

# PSYCHOMETRIC PROPERTIES OF THE ITALIAN VERSION OF THE BURNOUT ASSESSMENT TOOL (BAT): PRELIMINARY RESULTS

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## THE STUDY: Aims

- ✓ To explore the factor structure of the core dimensions (BAT-C) and the secondary symptoms (BAT-S) of burnout using an exploratory and confirmatory factor analysis;
- ✓ To evaluate the reliability of the scales in terms of internal consistency, through the Cronbach's alpha coefficient;
- ✓ To explore the convergent and discriminant validity of BAT-C vis-à-vis the MBI-GS by comparing four alternative MTMM models;
- ✓ To evaluate the predictive and incremental validity of the BAT-C above and beyond the MBI-GS using a hierarchical regression.

## THE STUDY: Participants

- ➔ 738 workers
- ➔ Gender: 59.2% women
- ➔ Age:  $M = 41.57$  years ( $sd = 10.51$ )
- ➔ Job tenure:  $M = 9.65$  years ( $sd = 8.50$ )
- ➔ Work sector: 26.2% health, social services, law enforcement
- ➔ Job role: 31.8% technicians (e.g., computer technicians, nurses)
- ➔ Employment contract: 57.6% Full time open-ended contract
- ➔ Effective work hours:  $M = 37.34$  hours ( $sd = 9.46$ )

# RESULTS: Exploratory Factor Analysis

	Factor loadings							
	BAT-C				BAT-S			
Exhaustion (8 items)	.53 - .77				Psychological distress (5 items)	.62 - .79		
Mental distance (5 items)		.63 - .81			Psychosomatic complaints (5 items)			.50 - .75
Cognitive impairment (5 items)			.67 - .80					
Emotional impairment (5 items)				.64 - .76				
<b>Eigenvalue</b>	4.71	3.50	3.59	3.11		3.16		2.52
<b>% of variance</b>	20.49	15.21	15.60	13.54		31.62		25.24
<b>Cronbach's <math>\alpha</math></b>	.90	.87	.89	.85		.82		.78

Total variance: 64.84%

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Total variance: 56.86%

## RESULTS: Confirmatory Factor Analysis

Model	$\chi^2$	<i>p</i>	df	CFI	TLI	SRMR	RMSEA
M1. Unidimensional model	6465.46	.000	860	.72	.71	.07	.09
M2. Correlated 2-factor model	3624.17	.000	494	.76	.75	.07	.09
M3. Correlated 6-factor model	1292.88	.000	480	.93	.93	.04	.05
M4. Second-order model (6+2)	1386.37	.000	488	.93	.93	.04	.05
	$\Delta\chi^2$		$\Delta$ df		<i>p</i>		
M2 vs. M1	2841.29		366		< .0001		
M3 vs. M1	5172.58		380		< .0001		
M3 vs. M2	2331.29		14		< .0001		
M4 vs. M1	5079.09		372		< .0001		
M4 vs. M2	2331.29		6		< .0001		
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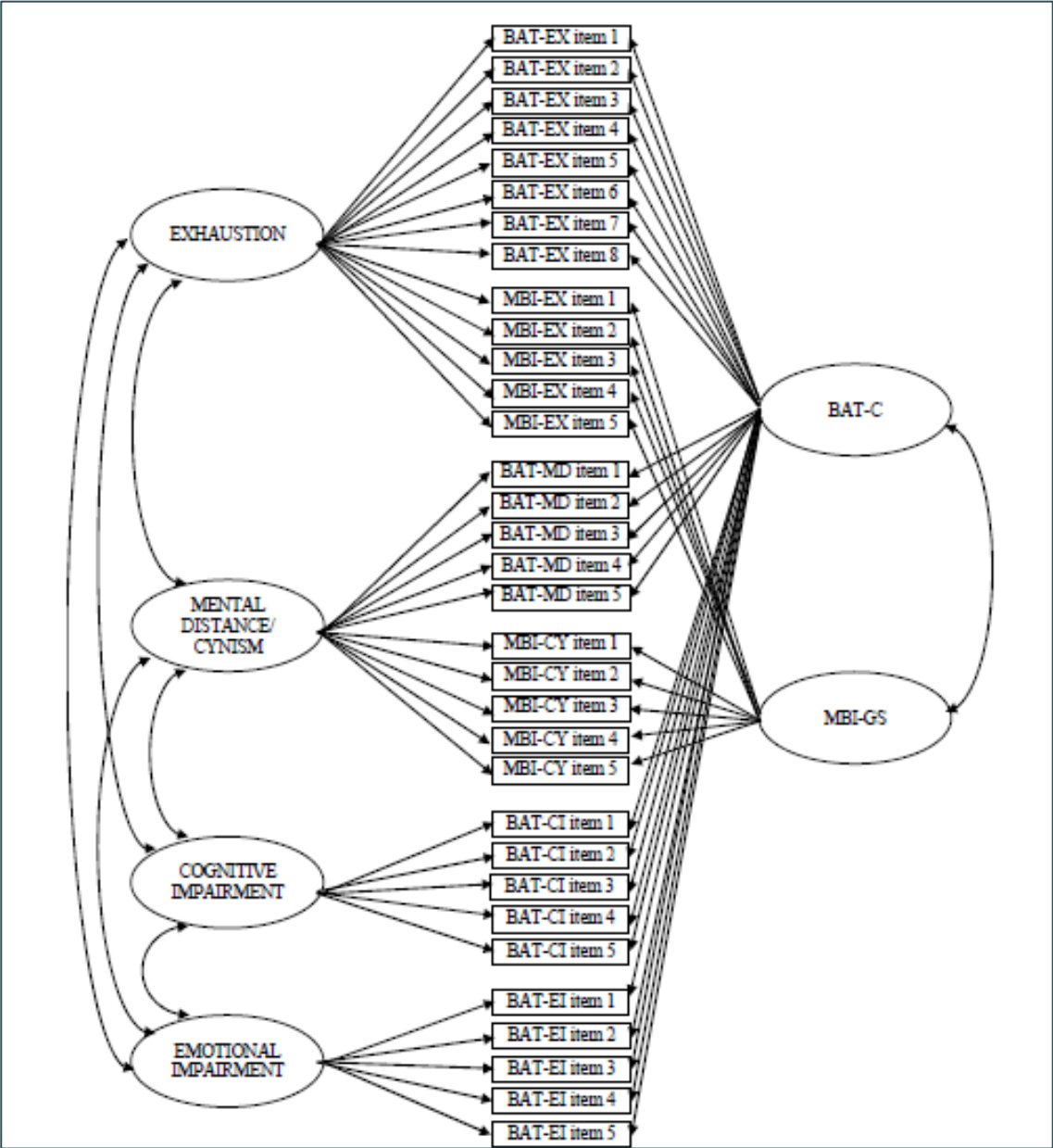
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$r = .89***$

M4. Second-order model (6+2)

# RESULTS: Convergent and Discriminant validity



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Model	$\chi^2$	<i>p</i>	df	CFI	TLI	SRMR	RMSEA
<b>M11. CT-CM</b>	1251.50	.000	455	.95	.94	.03	.04
<b>M12. NT-CM</b>	4463.08	.000	494	.76	.74	.07	.10
<b>M13. PCT-CM</b>	1656.37	.000	461	.92	.91	.11	.05
<b>M14. CT-PCM</b>	1306.42	.000	456	.94	.94	.08	.05
	$\Delta\chi^2$	<i>p</i>	$\Delta$ df				
M12 vs. M11	3211.58	< 0.0001	39				
M13 vs. M11	404.87	< 0.0001	6				
M14 vs. M11	54.92	< 0.0001	1				

## RESULTS: Predictive and Incremental validity

	R <sup>2</sup>	F	β	p	ΔR <sup>2</sup>
Step 1: Covariate	0.09	37.89			0.09
Age			-0.31	.000	
Sex			0.05	.170	
<b>MBI-GS and BAT-C</b>					
Step 2: MBI-GS	0.50	248.00	0.65	.000	0.41
Step 3: BAT-C	0.58	253.03	0.53	.000	0.08
<b>Alternative solution: BAT-C and MBI-GS</b>					
Step 3: BAT-C	0.57	803.38	0.71	.000	0.48
Step 3: MBI-GS	0.58	22.23	0.22	.000	0.01

Criterion variable: secondary symptoms of burnout as measured by BAT-S

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	$R^2$	F	$\beta$	$p$	$\Delta R^2$
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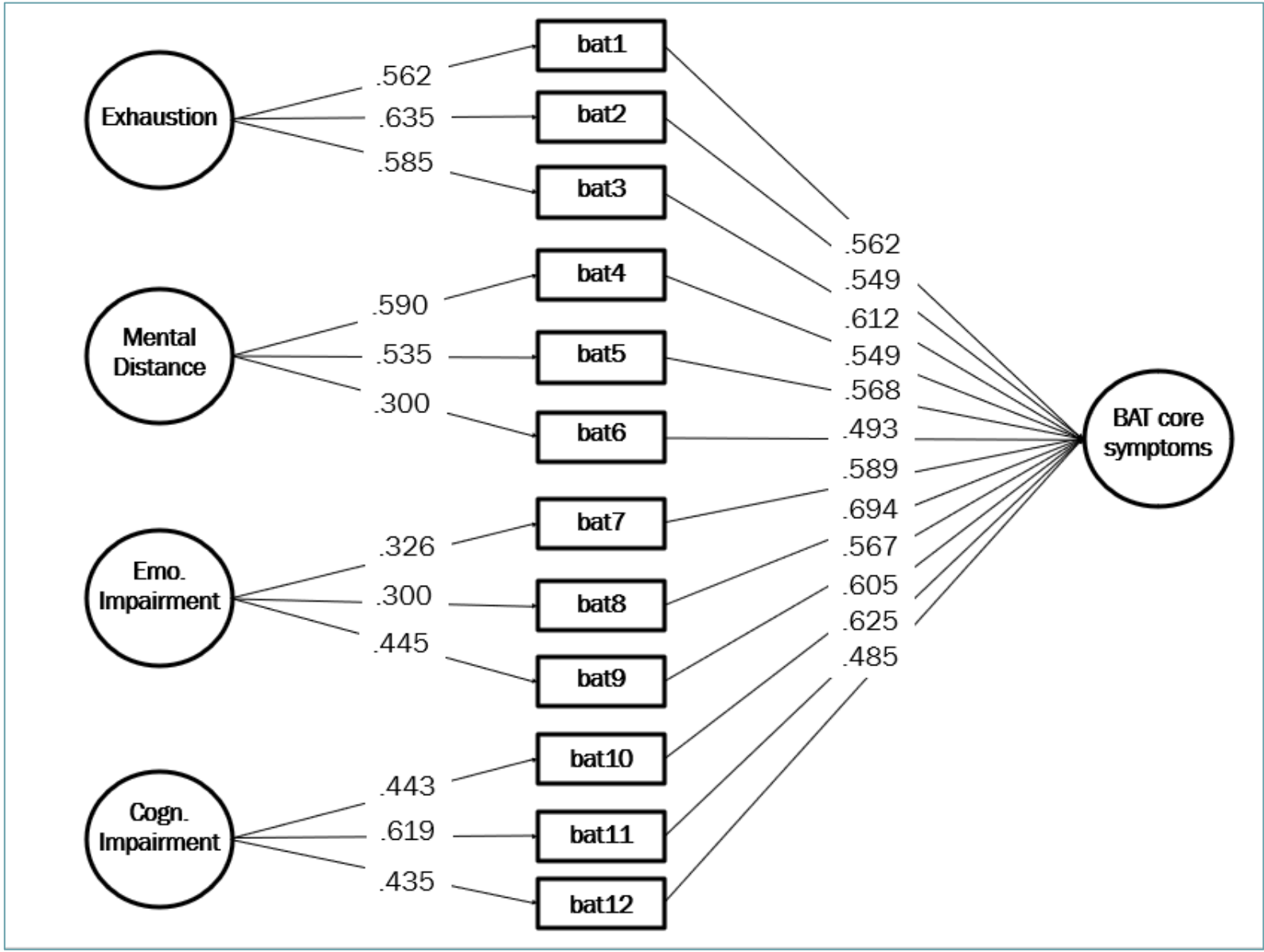
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## Discussion

- ✓ Evidence for the hypothesized 4-factor structure of BAT-C and the hypothesized 2-factor structure of BAT-S.
- ✓ The comparison between MTMM models supported the discriminant validity between the burnout dimensions and the convergent validity between the same dimensions of the MBI.
- ✓ BAT adds a specific contribution to the assessment of burnout core symptoms including both emotional and cognitive impairment, in addition to the evaluation of secondary symptoms.
- ✓ Results on predictive and incremental validity revealed that burnout core symptom predict burnout secondary symptoms, over and beyond the MBI-GS.
- ✓ Also in the Italian context, the BAT may offer both a conceptually robust and empirically reliable tool for measuring burnout in work settings.

# BAT-12: Confirmatory Factor Analysis ( $n = 2,277$ )



$\chi^2 = 163.79$  ( $p = .000$ )  
 $df = 42$   
TLI = .98  
GFI = .98  
RMSEA = .03

*Thank you for your attention*

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