	α	ω	Item 1	Item 2	Item 3	Item 4	Item 5
Item 1	4.56 □ 1.75	0.84	0.84	--				
Item 2	4.43 □ 1.79	0.85	0.85	0.65**	--			
Item 3	4.79 □ 1.85	0.83	0.83	0.72**	0.67**	--		
Item 4	5.11 □ 1.81	0.85	0.85	0.59**	0.54**	0.70**	--	
Item 5	4.55 □ 2.03	0.89	0.89	0.46**	0.48**	0.50**	0.47**	--
SWLS	23.44 □ 7.56	0.88	0.88	--	--	--	--	--

Note: SWLS: Satisfaction with Life Scale; α : Cronbach's Alpha; ω : McDonald's Omega.

DISCUSSION

The main aim of this work was to present results from the first study that used a representative sample of Para athletes to validate the SWLS in the Brazilian context, which showed a clear structure with one factor and good psychometric properties. The reliability analysis also indicated that the items are adequate to assess satisfaction with life in the Paralympics sports context.

In the original study, the authors designed and developed the SWLS, a one-dimensional scale to measure life satisfaction with 66% of the variance and a factor weight that ranged between 0.61 and 0.84 (Diener et al., 1985). Our results followed this; SWLS for Brazilian. In another study with Brazilian athletes, SWLS presented a one-factor structure that explained 57.6% of the variance and excellent psychometric properties (Silva et al., 2018). The

scale was also validated with the same structure for different Brazilian groups (de Albuquerque et al., 2010; Gouveia et al., 2009; Silva et al., 2018).

As suggested by the literature, the RDWLS method was adopted in CFA to estimate the parameters because the data were not normal distribution (Asparouhov & Muthén, 2010; Shi & Maydeu-Olivares, 2020). However, other SWLS validation studies adopted the maximum similarity method (Clench-Aas, Nes, Dalgard, & Aarø, 2011; Dirzyte et al., 2021; Gouveia et al., 2009; Kim et al., 2021). Therefore, this study presents a factorial structure and CFA adjustment indices [RMSEA = 0.00, CFI = 1.00] that corroborate with other cultural adaptations: Lithuania [RMSEA = 0.05, CFI = 0.99] (Dirzyte et al., 2021); German [RMSEA = 0.06, CFI = 0.99] (Hinz et al., 2018); Korea [RMSEA = 0.00, CFI = 1.00] (Kim et al., 2021) and Iran [RMSEA = 0.06, CFI = 0.99] (Maroufizadeh et al., 2016).

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The SWLS presented evidence of validity based on the internal structure (factorial structure, reliability, configural, metric, and scalar invariance) and based on external measures. Thus, the analysis of the invariance of the SWLS was evidenced by considering sex, sports, impairment type, and competition level. As a result, the configural, metric, and scalar invariance was achieved, indicating that SWLS for Para athletes should measure constructions equally between men and women, team and individual sports, congenital and acquired impairment, and different sports levels. In addition, indicate the instrument's multifunctionality (Brown, 2015).

Previous cross-cultural studies of SWLS have demonstrated the invariance that allows the comparison of groups, being an essential assumption for SWLS validation in different populations (Borsa, Damásio, & Bandeira, 2012; Emerson et al., 2017; Gouveia et al., 2009; Hinz et al., 2018). Silva et al. (2021) validated the SWLS for young Brazilian adults and observed strict invariance for sex, age, work activity, and economic level.

In addition, in this present study, the SWLS showed adequate levels of internal consistency ($\alpha = 0.88$). Some studies show the same results over three decades and have excellent internal consistency ($\alpha = 0.85$ and $\alpha = 0.87$), respectively (Pavot et al., 1991; Silva et al., 2021). Also, other studies using the SWLS in various languages and samples had similar results, where high internal consistency was found within ranges between 0.71 and 0.89 (Dirzyte et al., 2021; Hinz et al., 2018; Kim et al., 2021; López-Ortega, Torres-Castro, & Rosas-Carrasco, 2016; Lucas-Carrasco et al., 2014; Maroufizadeh et al., 2016). This result demonstrates that the SWLS has good consistency regardless of the investigated population. On the other hand, Cronbach's Alpha is influenced by the number of items in the instrument, as it requires tau equivalence (Dunn et al., 2014).

Thus, Viladrich (2017) suggests using McDonald's Omega coefficient as it is an indicator of the reliability of the set of factors. Therefore, we also perform the McDonald's Omega calculation

equivalent to $\omega = 0.88$. Silva et al. (2021) examined the psychometric properties of the SWLS in 2170 Brazilian young adults. They demonstrated new parameters about the internal consistency of the SWLS showed good in the sample ($\omega = 0.89$). Another study in a large sample of the German community shows the same results regarding internal consistency ($\omega = 0.89$) (Hinz et al., 2018).

Notably, significant correlations were observed between the scale items, indicating that the SWLS items assess satisfaction with life. Similar results were found in other samples and other cultures, showing relations between the items with moderate to strong intensity (Dirzyte et al., 2021; Hinz et al., 2018; López-Ortega et al., 2016; Silva et al., 2018). Furthermore, previous studies showed that satisfaction with life was correlated with sports participation, loss of independence, marital status, mood, and aerobic capacity (Tasiemski et al., 2005; Van Koppenhagen et al., 2014).

On the other hand, it was verified that there was no statistical correlation between SWLS and gender, age, marital status, mobility level, and stump pain (Lucas-Carrasco & Salvador-Carulla, 2012; Pereira et al., 2018). Some significant limitations must be addressed when interpreting or applying these results, such as the SWLS was not used in different age groups (adolescents and master athletes) and only in high sports performance. Furthermore, the temporal stability of the instrument was not evaluated using the test-retest method. Also, convergent and discriminant validity analyses were not performed.

On the other hand, this is the first study to validate the SWLS in the Brazilian Paralympic context. A representative sample of athletes with different competitive levels stands is a strength. In addition, the SWLS is an instrument of easy understanding and application, which allows coaches and researchers to assess the satisfaction with life of adult Brazilian athletes. The use of SWLS can help to understand the influence of life satisfaction on sports training strategies in its different dimensions and psychological training. In summary, SWLS had

satisfactory psychometric characteristics, presenting a one-factor factor structure. In addition to being adequate and reliable in assessing satisfaction with life in Brazilian Para athletes.

Conflict of Interest

The authors declare that the research was conducted without commercial or financial relationships construed as a potential conflict of interest.

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