

# ADAPTATION AND VALIDATION OF A QUESTIONNAIRE FOR MEASURE ACADEMIC BURNOUT IN MEDICAL STUDENTS OF THE RICARDO PALMA UNIVERSITY

ADAPTACIÓN Y VALIDACIÓN DE UN CUESTIONARIO PARA MEDIR BURNOUT ACADÉMICO EN ESTUDIANTES DE MEDICINA DE LA UNIVERSIDAD RICARDO PALMA

Lucy E. Correa-López<sup>1,2</sup>, Joan A. Loayza-Castro<sup>1,2</sup>, Mariela Vargas<sup>1,2</sup>, Manuel O. Huamán<sup>1,2</sup>,  
Luís Roldán-Arbieto<sup>2,3</sup>, Miguel Pérez<sup>4</sup>

## ABSTRACT

**Introduction:** Evaluate the validity and reliability of an instrument adapted to Peru to measure the presence of Burnout Syndrome in university students of the Human Medicine career at the Ricardo Palma University, taking as starting point the Burnout Inventory of Maslach - Student Survey (MBI-SS). **Methods:** Cross-sectional analytical study, with level of application research. Validity was evaluated by factorial structure analysis with the principal components method, Kaiser-Meyer Olkin tests and Varimax rotation were applied; the reliability by the Cronbach alpha value. **Results:** 223 students from the Faculty of Human Medicine of the Ricardo Palma University were included, from November to December 2016. The prevalence of academic Burn-out found was 28.25% (63); The Kaiser-Meyer Olkin fitness test had a result of 0.813 and Barlett's sphericity test of 1007.5 ( $p < 0.000$ ). The cumulative variance explained by 3 factors was calculated to be 55.4%. The instrument obtained a Cronbach's Alpha coefficient = 0.794, with correlations between the items, Emotional Exhaustion ( $\alpha = .855$ ), Cynicism ( $\alpha = 0.623$ ) and Academic Efficiency ( $\alpha = 0.744$ ). **Conclusion:** The adapted and validated instrument gathers the psychometric properties to be considered a useful and reliable instrument initially in human medicine students of the Ricardo Palma University, presenting an adequate factorial structure and internal consistency to determine the level of Academic Burnout Syndrome.

**Key words:** Academic Burnout Syndrome; Students; Emotional Exhaustion; Reliability and Validity; Life Style Medicine. (source: MeSH NLM)

## RESUMEN

**Introducción:** Evaluar la validez y fiabilidad de un instrumento adaptado al Perú para medir la presencia del Síndrome de Burnout en estudiantes universitarios de la carrera de Medicina Humana en la Universidad Ricardo Palma, tomando como punto de partida el Inventario de Burnout de Maslach - Student Survey (MBI-SS). **Métodos:** Estudio transversal analítico, con nivel de investigación aplicativo. Se evaluó la validez por análisis de estructura factorial con el método de componentes principales, se aplicaron las pruebas de Kaiser-Meyer Olkin y la rotación Varimax; la confiabilidad por el valor alfa de Cronbach. **Resultados:** Fueron incluidos 223 estudiantes de la Facultad de Medicina Humana de la Universidad Ricardo Palma, en el periodo noviembre a diciembre del año 2016. La prevalencia de Burnout académico encontrada fue 28,25% (63); La prueba de adecuación de Kaiser-Meyer Olkin tuvo un resultado de 0.813 y la prueba de esfericidad de Barlett de 1007.5 ( $p < 0.000$ ). Se calculó la varianza acumulada explicada por 3 factores fue de 55.4%. El instrumento obtuvo un coeficiente Alfa de Cronbach = 0,794, con correlaciones entre los ítems, Agotamiento Emocional ( $\alpha = ,855$ ), Cinismo ( $\alpha = 0,623$ ) y Eficacia Académica ( $\alpha = 0,744$ ). **Conclusión:** El instrumento adaptado y validado reúne las propiedades psicométricas para ser considerado un instrumento útil y fiable inicialmente en estudiantes de medicina humana de la Universidad Ricardo Palma, presentando una adecuada estructura factorial y consistencia interna para la determinación del nivel de Síndrome de Burnout Académico.

**Palabras clave:** Síndrome de Burnout Académico; Estudiantes; Agotamiento Emocional; Confiabilidad y Validez, Estilos de Vida. (fuente: DeCS BIREME)

<sup>1</sup> Facultad de Medicina Humana, Universidad Ricardo Palma, Lima- Perú.

<sup>2</sup> Instituto de Investigación en Ciencias Biomédicas, Universidad Ricardo Palma, Lima- Perú.

<sup>3</sup> Universidad San Ignacio de Loyola. Escuela de Postgrado, Lima-Perú.

<sup>4</sup> Department of Public Health, Fresno State.

**Cite as:** Lucy E. Correa-López, Joan A. Loayza-Castro, Mariela Vargas, Manuel O. Huamán, Luís Roldán-Arbieto, Miguel Pérez. Adaptation and validation of a questionnaire to measure academic burnout in medical students at Ricardo Palma University. [Original Paper]. 2019;19(1):64-73. (January 2019). DOI 10.25176/RFMH.v19.n1.1794

Journal home page: <http://revistas.urp.edu.pe/index.php/RFMH>

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## INTRODUCTION

The Burnout Syndrome (BS) is defined as the extreme response to chronic stress originating in the workplace with repercussions of an individual, organizational and social nature<sup>(1)</sup>. At present, it is considered that SB affects not only the work area but also the academic area, because the university training process can be a learning experience, which is very often accompanied by academic stress<sup>(2)</sup>.

Universities and other institutions of higher education are often stressful environments; where students frequently face a series of demands and demands, which in their perspective constitute stress-generating situations, which when prolonged over time and increase in frequency can lead to Academic Burnout Syndrome (SBA)<sup>(3)</sup>.

The SBA is understood as the condition and response to the persistent and insidious demands that are linked to the academic context, which can affect the development, commitment, performance and satisfaction of university students<sup>(4)</sup>, identifying themselves with a greater risk of low grades, tendency to abuse/dependence on alcohol and drugs, increased risk of cardiovascular diseases, sleep disorders and neglect of personal health, among others<sup>(5)</sup>.

Although the conception of the BS was initially designed to be applied to workers, measuring the dimensions of cynicism, emotional exhaustion and personal fulfillment, it can be applicable to anyone who is in academic settings, especially university students<sup>(6)</sup>.

For the identification of SBA, Rostami et al. (2014) used the Maslach Burnout Inventory – Student Survey (MBI - SS) in Iran. This self-administered questionnaire showed that students can reflect emotional exhaustion due to studies, disinterest and sabotage (cynicism) in the face of academic activities and a feeling of incompetence in relation to academic performance<sup>(7,8)</sup>.

Previous work in Latin America has approached this concept using variations of the MBI. In Brazil, the specific version of the MBI for students (MBI - SS) was used, where the dimensions and items of the questionnaire were adapted for the environment of the university student, taking into account the dimensions: emotional exhaustion, cynicism and efficiency/academic performance<sup>(9)</sup>. On the other hand, in Chile a version of the general MBI was used in which the items and dimensions were literally transferred

to the student environment without establishing differences between the work environment and the student environment<sup>(10)</sup>.

In Latin America, the prevalence of Academic Burnout Syndrome is around 10% in university students of health sciences<sup>(11,12)</sup>. In Peru, it has evaluated in populations of human medicine, nursing and dentistry, with prevalences ranging from 10-40%<sup>(2,13,14)</sup>; constituting a current and relevant problem for the medical university student, but still scarcely studied<sup>(15)</sup>.

Currently, we do not have a questionnaire that identifies SBA in Peruvian universities, for which the present research aim is to adapt and validate the Maslach Burnout Inventory Questionnaire - to medical students from the Ricardo Palma University in Peru. (MBI - URPMS).

## METHODS

A cross-sectional study, of an analytical type, application research level, was developed during the months of November to December 2016, which included university students from the Faculty of Human Medicine of the Ricardo Palma University in Lima, Peru.

For the validity of the instrument, its factorial structure was evaluated, performing an exploratory factorial analysis of principal components, this in order to compare with the proposed structure. In order to improve the interpretation of the components, a Varimax rotation with Kaiser normalization was performed. Prior to factor analysis, it was verified whether the data complied with the correlation assumption of the variables, for which the Kaiser-Meyer-Olkin (KMO) index and the Bartlett test of sphericity were used. The reliability analysis was through the Cronbach's alpha coefficient of each dimension plus that of the general scale, adding the discriminatory capacity of each item against the assigned dimension.

For a population of 950 students, a sample size of 220 was calculated for the validation of the 15-item questionnaire. The sample size was calculated using the simple random sampling formula for finite population.

Following the model proposed by Blasco López and Mengual, a methodological sequence composed of 3 phases of the Delphi Technique was established: Preliminary, exploratory and final<sup>(16)</sup>. Figure 1

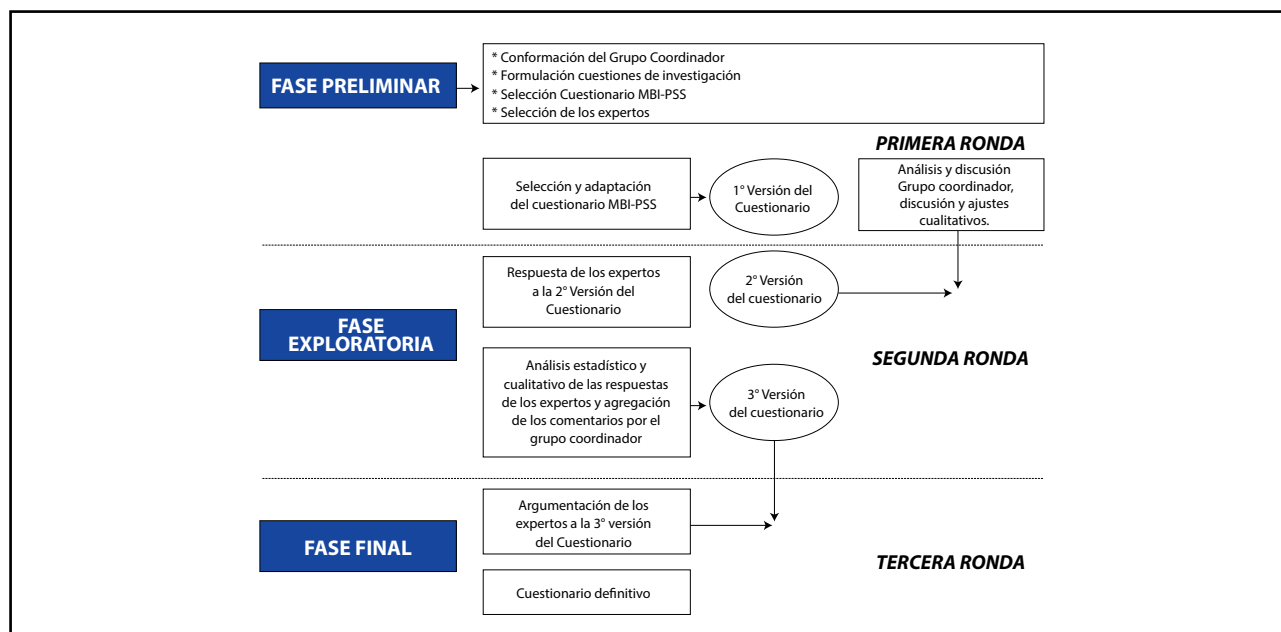


Figure 1. Phases of the Delphi technique

**Preliminary phase**

After conducting a search through international databases (Pubmed-Medline, Scielo, Scholar Google,) the version of the Maslach Burnout Inventory Student Survey Questionnaire (MBI-SS) was selected, consisting of 15 questions originally in English. , grouped in 3 dimensions: emotional exhaustion with 5 items, cynicism with 4 items and academic performance with 6 items<sup>(17)</sup>. In addition, the Maslach Burnout inventory for students (MBI - S) 10 was consulted, a questionnaire that consists of 22 items, which are obtained from a literal translation and

adapted to the university environment of the Maslach Burnout Inventory General Survey (MBI GS) which is used to measure the presence of Burnout Syndrome in the workplace.

For the determination of the Burnout Syndrome, the regulations recommended in the technical note NTP - 732 of the National Institute of Safety and Hygiene at Work of Spain were taken into account. This determines the levels of the Burnout Syndrome according to the percentiles obtained in a sample of 1063 Spanish workers of different professions. Table 1

Table 1. Normative data for the correction of the scores of the Burnout scales (N = 1.963).

	EXHAUSTION	CYNICISM	PROFESSIONAL EFFICIENCY
Very low	>5%	<0.4	<0.2
Low	5-25%	0.5-1.2	0.3-0.5
Medium (Low)	25%-50%	1.3-2	0.6-1.24
Medium (Low)	50-75%	2.1-2.8	1.25-2.25
High	75-95%	2.9-4.5	2.26-4
Very high	>95%	>4.5	>4
Arithmetic average		2.12	1.50
Typical deviation		1.23	1.30

Taken from: Spain, Ministry of Labor and Social Affairs.

The group of experts was determined, in addition the questionnaire adapted by the coordinating group was elaborated following cultural linguistic patterns of Peru.

### Exploratory phase

The second phase consisted of the evaluation by the panel of 10 experts (psychiatrists, psychologists and university education researchers). The experts evaluated the content of the proposed items from a qualitative approach with the criteria proposed according to the relevance to the content, the clarity of the writing was also evaluated, whether or not there was bias in the statement of the item and that it goes according to their respective domain.

They presented observations on item 6: "I feel burned by my studies." This was readjusted, finally reaching the total approval of the items, for which the initial evaluation of content adapted to Peruvian university students was satisfactory.

After this, a pilot test was carried out, with 40 medical students, during the month of November 2016, who participated voluntarily, with prior informed consent.

### Final phase

The final version of the MBI - URPMS consisted of 15 items and a scale in Likert format with six alternatives was used (1 = Never; 2 = Almost never; 3 = Sometimes; 4 = Regularly; 5 = Often; 6 = Almost always; 7 = Always).

In this phase, the survey of the MBI-URPMSS instrument was carried out, which consists of 15 items, with a sample size of 223 university students from the Faculty

of Human Medicine of the Ricardo Palma University for the validation of the questionnaire.

All participants previously signed an informed consent, according to the research ethics guidelines. The data was kept confidential.

## RESULTS

### Construct Validity

As a first step, the KMO = 0.813 and the Barlett test of sphericity (1007.5,  $p < 0.000$ ) were obtained, indicating that it is appropriate to carry out the factor analysis on these items.

The factor analysis on the 15 items, obtained an explained variance of 55.4%, with eigenvalues greater than one and three components were identified. The first component is composed of the 05 academic self-efficacy (AE) items with an explained variance of 23.5%; in the second, the 06 items of emotional exhaustion (AE), with an explained variance of 16.9%; and the third component, with an explained variance of 15%, contains the cynicism items.

Item 8 showed a commonality of 0.343, lower than the expected minimum of 0.5, showing low factor load and unclear or significant contribution. These results are shown on the left side of Table 2.

**Table 2.** Matrices and structure extractions of the factor analyzes on 15 and 14 items.

ITEMS	COMPONENTS (WITH 15 ITEMS)			COMPONENTS (WITH 14 ITEMS)		
	1 EMOTIONAL EXHAUSTION	2 EFFECTIVENESS ACADEMIC	3 CYNICISM	1 EMOTIONAL EXHAUSTION	2 EFFECTIVENESS ACADEMIC	3 CYNICISM
AE_1 I FEEL EMOTIONALLY EXHAUSTED BY MY STUDIES	.836	.062	.005	.832	.064	.022
AE_2 I FEEL TIRED AT THE END OF THE STUDY DAY	.880	-.009	-.101	.885	-.009	-.076
AE_3 I FEEL FATIGUE-DO WHEN I WAKE UP IN THE MORNING AND HAVE TO FACE ANOTHER DAY OF STUDY	.787	-.026	.091	.790	-.030	.115
AE_4 IT IS DIFFICULT FOR ME TO PAY ATTENTION EITHER IN CLASS OR AT THE TIME OF STUDY	.578	.109	.232	.579	.100	.257
AE_6 I FEEL BURNED BY MY STUDIES * Consumed, exhausted	.818	-.005	.098	.817	-.007	.120

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EA_P5 CAN EFFECTIVELY SOLVE THE PROBLEMS THAT ARE PRESENT DURING THE STUDY	-0.09	.529	.325	-.015	.524	.333
EA_P9 I THINK THAT WHEN I ATTEND CLASSES MY CONTRIBUTIONS ARE IMPORTANT	.028	.626	.071	.020	.629	.074
EA_P11 IN MY OPINION I AM A GOOD STUDENT	.072	.803	-.017	.068	.806	-.009
EA_P12 I FEEL STIMULATED WHEN I REACH MY GOALS OF ESTU-GOD	-.179	.504	.485	-.186	.493	.496
EA_P13 I HAVE GOT AND LEARNED MANY USEFUL CO-SAS IN THE COURSE OF MY CAREER	-.135	.559	.496	-.150	.553	.497
EA_P15 DURING MY STUDIES I FEEL CONFIDENT IN MY ABILITY TO UNDERSTAND AND SOLVE PROBLEMS WITH VERY CALM	.158	.735	-.069	.163	.734	-.050
C_7 THE ENTHUSIASM FOR MY STUDIES HAS DECREASED	.394	.299	.525	.390	.284	.551
C_10 DOUBT ABOUT THE IMPORTANCE OF MY STUDIES	.135	-.017	.791	.109	-.024	.785
C_14 INTEREST IN MY STUDIES HAS DECREASED SINCE I ENTERED UNIVERSITY	.251	.069	.791	.236	.054	.804
C_8 I HAVE BECOME MORE INSENSIBLE TO PEOPLE SINCE I STUDIED THIS CAREER	.343	.013	.201			

**Extraction method: principal component analysis.**

**Rotation method: Varimax with Kaiser normalization.**

### Reliability

In this research, reliability was analyzed using the internal consistency of Cronbach's Alpha. Our MBI-URPMSS instrument obtained a Cronbach's Alpha coefficient of  $\alpha = 0.794$  with correlations between the items, the total construct is composed of three dimensions, obtaining a Cronbach's Alpha coefficient of: Emotional Exhaustion ( $\alpha = 0.855$ ), Cynicism ( $\alpha = 0.623$ ) and Academic Efficiency ( $\alpha = 0.744$ ).

The relationship levels of the items in the questionnaire show that 14 of them present extractions greater than 0.5, however question 8 of the questionnaire that belongs to the dimension of cynicism has a level much lower than expected (0.343).

The revision of item 8 was made: "I have become more insensitive to people since I studied this career." Given

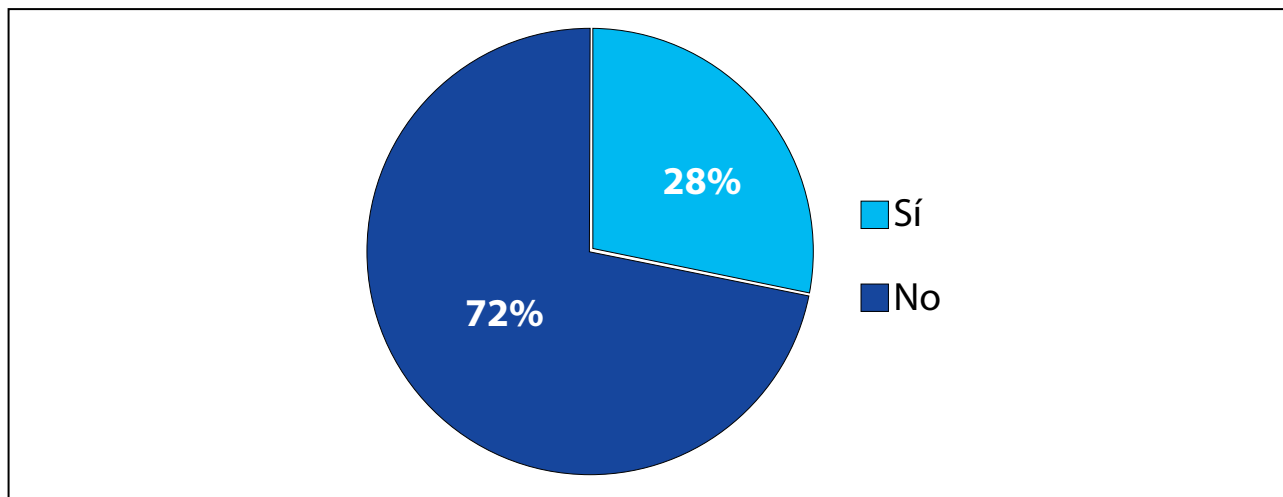
its low factor load and contribution of item 8, a factor analysis was performed excluding this item. The factor analysis assumption was validated, obtaining a KMO = 0.810 and Bartlett's sphericity of 979.2 ( $p < 0.000$ ). The same components of the previous factor analysis were identified with a slightly higher explained variance (58.5%) and all factor loadings higher than 0.5. The explained variance of academic self-efficacy (5 items) is 24.4%, of emotional exhaustion (6 items) 17.9% and of cynicism (3 items) 16.3%, results that show adequate factor validity.

Subsequently, a study of the characteristics of the population was carried out using absolute and relative frequencies, measures of central tendency and dispersion; of the 223 students surveyed. The prevalence of Academic Burnout Syndrome found was 28.25%.

**Table 3.** Distribution of the surveyed students according to age and sex.

		FREQUENCY	PERCENTAGE
Sex	Male	100	44.84
	Female	123	55.16
Age	Adolescent (<= 19 years)	84	37.7
	Non-adolescent (> 19 years)	139	62.3

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**Graph 1.** Burnout syndrome prevalence.

Of the 223 medical students, 55.16% (123) were women and 44.84% (100) were men, Table 3, the median age was 21 years. 71.7% (160) were born in Lima and 28.3% (63) were born in provinces or in other countries. It was observed that 76.68% (171) professed

the Catholic faith, and of the total number of students only 10.76% (24) carried out some work activity. 97.31% (217) depend economically on their parents. In addition, a bivariate analysis was performed in Table 4 with the characteristics of the students.

**Table 4.** Association between the characteristics of medical students and academic burnout syndrome.

PARAMETERS		OR	IC 95%		X <sup>2</sup>	P
Age (grouped)	Adolescent (> 19 years)	2.351	1.29	4.26	8.095	0.004
	Non-adolescent (<19 years)					
Sex	Male	0.978	0.544	1.758	0,006	0.94
	Female					
They live with their parents	Yes	1.078	0.43	2.706	0,026	0.873
	No					
They have children	Yes	1.279	0.228	7.162	0,079	0.779
	No					
Religion	Christian	0.587	0.184	1.877	0.822	0.364
	Unchristian					
Place of birth	Lima	0.640	0.317	1.291	1,568	0.211
	No Lima					
Do you have brothers	Yes	1.275	0.516	3.154	0.278	0.598
	No					

\* P values obtained with the chi square test for the crossing of two qualitative variables.

In relation to academic and extracurricular activities, it was identified that 57.85% (129) of the students had failed a course during their university career and only 36.32% (81) carried out extracurricular activities such as highly competitive sports, studying a language, belonging to the

medical student society among others.

It was found that the only factor that was significantly associated with Academic Burnout was age greater than or equal to 19 years, with an OR: 2.35 (95% CI: 1.29-4.26)  $p = 0.004$

**Table 5.** Distribution of extracurricular activities.

FREQUENCY	FREQUENCY	PERCENTAGE
None	142	63.7
High competition sport	19	8.5
Student society	40	17.9
Others	22	9.9

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## DISCUSSION

The results of our work show that whatever criterion is used to measure the Burnout Syndrome in university students, the three-dimensional structure of the Burnout that Maslach and his team originally proposed should also be taken into account (Maslach and Jackson, 1981). In our case, the instrument adapted for URP medical students: Maslach Burnout Inventory URP Medical Student Survey (MBI-URPMSS), the distribution of the number of questions or items follows that presented in the Maslach Burnout Inventory Student Survey (MBI - SS)<sup>(18)</sup>. Five items for "Emotional exhaustion": were those that refer to the general tiredness or emotional exhaustion that the subject experiences from her occupation: university studies<sup>(10)</sup>. Four (4) items were designated for "Cynicism": they refer to the insensitivity and apathy that the subject with Burnout experiences towards other people<sup>(15)</sup> and the last 6 items were related to "Academic performance" that refer to the student's academic performance during the development of his career.

However, the order of the items differs from the MBI SS, for "emotional exhaustion" are the items: 1, 2, 3, 4 and 6. The items for the dimension of "Cynicism" are: 7, 8, 10 and 14. Finally, for "Academic performance" the items are: 5, 9, 11, 12, 13 and 15.

We use as a reference two instruments as a basis for the adaptation of our instrument: the Maslach Burnout Inventory Student Survey (MBI-SS) and the Maslach Burnout Inventory for students (MBI-S)<sup>(15)</sup>, to later write our instrument, the MBI-URPMSS, and adapt it to the reality of Peruvian university students.

The content validation of the questionnaire we designed was carried out through the judgment of experts using the Delphi technique. The participants who joined for the development of the technique are experts in research, university education and professionals in the clinical area involved in this study, ensuring that all the aspects required to assess the presence of Burnout Syndrome are included in the questionnaire.

For the validation of the construct of the questionnaire we used the exploratory factor analysis of principal components. This multivariate method allows grouping the variables (items, for example) that are strongly correlated with each other, and whose correlations with the variables of other groupings (factors) are lower<sup>(20)</sup>.

Reliability was measured using Cronbach's alpha coefficient. Together, validity and reliability are fundamental indicators to determine the quality of the instrument. Reliability explains the performance of the measurements performed by each item of the instrument from a practical point of view, in addition, validity theoretically explains why the instrument is necessary or valid.

Cronbach's alpha represents the reliability while the exploratory factor analysis represents the validity of the instrument.

The dimension that showed the lowest reliability value was "Cynicism", similar to that previously reported<sup>(7,8,16)</sup>. The items of the questionnaire show discriminative capacities for each factor to which they belong.

Additionally, we found that age older than 19 years

presented a significant association with academic burnout, compared to those younger than 19 years old, as can be seen in table 4.

**Table 6.** Comparison of the reliability statistics of the different instruments reviewed and the MBI - PMSS.

URP-PERÚ		COLOMBIA		BRASIL		CHILE	
(MBI - URPMS)		(MBI - SS)		(MBI - SS)		(MBI - S)	
TOTAL		TOTAL		TOTAL		TOTAL	
Reliability statistics		Reliability statistics		Reliability statistics		Reliability statistics	
Alfa de Cronbach	N de elementos	Alfa de Cronbach	No. of elements	Alfa de Cronbach	No. of elements	Alfa de Cronbach	No. of elements
0.794	15	NOT SHOWN	14	NOT SHOWN	15	0.84	22
Emotional exhaustion		Emotional exhaustion		Emotional exhaustion		Emotional exhaustion	
Reliability statistics		Reliability statistics		Reliability statistics		Reliability statistics	
Alfa de Cronbach	No. of elements	Alfa de Cronbach	No. of elements	Alfa de Cronbach	No. of elements	Alfa de Cronbach	No. of elements
0.855	5	0.77	5	0.87	5	0.81	7
Cynicism		Cynicism		Cynicism		Cynicism	
Reliability statistics		Reliability statistics		Reliability statistics		Reliability statistics	
Alfa de Cronbach	No. of elements	Alfa de Cronbach	N de elementos	Alfa de Cronbach	N de elementos	Alfa de Cronbach	N de elementos
0.623	4	0.72	4	0.81	4	0.76	7
Academic effectiveness		Academic effectiveness		Academic effectiveness		Academic effectiveness	
Reliability statistics		Reliability statistics		Reliability statistics		Reliability statistics	
Alfa de Cronbach	No. of elements	Alfa de Cronbach	No. of elements	Alfa de Cronbach	No. of elements	Alfa de Cronbach	No. of elements
0.744	6	0.82	5	0.65	6	0.74	8

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As a result of the validation, an instrument consisting of 14 items that determine the 3 dimensions of the Burnout Syndrome was developed, obtaining the Final Version of the MBI - URPMS questionnaire: (Maslach Burnout Inventory - URP Medical Student Survey).

**CONCLUSION**

The instrument initially adapted and validated in medical students of the Ricardo Palma University: MBI-URPMSS gathers the psychometric properties to be considered a useful, valid and reliable instrument for the determination of academic burnout.

**Financing:** Vice-Rectorate for Research.

**Interest conflict:** The authors declare no conflict of interest.

**Gratitude:** Facultad de Medicina Humana, URP.

**Received:** October 15, 2018

**Approved:** December 20, 2018

**Correspondence:** Lucy E. Correa López

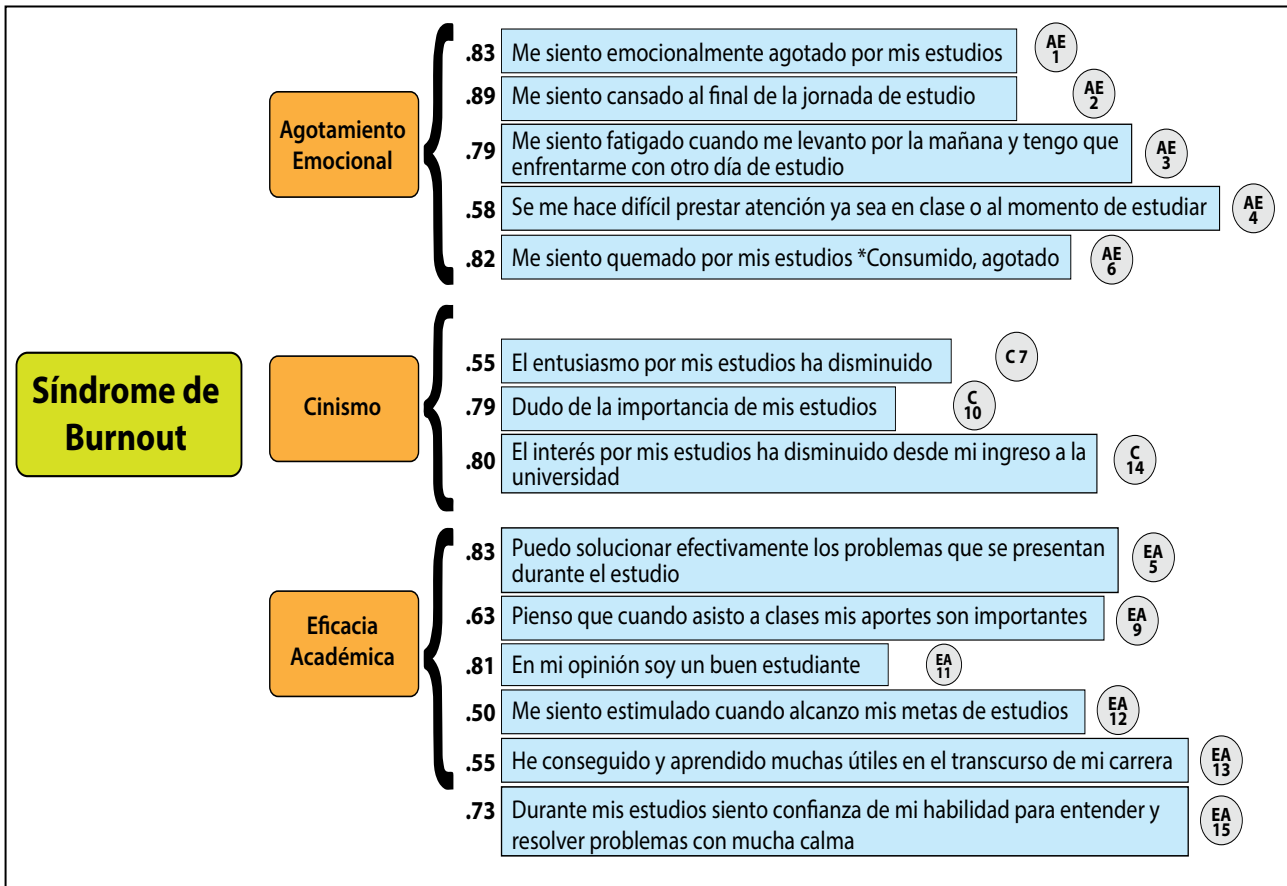
**Address:** INICIB, Facultad de Medicina Humana, Edificio I-208. 2do piso. Avenida Benavides 5440, Surco, Lima-Perú.

**Telephone number:** 708-0000 / **Anexo:** 6016

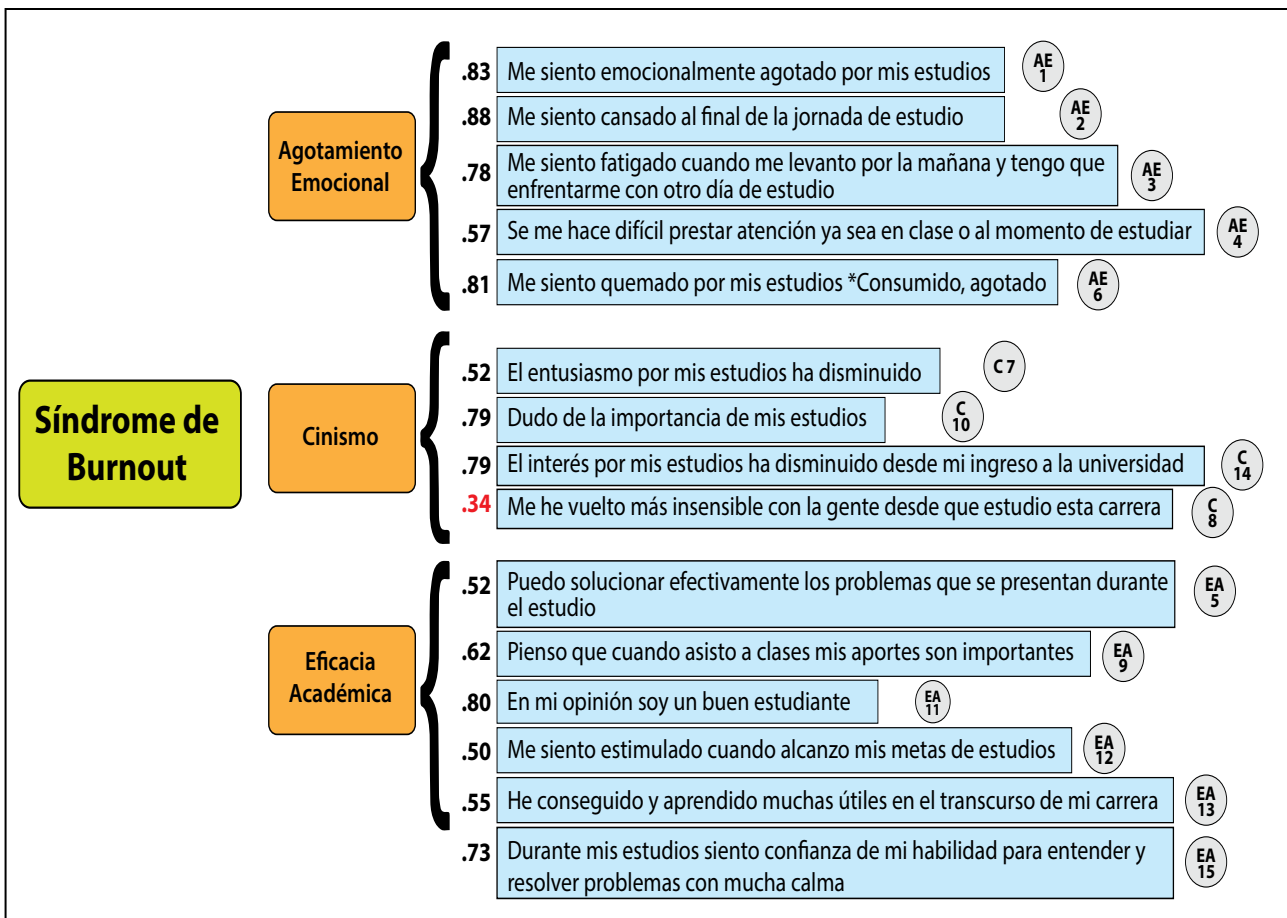
**E-mail:** lucy.correa@urp.edu.pe



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Annexed 1. Factor analysis of each dimension of the MBI - URPMS instrument with 14 items.



Annexed 2. Factor analysis of each dimension of the MBI - URPMS instrument with 15 items.

## BIBLIOGRAPHIC REFERENCES

1. Pérez AM. El síndrome de Burnout. Evolución conceptual y estado actual de la cuestión. *Vivat Acad.* 2010 Sep 15;0(112):42-80.
2. Picasso-Pozo M, Huilca Castillo N, Marquez JA, Omori - Mitumori E, Gallardo - Schultz A, Salas - Chavez M. Síndrome de Burnout en estudiantes de odontología de una Universidad Peruana. *Kiru.* 2012;9(1): 51-58.
3. Rosales Ricardo Y, Paneque R, R F. Burnout estudiantil universitario: Conceptualización y estudio. *Salud Ment.* 2013 Aug;36(4):337-45.
4. Caballero C, Palacio J, Hederich C. El burnout académico: Prevalencia y factores asociados en estudiantes universitarios del área de la salud de la ciudad de Barranquilla. *Doctoral dissertation. Universidad del Norte, Barranquilla (Colombia);* 2012.
5. Almeida G de C, Souza HR de, Almeida PC de, Almeida B de C, Almeida GH. The prevalence of burnout syndrome in medical students. *Arch Clin Psychiatry São Paulo.* 2016;43(1):6-10.
6. Bianchi R, Truchot D, Laurent E, Brisson R, Schonfeld IS. Is burnout solely job-related? A critical comment. *Scand J Psychol.* 2014 Aug;55(4):357-61.
7. Ilic M, Todorovic Z, Jovanovic M, Ilic I. Burnout Syndrome Among Medical Students at One University in Serbia: Validity and Reliability of the Maslach Burnout Inventory—Student Survey. *Behav Med.* 2016 Apr 29;0(0):1-6.
8. Rostami Z, Abedi MR, Schaufeli WB, Ahmadi SA, Sadeghi AH. The Psychometric Characteristics of Maslach Burnout Inventory Student Survey: A Study Students of Isfahan University. *Zahedan J Res Med Sci.* 2014;16(9):55-58.
9. Saliba-Garbin CA, Adas Saliba N, Reis-Dos Santos R, Leal Do Prado R, Garbin I, José A. Burnout en estudiantes de odontología: evaluación a través mbi: versión estudiantes. *Med Segur Trab.* 2012 Dec;58(229):327-34.
10. Ortiz M, Fasce H, Bustamante D, Pérez V, Parra P, Bastías V, et al. Estructura Factorial y Confiabilidad del Inventario de Burnout De Maslach En Universitarios Chilenos. *Rev Argent Clínica Psicológica.* 2012;XXI:255-63.
11. Caballero Domínguez C, González Gutiérrez O, Palacio Sañudo J. Relación del burnout y el engagement con depresión, ansiedad y rendimiento académico en estudiantes universitarios. *Rev Salud Uninorte.* 2015 Jan;31(1):59-69.
12. Serrano FT, Salguero-Sánchez J, Ayala-Fernández J, García-Torres MF, Meza JC, Mejía CR. Síndrome de Burnout en estudiantes de 6 Facultades de Medicina de Colombia, 2016-1: Estudio Multicéntrico. *CIMEL* 2016;21(2): 29-34
13. Nakandakari MD, Rosa DND Ia, Failoc-Rojas VE, Huahuachampi KB, Nieto WC, Gutiérrez AI, et al. Síndrome de burnout en estudiantes de medicina pertenecientes a sociedades científicas peruanas: Un estudio multicéntrico. *Rev Neuropsiquiatr.* 2016 Jan 4;78(4):203.
14. Estela-Villa LM, Jiménez-Román CR, Landeo-Gutiérrez JS, Tomateo-Torvisco JD, Vega-Dienstmaier JM. Prevalencia de síndrome de burnout en alumnos del séptimo año de medicina de una universidad privada de Lima, Perú. *Rev Neuropsiquiatr.* 2013 Feb 2;73(4):147-56.
15. Luna-Porta L, Mayor-Vega A, Taype-Rondán Á. Síndrome de burnout en estudiantes de pregrado de medicina humana: un problema escasamente estudiado en el Perú. *An Fac Med.* 2015 Jan;76(1):83-4.
16. Mira JEB, Padrón AL, Mengual-Andrés S. Validación mediante el método Delphi de un cuestionario para conocer las experiencias e interés hacia las actividades acuáticas con especial atención al Winsurf. *Agora Para Educ Física El Deporte.* 2010;12(1):75-94.
17. Gómez H P, Pérez V C, Parra P P, Ortiz M L, Matus B O, McColl C P, et al. Relación entre el bienestar y el rendimiento académico en alumnos de primer año de medicina. *Rev Médica Chile.* 2015 Jul;143(7):930-7.
18. Duarte Bonini Campos JA, Jordani, PC, Lucindo Zuculoto M, Sampaio Bonafé FS, Maroco J, Burnout syndrome among dental students. *Rev Bras Epidemiol.* 2012; 15(1): 155 - 165.
19. Varela - Ruiz M, Diaz - Bravo L, García -Durán R. Descripción y usos del método Delphi en investigaciones del área de salud. *Revista latinoamericana de Psicología.* 2010; 42 (1): 131 - 146.
20. Arango Agudelo S, et al. Síndrome de Burnout y factores asociados en estudiantes de la X semestre de la Facultad de Medicina de la Universidad de Manizales (Colombia), 2009.

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