

Validating the Burnout Assessment Tool in Russian samples

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Content

- **Study 1:** *measurement model and associations of personality resources (optimism, self-efficacy, and hardiness) with burnout.*
- **Study 2:** *measurement model and associations of burnout with autonomous and controlled work motivation, job demands, and job resources.*
- **Study 3:** *measurement model and relations of burnout with different types of job crafting behavior and work engagement.*
- **Composite reliability and average variance extracted**
- **Differential item functioning (DIF)**
- **Study 4:** *dynamics of burnout, work motivation, and personality resources over a one-year period (2020-2021).*
- **Summary**

Study 1 (a sample of librarians, n = 620)

Table 1. Fit statistics of the measurement models

Model	χ^2	df	Scaling factor	RMSEA [90% CI]	SRMR	CFI	TLI
Four-factor	384.370	224	1.287	.045 [.037; .053]	.044	.958	.953
Higher-order	395.961	226	1.288	.046 [.039; .054]	.046	.955	.950

Table 2. Latent variable correlations from the structural model

Variable	1	2	3
1. Burnout			
2. Self-efficacy	-.48***		
3. Optimism	-.55***	.64***	
4. Hardiness	-.70***	.54***	.70***

Note. *** $p < .001$

$\chi^2(1313, N = 620) = 2938.841$, scaling factor = 1.128, RMSEA = .042 90% CI [.040;.044], SRMR = .049, CFI = .913, TLI = .909.

Study 2 (a sample of pre-school and elementary school teachers, n = 636)

Table 1. Fit statistics of the measurement models

Model	χ^2	df	Scaling factor	RMSEA [90% CI]	SRMR	CFI	TLI
Four-factor	526.117	224	1.197	.047 [.041; .052]	.040	.954	.948
Higher-order	555.712	226	1.198	.048 [.043; .054]	.046	.950	.944

Table 2. Latent variable correlations from the structural model

Variable	1	2	3	4
1. Burnout				
2. Autonomous motivation	-.56***			
3. Controlled motivation	.55***	-.38***		
4. Job demands	.45***	.43***	.13*	
5. Job resources	-.53***	.01	-.27***	-.12

Note. *** $p < .001$, * $p < .05$

$\chi^2(657, N = 620) = 1598.140$, scaling factor = 1.127, RMSEA = .048 90% CI [.045;.051], SRMR = .049, CFI = .908, TLI = .900.

Study 3 (a sample of business professionals, n = 287)

Table 1. Fit statistics of the measurement models

Model	χ^2	df	Scaling factor	RMSEA [90% CI]	SRMR	CFI	TLI
Four-factor	436.310	224	1.219	.063 [.055; .072]	.069	.913	.902
Higher-order	441.089	226	1.221	.064 [.055; .072]	.070	.912	.901

Table 2. Latent variable correlations from the structural model

Variable	1	2	3	4	5
1. Burnout					
2. Increasing structural job resources	-.32***				
3. Reducing hindering job demands	.29***	-.05			
4. Increasing social job resources	.01	.15	.05		
5. Increasing challenging job demands	-.30***	.56***	-.12	.28***	
6. Work engagement	-.58***	.43**	-.26***	.26***	.48***

Note. *** p < .001, * p < .05

$\chi^2(1407, N = 620) = 2163.643$, scaling factor = 1.089, RMSEA = .045 90% CI [.041;.049], SRMR = .075, CFI = .874, TLI = .877.

Composite reliability and average variance extracted

Factor	Composite Reliability			Average Variance Extracted		
	Librarians	Teachers	Business professionals	Librarians	Teachers	Business professionals
Exhaustion	.89	.91	.85	.51	.55	.43
Mental distance	.79	.85	.81	.44	.53	.45
Impaired emotional control	.84	.87	.84	.52	.57	.50
Impaired cognitive control	.86	.87	.88	.55	.58	.59
Burnout	.84	.87	.77	.50	.56	.47

Differential item functioning (all samples mentioned earlier)

Groups	M ₁	M ₂	Difference (M ₁ – M ₂)	Welch's t	Item
<i>Exhaustion</i>					
Business professionals vs. Teachers	.20	-.24	.44	4.09	4
<i>Mental distance</i>					
Business professionals vs. Librarians	.65	1.14	-.49	-3.18	3
Business professionals vs. Librarians	.19	-.37	.56	4.30	5
Librarians vs. Teachers	-.37	.17	-.54	-5.28	5

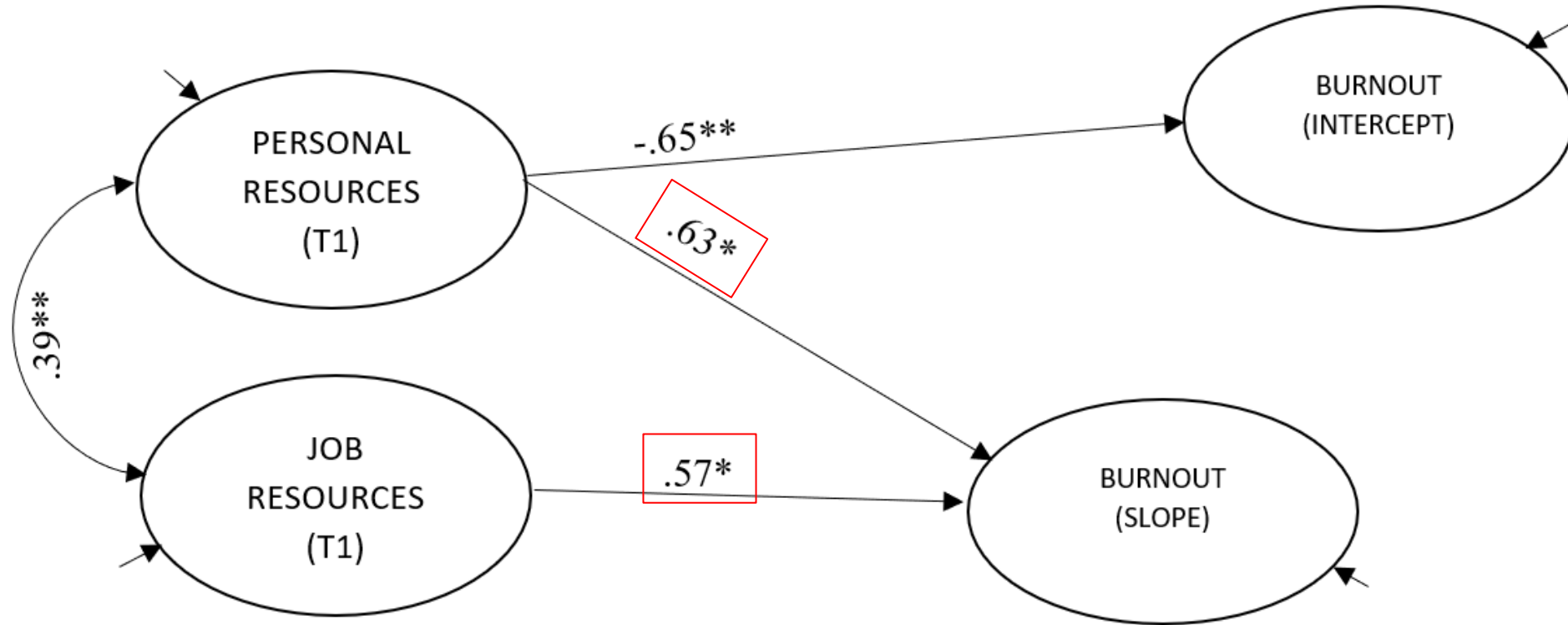
Differential item functioning (all samples mentioned earlier)

Groups	M ₁	M ₂	Difference (M ₁ – M ₂)	Welch's t	Item
<i>Impaired emotional control</i>					
Librarians vs. Teachers	1.20	.62	.58	4.69	2
Librarians vs. Teachers	-1.41	-.93	-.48	-4.57	3
Business professionals vs. Teachers	-1.42	-.93	-.49	-3.78	3
Business professionals vs. Librarians	.89	.37	.52	3.57	4
Business professionals vs. Teachers	.89	.32	.57	4.00	4
<i>Impaired cognitive control</i>					
Librarians vs. Teachers	.88	.42	.46	3.18	2
Business professionals vs. Teachers	.33	-.18	.51	2.92	3
Business professionals vs. Teachers	-.61	-.11	-.51	-3.00	5
Librarians vs. Teachers	-.68	-.11	-.58	-4.28	5

Factor means comparisons across professional groups

Factor	Librarians	Teachers	Business professionals	Librarians vs. Teachers			Librarians vs. Business professionals			Teachers vs. Business professionals		
				Diff.	Cohen's d	Welch's t	Diff.	Cohen's d	Welch's t	Diff.	Cohen's d	Welch's t
Exhaustion	-2.08	-.81	-1.52	-1.27	.65	-11.47	-.56	.32	4.79	.71	.42	-6.28
Mental distance	-3.35	-2.79	-2.98	-.56	.32	-5.62	-.37	.23	3.25	.19	.11	-1.55
Impaired emotional control	-4.00	-3.29	-3.51	-.71	.31	-5.40	-.49	.23	3.31	.22	.10	-1.42
Impaired cognitive control	-5.60	-5.36	-5.56	-.25	.10	-1.74	-.05	.02	.27	.20	.08	-1.16

Study 4 (longitudinal on librarians, n = 266)

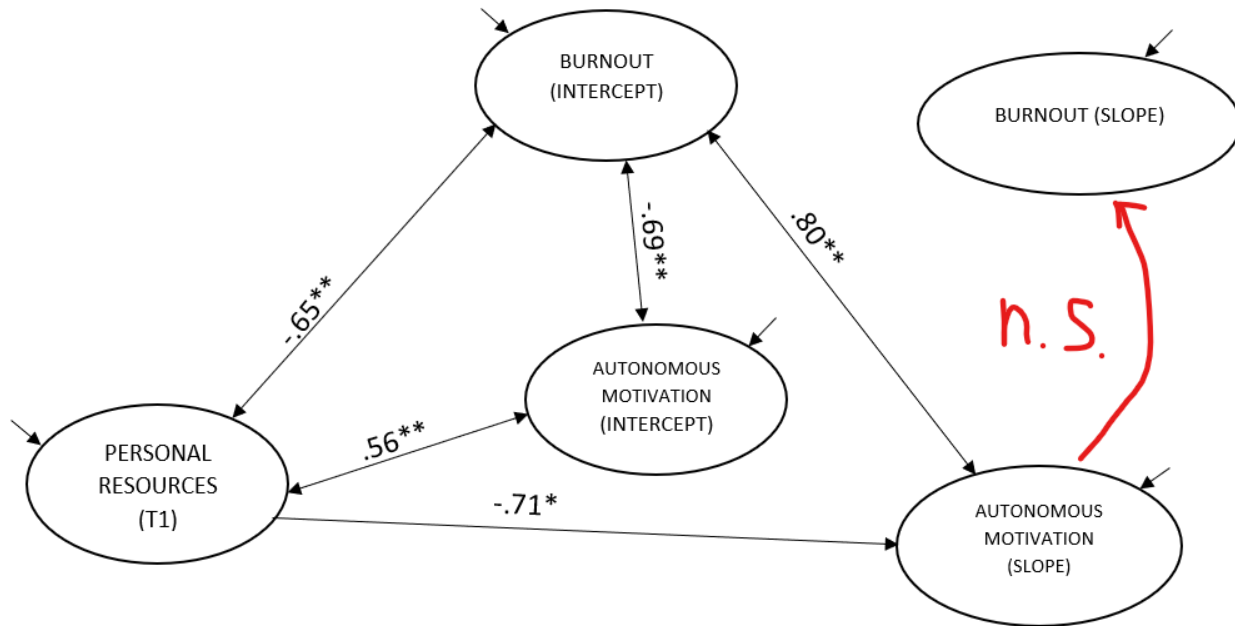


All variables are latent.

Their respective manifest variables were omitted for clarity.

* $p < .05$ ** $p < .01$

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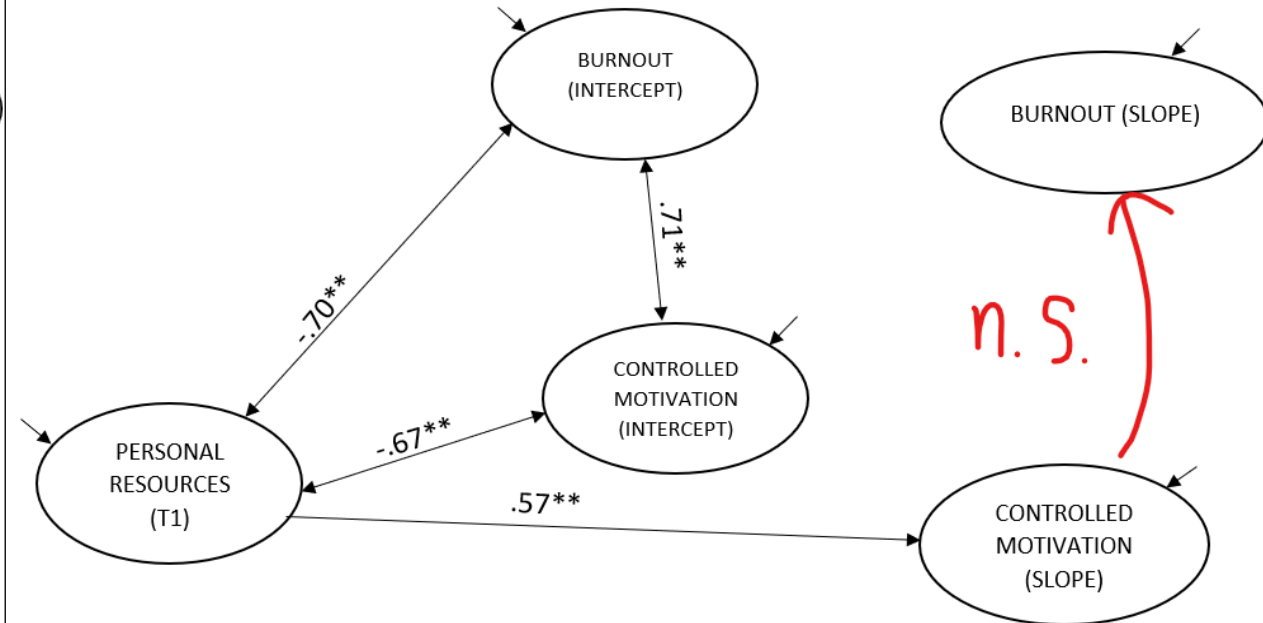


All variables are latent.

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** $p < .01$

Model where slope of autonomous motivation is a mediator



All variables are latent.

Their respective manifest variables were omitted for clarity.

** $p < .01$

Model where slope of controlled motivation is a mediator

Summary

- The Russian version of the BAT is a reliable and valid tool for measuring burnout in three occupational groups (librarians, pre-school and elementary school teachers, and business professionals).
- Further studies employing larger samples will help establish the norms for different socio-demographic and occupational groups.
- Further longitudinal studies are needed to better understand the role of personality and job resources in the dynamics of burnout.