

# Assessing mental work-load in organizations.

Reaching the goal of healthy workplaces

**Paul Jiménez & Anita Dunkl**



## Purpose

A main objective of the European Union is to obtain healthy workplaces on both physical and mental level. To reach this goal, the OrgFit was developed to assess mental work-load at the workplace in line with international standards (e.g. the ISO 10075-1:2000, 10075-2:2000 and 10075-3:2004).

## Method, Results

A representative sample of 514 workers of the Austrian population filled-in the OrgFit in an online study.

All four dimensions of the OrgFit show high correlation coefficients with the dimensions of the RESTQ-Work (Jiménez & Kallus, 2015), indicating high convergent validity (stress: .44-.59 and recovery: -.32 to -.68).

## Assessed dimensions

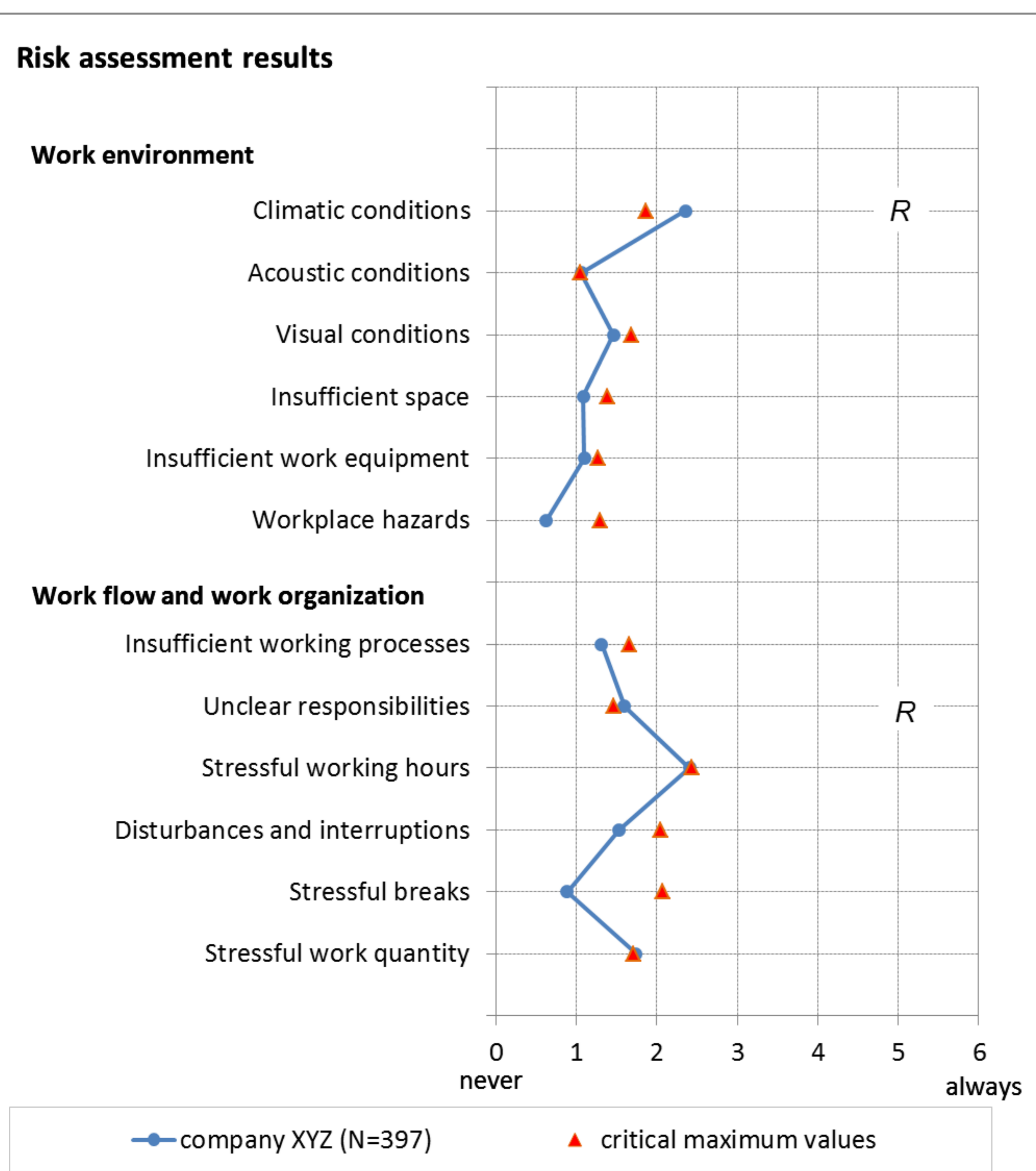


See also ISO 10075-1 and ISO 10075-2

## Cronbach's Alpha and factor structure

Dimension	$\alpha$	Sub-test	$\alpha$	factor 1	factor 2	factor 3	factor 4
Work activities and tasks	.75	Physical load	.70	.36		.69	
		Mental load	.84	.51			
		Emotional load – general	.66	.85			
		Emotional load - clients	.66	.81			
		Qualification problems	.61	-	.75		
Organizational climate	.91	Poor cooperation - quantitativ	.51				.59
		Poor cooperation – colleagues	.84		.62		
		Poor cooperation – leaders	.61		.77		
		Poor cooperation – general	.88		.84		
		Lack of fairness	.68		.82		
		Lack of information	.87		.76		.35
		Low latitude	.68		.83		
Work environment	.86	Climatic conditions	.77			.57	
		Acoustic conditions	.72			.66	
		Visual conditions	.59			.53	
		Insufficient space	.73			.69	
		Insufficient work equipment	.78			.67	.33
		Workplace hazards	.76			.78	
Work flow and work organization	.88	Unsufficient working processes	.69		.32		.72
		Unclear responsibilities	.63		.58		.38
		Stressful working hours	.65	.43			.47
		Disturbances and interruptions	.81				.74
		Stressful breaks	.67	.40		.42	.38
		Stressful work quantity	.90		.45		.55
Eigenvalue			8.03	2.86	1.75	1.44	
explained variance in %			33.5%	11.9%	7.3%	6.0%	

## Risk assessment profile (example)



## OrgFit. Criteria regarding ISO 10075-3

year of development	2013, 2014
name and affiliation of the developer	Jimenez, Dunkl, Bramberger, University of Graz
intended area of measurement	mental work-load at the workplace
precision level of the instrument	1, for detailed assessment
theoretical basis	ISO 10075, areas of worklife, action regulation theory
populations for which the measurement is intended	working population
populations for which the psychometric criteria have been determined	Austrian representative sample, N=674, N=514
psychometric properties of the instrument	Rel. >.9, Val. >.6 f. core dimensions, Obj. +, 7 levels
design of the study for determining the psychometric properties	representative study in Austria, controlling age, sex, etc.;
tasks/conditions which have been used for determining the validity	paper-pencil and online
duration of the work and rest periods	convergent validity with strain etc.
requirements/constraints concerning conditions	N.A.
requirements/constraints concerning the equipment	anonymous procedure, requirements defined by experts
requirements/constraints concerning the training and qualifications of the person	paper-pencil, online
reference standards for populations	experts, training course
procedures/conditions to be observed in performing the measurement	available, Austria 2013, 2014, 2015
procedures/conditions to be observed in analysing the data	information, participation, voluntary participation
estimate of the effort	expert level, possibility of referring to occupations
response rate of the sample	expert level, possibility of referring to occupations
description of the development procedure	fill-in questionnaire 10 minutes
information required to fill in the checklist	N.A.
	regular evaluations, high efficiency, satisfaction
	criterion for selection in table form available

## References

- Jiménez, P. & Kallus, K.W. (in press). Recovery-Stress-Questionnaire for Work (RESTQ-Work). In: K. W. Kallus and M. Kellmann (Eds.): The Recovery-Stress Questionnaires: User Manual. Frankfurt: Pearson Assessment.
- ISO 10075-1:2004 (2004). Ergonomic principles related to mental workload – Part 1: General terms and methods for measuring and assessing mental workload.
- ISO 10075-2:2004 (2004). Ergonomic principles related to mental workload – Part 2: Design principles.
- ISO 10075-3:2004 (2004). Ergonomic principles related to mental workload – Part 3: Principles and requirements concerning methods for measuring.