

Identification and analyses of psychosocial risks in the Belgian legal framework: the Short Inventory to Monitor Psychosocial Hazards (5A).

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TOC

- The Belgian legal framework defines psychosocial risks
- Development of questionnaire
- Aim
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Definition of psychosocial risks .

- Psychosocial risks at work are defined as "the risk that employees experience psychological damage that may or may not be associated with physical damage **due to exposure to** the elements of the organization of work, content of work, physical working environment, working conditions and interpersonal relationships at work, which the **employer has an impact on** and which **objectively imply a danger**".

(KB2014 : Hfdst Vbis – Afdeling 1 – art 32/1)

<https://www.beswic.be/nl/themas/psychosociale-risicos-psr>

5A's in depth

- **Organisation of work** : org. Structure (horiz-vertical), devision of labour, procedures, management tools, management style, company policy, ...;
- **Job content**: type of work, task complexity, - variation, emotional and mental job demands, fysical effort, lack of clarity, ...;
- **Working conditions** : labour contract, working arrangements, - hours, carreer development, evaluation procedures, ...;
- **Work environment** : the physical environment to execute labour, desing of workplace, gear, work postures, noise, agents, light, ...;
- **Working relations**: relationship between employees, line, top managemtn, third parties, contact posibilities, communication, quality of relationships, ...

Development

- SIMPH (Notelaers, et al., 2007) : contains 2 a's : content of work and interpersonal relationships at work
- SIMPH- OGG (Notelaers, et al., 2010) (includes SNAQ (Notelaers, et al., 2019 + items on aggression conflict and sex harass from van Veldhoven & Meijman, 1994))
- SIMPH 3A : SIMPH OGG + working conditions (Monstarecon, 2011)
- SIMPH 5A : ibid + **physical work environment + Organisation of work** :
 - the physical environment to execute labour, desing of workplace, gear, work postures, noise, agents, light, ...
 - Org. Structure (horiz-vertical), devision of labour, procedures, management tools, management style, company policy, ...

Modules (5a)

- Physical work environment (Werkbaarheidsmonitor, 2004)
- Organisation of work
 - Information about the organisation (com module) (van Veldhoven & Meijman, 1994)
 - Collaboration between departments (arborg module) (ibid)
 - Problems with organisational change (ibid)

Aim

- Test the factorial structure of the SIMPH5A
- Identify exposure
- Validating exposure → normed instrument (= connecting exposure to damage)

Methods

- SEM , CFA to inspect whether the factor structure fits
- LCA to identify exposure groups
- ANOVA and logistic regression to validate exposure groups

Sample :
2886
respondents
from 24
different
Belgian
organizations

WORKING HOURS	%	MANAGERIAL POSITION	%
Daytime	86.0	no	81.7
Shift work	6.7	yes (you have responsibility of other workers)	18.3
Irregular hours	4.8	GENDER	
Other	3.6	female	59.9
CONTRACT		male	40.1
Permanent contract	89.0	AGE groups	
Temporary contract	8.8	Under 25 years age	3.9
Other type of contract	1.0	Between 25 and 34 years of age	20.6
Interim	1.2	Between 35 and 44 years of age	26.7
BRANCHE		Between 45 and 54 years of age	28.9
Construction	9.0	55 years old or older	20.0
Food	7.2	EDUCATIONAL LEVEL	
Industry	13.3	Maximum primary school	2.7
Services	51.0	Maximum lower secondary school	20.0
Government	6.6	Maximum higher secondary school	45.8
Health	10.8	Maximum academic bachelor	20.4
Education	2.1	Master or higher level of education	11.1
SIZE OF CONTRACT			
Full-time	54.0	Part-time less <u>then</u> 60%	11.8
Part-time over 60%	34.2		

Results: Model fit

	X2	df	RMSEA	CFI	TLI	SRMR
26 factors	16313	3329	0,037	0.940	0.932	0,04
5 (A's) second order structure	29663	3613	0,05	0.879	0.874	0,07
DR second order structure	24656	3606	0,05	0.902	0.898	0,062

Results : factor loadings and reliabilities

scale	b	α	scale	b	α	scale	b	α	scale	b	α	scale	b	α
WH BY			AW BY			LB BY			WB BY			FARBOMB BY		
WH3	0.851		AW3	0.723		LB1	0.837		POW1	0.688		FARBOM6	0.852	
WH4	0.885	0.86	AW4	0.519	0.677	LB2	0.804	0.764	POW5	0.749		FARBOM7	0.923	0.767
WH5	0.935		AW5	0.802		LB4	0.734		POW6	0.761		FARBOM8	0.621	
EB BY			LM BY			WM BY			POW7	0.787		JS BY		
EB1	0.928		LM1	0.717		WM1	0.904		POW8	0.792	0.856	PIW2	0.63	
EB2	0.837	0.81	LM2	0.897	0.82	WM2	0.957	0.918	POW10	0.729		PIW3	0.716	
EB7	0.78		LM3	0.875		WM3	0.941		POW11	0.797		PIW5	0.732	0.806
INSPR BY			PW BY			VIW BY			POW12	0.836		PIW7	0.737	
INSPR2	0.741		PW2	0.681		VIW2	0.752		POW14	0.677		PIW8	0.548	
INSPR3	0.839	0.765	PW3	0.684	0.7	VIW3	0.902	0.842	AGC BY			RN BY		
INSPR4	0.959		PW5	0.649		VIW4	0.955		OGG2	0.718		HERB1	0.668	
ZIW BY			PW6	0.824		FEEDB BY			OGG10	0.797	0.733	HERB3	0.641	
ZIW3	0.482		OW BY			INF1	0.716		OGG6	0.814		HERB6	0.658	0.763
ZIW5	0.695	0.628	OW1	0.762		INF2	0.923	0.826	AGD BY			HERB8	0.681	
ZIW6	0.755		OW4	0.775	0.757	INF3	0.862		OGG3	0.884		HERB11	0.526	
RC BY			OW5	0.792		ARBORG BY			OGG11	0.943	0.789			
RC1	0.874		JON BY			OVOR11	0.816		SEXH BY					
RC2	0.865	0.839	JON1	0.887		OVOR12	0.703	0.707	OGG4	0.867				
RC5	0.895		JON2	0.928	0.89	OVOR14	0.696		OGG5	0.996	0.821			
RL BY			JON3	0.957		COM BY			FARBOMA BY					
RL1	0.945		BEL BY			COM1	0.882		FARBOM1	0.811				
RL2	0.918	0.904	BEL1	0.902		COM2	0.914	0.884	FARBOM2	0.875	0.755			
RL5	0.904		BEL2	0.861	0.887	COM3	0.901		FARBOM3	0.746				

Results: Number of exposure groups

n clusters	1 cl	2 cl	3 cl	4 cl	5 cl	n clusters	1 cl	2 cl	3 cl	4 cl	5 cl
Workpace	18503	15653	15082	14614	14670	Workplace bullying	40225	35339	34414	34185	34205
Emotional demands	17938	16054	15169	15050	15115	Conflict with and aggression coll	10992	10276	10034	10079	10149
Farboma	19377	17783	17321	17157	17227	Conflict with and aggression sup	10064	9069.9	8799	8832	
Farbomb	22293	20393	19405	19027	19077	Sexual harassment	9109.5	8032.4	7724 ^A	7687	
Social support colleagues	21057	18541	17560	17375	17439	Job security	15771	12492	11780	11657	11720
Social support supervisor	21681	18157	16765	16183	16241	Pay satisfaction	22437	19146	18018	17145	17212
Task diversity	20417	19459	18982	18963	19024	Career possibilities	19174	17462	16968	16795	16848
Learning possibilities	20367	18299	17510	17190	17238	Problem with changes	16406	13832	13105	13074	13143
Autonomy	20274	19515	19180	19096	19161	Work means	20032	16546	14142	13870	13939
Participation in decision making	20011	18127	17463	17113	17177	Organizational Communication	21092	17982	16965	16204	16269
Role conflict	20603	19060	18776	18724	18725	Feedback	21307	18984	18172	17639	17708
Role ambiguity	19252	17502	16750	16684	16752	Organization of work	19472	18177	17786	17666	17728
						Pleasure in job	12521	9891.7	9772	9736	9776
NUMBERS ARE BIC						Recovery need	17986	15249	15065	15083 ^B	15119

Meaning of exposure level. An Example

Table Average conditional probabilities of polytomous scales across 4 clusters

	no exposure	low exposure	high exposure	very high exposure
Always	0.02	0.02	0.07	0.71
Often	0.05	0.15	0.70	0.21
Sometimes	0.15	0.73	0.20	0.05
Never	0.78	0.10	0.03	0.03

Result : criterion validity (ANOVA-pairwise comparison)

Table average number somatic health complaints across exposure levels

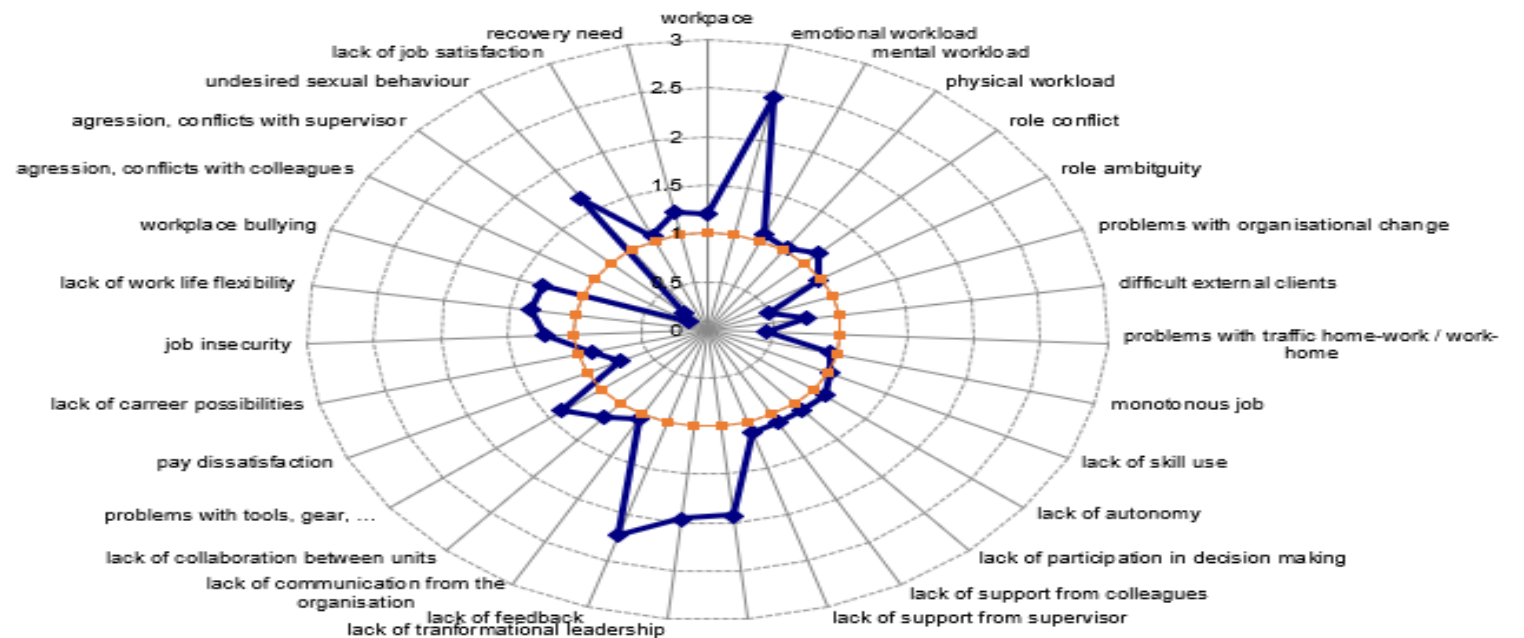
	N	no	low	high	very high		N	no	low	high	very high
work pace	15856	2.56	3.33	4.34	5.3	feedback	6173	3.62	3.45	3.95	4.5
emotional demands	15852	3.09	3.95	5.29	6.1	communication about the org.	5097	2.34	3.3	4.02	5.02
role ambiguity	15787	3.38	3.77	4.72	5.22	organization of work	8508	2.27	2.98	4.14	5.29
role conflict	15846	2.89	3.64	4.11	5.54	work means	4400	3.02	3.83	4.61	5.41
problems with organizational change	9217	3.33	4.2	5.05	4.06	job insecurity	11048	3.41	4.18	4.73	5.1
taxing physical work environment	8958	3.38	4.11	4.83	5.76	pay satisfaction	11050	2.93	3.52	4.05	4.99
air, vibration, temperature,...	8955	3.6	4.02	4.31	5.32	career possibilities	11026	2.52	3.1	3.81	4.58
diverse task	15843	3.55	3.69	4.24	5.23	workplace bullying	13287	3.03	4.08	5.12	6.08
learning possibilities	15355	2.82	3.289	4.09	5.15	Conflicts and aggression with coll.	14244	3.55a		4.98a	4.80a
Autonomy	15857	3.35	3.57	4.14	4.85	Conflicts and aggression with superv.	14211	3.57		5.27	6.22
participation in decision making	15896	2.95	3.3	4.09	5.16	Sexual harassment	14248	3.78		5.00a	5.20a
social support colleagues	15332	3.03	3.71	4.43	5.21	Job satisfaction	15769	3.34	4.05	5.04	6.09
social support supervisor	15278	2.95	3.65	4.41	5.32	Recovery need	15823	2.42	3.63	4.56	6.06

Practical Implications

- Simple univocal language

Multinational : Energy efficiency	no exposure	low exposure	high exposure	very high exposure
work load	0.00	44.44	36.11	19.44
emotional load	22.22	52.78	19.44	5.56
role conflict	25.00	25.00	36.11	13.89
unclear tasks	22.22	61.11	13.89	2.78
contact with difficult thirds	88.57	11.43	0.00	0.00
monotonous work	44.44	44.44	11.11	0.00
lack of skill utilisation	11.11	41.67	41.67	5.56
lack of autonomy	11.11	27.78	55.56	5.56
lack of participation	2.78	44.44	44.44	8.33

- Even made simpler



Strenghts & Limitations

- Damage is implicitly interiorized in exposure level. % (very) high exposure is associated with damage → very strong link with legal definition of psychosocial risk
- Factorial validity : fit and loadings are very satisfactory
- Only Autonomy's reliability is a bit weak
- BIC was most often univocal to determine number of exposure groups
- Sample size : Little for the estimation of criterion validity
- No objective external criteria
- Only one external criterium

Conclusion

- Confirmatory factor structure fits the data
- LCA allows to identify exposure levels to occupational hazard
- Exposure levels are externally validated
- SIMPH 5a can be a normed instrument using LCA and validating externally
- SIMPH method contains both 2 first step of risk assessment
 - Identification of hazards (and who is exposed to it)
 - Evaluation of risk
- SIMPH matches the aims of the legal framework : exposure and linking exposure to (objective) damage