

5/10/2018

# Let's WORQ: The value of the Work Rehabilitation Questionnaire in return to work trajectories

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REVALIDATIEGENEESKUNDE  
CENTRUM VOOR REVALIDATIE

# Content of Workshop

1. What is WORQ?  
Cross cultural adaptation into Dutch (WORQ-VL)
  2. Translation WORQ-VL into Dutch (WORQ-NL)  
Reliability study for WORQ-NL  
WORQ to work in SCI
  3. Case Samples
- 
- A blue triangle graphic is located in the bottom right corner of the slide, pointing towards the top right.



# Work Rehabilitation Questionnaire

## Self-Report

Date \_\_\_\_\_  
Month Day Year

Full Name \_\_\_\_\_  
ID Number (if applicable) \_\_\_\_\_


*The Work Rehabilitation Questionnaire (WORQ) is a questionnaire that has been developed to better understand the extent of problems in functioning that people may have due to their health condition(s) and who are undergoing work or vocational rehabilitation. Part 1 of WORQ will ask for sociodemographics and background information. Part 2 will ask you a series of questions concerning your functioning. When answering part 2, think about your **past week**, considering both your good and bad days and the extent of your problem on average in the past week.*

### PART 1: SOCIODEMOGRAPHICS AND BACKGROUND INFORMATION

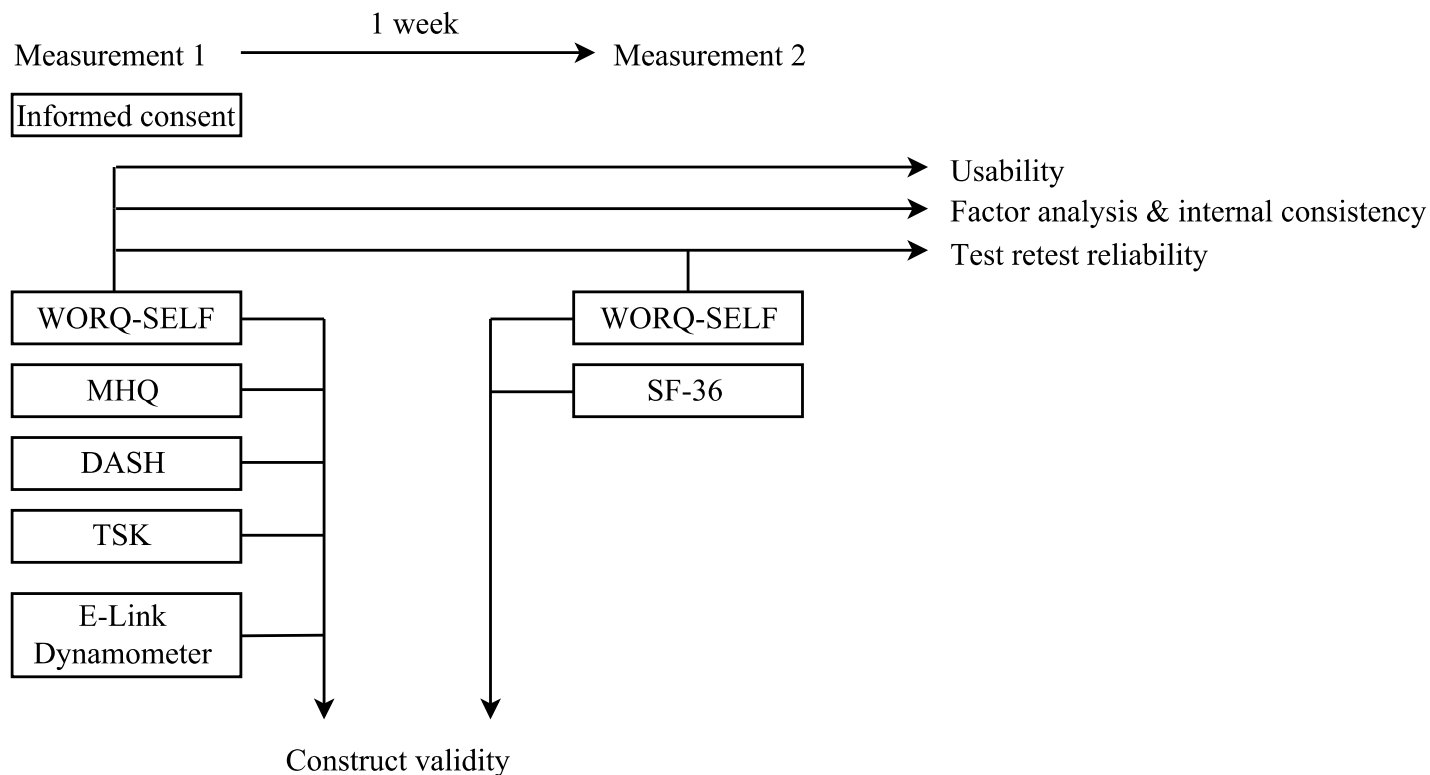
1. **Age (in years)** \_\_\_\_\_ years
2. **Sex**     female     male
3. **Civil status**     never married     married     separated     divorced     widowed     cohabiting/living with somebody
4. **Which best describes your current work status, or if currently not working your last work status?**  
 Employed                               Self-employed                       Non-paid work such as volunteer  
 Student or in training               Homemaker                       Retired                               *Not applicable*
5. **Which of the following describes your current work status best?**  
a. If currently working, are you?     Full time                       Part time                       On modified or light duty  
Or, if currently not working, are you?     Not working due to health reason  
 Not working due to ongoing vocational rehabilitation  
 Not working due to other reasons: Please specify



# Introduction – Objectives

1. Cross cultural adaptation into Dutch (Belgium)
  2. Usability
  3. Explore underlying dimensions
  4. First psychometric properties
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# Methods – Protocol and instruments



# Methods – Participants

- ▶ Two outpatient rehabilitation centres Ghent University Hospital
  - ▶ Hand and Wrist Rehabilitation (n=21)
  - ▶ Multidisciplinary Pain Centre (n=93)

# Results – Usability

- ▶ "All questions were clear and understood"

(Strongly) agreed	Neutral	(Strongly) disagreed
90%	-	10%

- ▶ "The questions are meaningful in return to work"

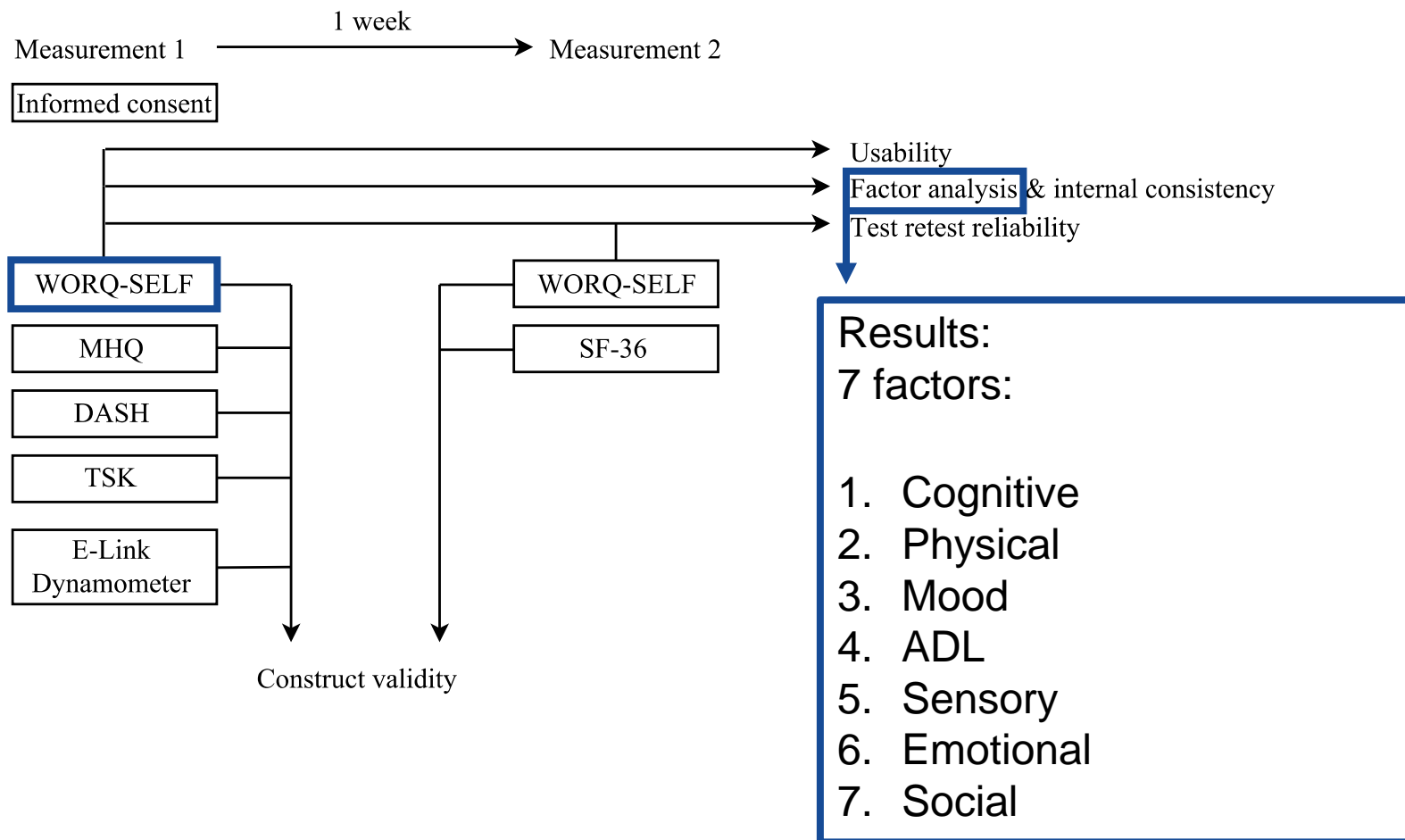
(Strongly) agreed	Neutral	(Strongly) disagreed
85%	10%	5%

- ▶ "I needed more assistance or explanation filling in the questionnaire"

(Strongly) agreed	Neutral	(Strongly) disagreed
38%	-	62%



# Results – factor analysis



# Results – Reliability

**Table 3.** Reliability: internal consistency analysis (n= 114) and test-retest reliability (n = 20)

Subscales	Internal consistency (Cronbach's $\alpha$ )	Test-retest reliability <sup>a</sup>	
		ICC (95% CI <sup>b</sup> )	p-value
Factor 1: Cognition	0.90	0.81 (0.59 - 0.92)	0.000
Factor 2: Physical	0.89	0.85 (0.65 - 0.94)	0.000
Factor 3: Mood	0.75	0.86 (0.69 - 0.94)	0.000
Factor 4: ADL	0.74	0.79 (0.49 - 0.91)	0.000
Factor 5: Sensory	0.78	0.91 (0.78 - 0.96)	0.000
Factor 6: Emotions	0.86	0.71 (0.37 - 0.88)	0.000
Factor 7: Social	0.87	0.78 (0.52 - 0.91)	0.000
<hr/>			
WORQ-VL (sum score)	0.95	0.85 (0.62 - 0.94)	0.000

<sup>a</sup> Test-retest reliability sample = 20, average test-retest interval = one week.  
<sup>b</sup> 95% Confidence interval: lower bound - upper bound.

ICC ranged from 0.71 to 0.91 – good to high

# Results – Construct validity

Table 4. Construct validity (n=21) using Spearman's rank correlation coefficient

	Factor 1 Cognit ion	Factor 2 Physic al	Factor 3 Mood	Factor 4 ADL	Factor 5 Sensor y	Factor 6 Emoti ons	Factor 7 Social	WORQ- VL (sum score)
<b>SF<sup>a</sup>-36</b>								
Physical functioning	-.40	<b>-.84**</b>	-.51*	-.60**	-.22	-.17	-.38	-.71**
Role limitations - physical	-.45*	<b>-.59**</b>	-.37	-.44*	-.23	-.39	-.40	-.64**
Role limitations – emotional	-.30	.25	.05	.22	-.32	<b>-.39</b>	-.35	-.01
Vitality (energy/fatigue)	<b>-.52*</b>	-.49*	-.51*	-.33	-.41	-.53*	-.41	-.65**
Mental health	<b>-.57**</b>	-.15	<b>-.58**</b>	-.18	-.28	<b>-.58**</b>	-.15	-.43*
Social functioning	-.58**	-.35	-.34	-.11	-.41	-.31	<b>-.26</b>	-.43*
Bodily pain	-.31	-.61**	-.50*	-.42	.02	-.23	-.15	-.50*
General health	-.41	-.31	-.10	.09	-.57	-.16	-.73**	-.39
<b>MHQ- DLV<sup>b</sup></b>								
Overall hand function	-.10	-.23	-.21	-.33	-.11	-.19	-.05	-.28
Overall ADL	-.02	-.42	-.21	<b>-.49*</b>	.09	-.07	.05	-.31
Work	-.12	.36	.27	.26	.18	-.15	-.03	<b>.25</b>
Pain	-.27	-.18	-.03	.09	.04	-.27	-.36	-.14
Aesthetics	<b>-.04</b>	<b>-.07</b>	<b>.21</b>	<b>-.20</b>	<b>-.10</b>	<b>.00</b>	<b>.05</b>	<b>-.08</b>
Satisfaction	<b>-.18</b>	<b>-.37</b>	<b>-.34</b>	<b>-.29</b>	<b>-.11</b>	<b>-.29</b>	<b>-.22</b>	<b>-.38</b>
MHQ total score	-.05	-.02	.05	-.15	.05	-.10	-.02	-.05
<b>DASH<sup>c</sup></b>								
Disability/symptom	.18	.57*	.62**	.65**	-.05	.20	.17	.56*
Optional: sports/music	-.08	.44	.31	.56*	-.47	.13	-.14	.31
Optional: work	.03	.28	.45	.50*	-.20	.05	-.14	.28
<b>TSK<sup>d</sup></b>								
	<b>.19</b>	<b>-.08</b>	<b>-.31</b>	<b>-.15</b>	<b>.18</b>	<b>.26</b>	<b>.20</b>	<b>-.03</b>
<b>E-Link Dynamometer (injury side)</b>								
	<b>.00</b>	<b>.26</b>	<b>.31</b>	<b>.04</b>	<b>.29</b>	<b>-.02</b>	<b>.34</b>	<b>.17</b>

73,3% of the hypotheses were confirmed – good construct validity

<sup>a</sup> Short-Form Health survey 36 Dutch Language Version

<sup>b</sup> Michigan Hand Outcomes Questionnaire, Dutch Language Version

<sup>c</sup> Disabilities of the Arm, Shoulder, and Hand

<sup>d</sup> Tampa Scale for Kinesiophobia

\* Correlation is significant at the 0.05 level (2-tailed).

\*\* Correlation is significant at the 0.01 level (2-tailed).

Correlations in bold correspond to an expected high correlation (11 hypotheses convergent validity)

Correlations underlined correspond to an expected non or weak correlation (4 hypotheses discriminant validity)

# Translation: “WORQ-VL” into “WORQ-NL”

## ▶ **Part 1: Sociodemographics and background**

- Too many changes
- Different social security and vocational rehabilitation system
- Different Dutch version (Belgium vs Netherlands)

## ▶ **Part 2: Main section**

- Minor changes in word choice
- Agreement between languages
- Identical version

# Test-retest reliability and construct validity of the WORQ-SELF-NL questionnaire in subjects with physical disabilities

▶ **Participants:** n=50, physical disability (SCI, brain injury, stroke, neuromuscular disease, MS, trauma, amputation)

▶ **Design:** Test–retest design; Interval 2-3 weeks.

*T0 – Test: Questionnaire A(=WORQ-SELF-NL part 1 and 2, WAS and EuroQol6D-5L)*

*T1 – Retest: Questionnaire B(=control question, WORQ-SELF-NL part 2, WAS)*

▶ **Data analysis:** intraclass correlation coefficient (ICC)

▶ **Results so far:**

- n= 38 (IC) → 29 (1 questionnaire) → 20 (2 questionnaires) → 15 (valid time interval) → **9** (no medical changes)
- Included n=9 (6 Brain injury/stroke; 2 SCI and 1 trauma), 67% male, 67% employed, 11% independent, 11% incapability
- ICC: WORQ Total 0,801 (n=9); WORQ Cognition 0,754 (n=9); WORQ Physical 0,744 (n=9); WORQ mood 0,860 (n=9); WORQ ADL 0,695 (n=6); WORQ sensory 0,899 (n=9); WORQ Emotions 0,774 (n=9); WORQ social 0,898 (n=9).

# WORQ: usability in SCI?

- ▶ Patient and expert feedback on WORQ
- ▶ More specific information required for SCI:
  - wheelchair use
  - aid/tool for walking
  - aid/tool for eating
  - travelling (challenging jobs)
- ▶ Good instrument to understand certain aspects but questions not specific enough to guide VR for SCI
- ▶ Develop specific WORQ-SCI?



# Case GBS

- ▶ Male patient with Guillain-Barré syndrome (GBS), age 40 years
- ▶ Global functioning: independent for daily care, walking without walking aid
- ▶ Start of VR program: +/- 3 months after onset disease
- ▶ Return to work as main goal
- ▶ Both physically as mentally demanding job

# Start of VR program: WORQ

- ▶ Part of assessment (“lived experience”)
- ▶ External factors (part 1)
- ▶ Objectives for VR
- ▶ Patient involvement

not feeling rested and refreshed during the day	6
remembering to do important things	7
being irritable	8
temper	6
self-confidence	5
keeping your balance	5
bodily aches or pains	2
general endurance	7
muscle strength	7
focusing attention on specific task	3
handling stress, crises or conflict	6
lifting and carrying objects up to 5 kg	5
lifting and carrying objects more than 5 kg	7
walking a long distance	6
moving around including crawling, climbing and running	8
looking after health	7



# End of VR program: WORQ

- ▶ Comparison of scores start & end of VR
- ▶ Source of advice for RTW plan
- ▶ Source to decide whether work supportive measures are needed
- ▶ Follow-up based on needs of patient
- ▶ Post-intervention image of functioning

not feeling rested and refreshed during the day	6	3
lifting and carrying objects up to 5 kg	5	0
lifting and carrying objects more than 5 kg	7	1
fine hand use	2	0
walking a short distance	2	0
walking a long distance	6	0
moving around including crawling, climbing and running	8	0
Total score WORQ VL	119	38

# Same diagnosis, different functioning...

- ▶ Two persons with GBS at the start of the VR program
- ▶ Different emphasis within VR; “tailored program”
- ▶ Facilitates the bio-psycho-social view



	Person A	Person B
not feeling rested and refreshed during the day	6	3
sleeping	0	5
remembering to do important things	7	2
being irritable	8	3
temper	6	2
self-confidence	5	1
keeping your balance	5	1
bodily aches or pains	2	3
general endurance	7	3
muscle strength	7	3
handling stress, crises or conflict	6	2
lifting and carrying objects up to 5 kg	5	2
lifting and carrying objects more than 5 kg	7	3
walking a long distance	6	1
moving around including crawling, climbing and running	8	5
looking after health	7	2
Total score WORQ VL	119	63

# Conclusion

- ▶ Availability of the WORQ in different languages:  
<https://myworq.com>
- ▶ First psychometric results are positive\*
- ▶ WORQ as meaningful part of assessment within vocational rehabilitation
- ▶ Future research is needed (e.g. WORQ and SCI)

\* Accepted for publication in Journal of Occupational Rehabilitation. "Cross-cultural adaptation and psychometric evaluation of the Dutch version of the Work Rehabilitation Questionnaire (WORQ-VL)", 14.09.2018

Thank you for your attention!



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