Work Participation Outcome Measures

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Presentation Overview

1) Types of work outcomes

2) Challenges related to work participation concepts and their measurement

3) The complexity of the work – keeping context in mind

OMERACT *Worker Productivity Working Group*

Rheumatic diseases as a model for understanding work participation:

- Associated with significant amounts of pain
- New treatments can be “life altering”

OMERACT *Worker Productivity Working Group*

Patient Research Partners:

Ailsa Bosworth, U.K.;
Catherine Hofstetter, Canada;
Amye Leong, U.S.A.;
David Magnusson, Sweden;
Albert Schiepers, Netherlands.

Industry Research Partners:

Mary Cifaldi, Abbvie, U.S.A.;
Oana Purcaru, UCB Pharma, Belgium;
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Sofia Hagel, Sweden;
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Sarah Leggett, U.K.;
Jolanda Luime, Netherlands;
Antje Neunen, Netherlands;
Ingemar Petersson, Sweden;
Carmen Stolwijk, Netherlands;
Ken Tang, Canada;
Suzanne Verstappen, U.K.

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Suzanne Verstappen

Are employment outcomes of value in trials and other interventions?

Work provides:

- Financial resources
- Potential access to employer benefit plans (medication, extended health)
- Psychological advantages (e.g., identity, purpose)
- Social benefits
- May promote physical activity

Work across the life span

- Youth employment experiences linked to education and later employment

- Aging workers:
  - Youngest of the baby boomers are 50 years old
  - Mandatory retirement disappearing
  - Workers encouraged/need to work longer
  - Age associated with increased risk of various painful health conditions

Work of interest to employers, insurers, organized labour, health and safety associations, governments, clinicians and others

Disability and productivity costs estimated to be 2-4 times greater than direct health care costs (Allaire et al., 2005; Fautrel & Guillemin, 2002; Gabriel et al., 1997; Li et al., 2006; Merkesdal et al., 2001; Wolfe et al., 2005; Yelin et al., 2004)

Conceptual Models

- WHO International Classification of Functioning, Disability and Health (ICF) (WHO, 2001)
- Brouwer et al.,: Relationships among work productivity concepts and health-related quality of life (Brouwer, Meerding, Lamers &Severens, 2005)
- Sandqvist & Henriksson: The person-environment fit in work participation (Sandqvist & Henriksson, 2004).

Conceptual Models

Factors contributing to work participation go beyond pain and health-related factors

Work participation outcomes are inter-connected

Conceptual Models

Pain is complex and determined by biological, psychological, social and environmental factors

Health→Work Work→Health

Conceptual Models

The nature of the pain experience (e.g., flares, episodic, continuous) needs to be considered in light of work

Work Outcomes

- Job status (e.g., long-term disability/work disability)
- Sick leave or short-term disability
- Absenteeism

Absenteeism

- Prior 3 months/6 months?
- Number of days versus an “episode”?
- Attributed to a health condition?
- The price of better health – more absenteeism?

Presenteeism: Measuring reduced work quantity and quality

1. Is working easy or difficult (worker ability/ functioning)?

2. Are workers with painful conditions like arthritis as productive as they could be if they had no health problem?

Work Outcomes

- Work scheduling
- Job disruptions
- Job stress
- Changing jobs

(Gignac, Cao, Lacaille, Anis & Badley, 2008)

OMERACT *Worker Productivity Working Group* (2006)

Four work streams:

1. Global assessments of at-work limitations/productivity loss
2. Multi-item approaches to measuring at-work limitations/productivity
3. Contextual factors related to worker productivity
4. Interpretability of worker productivity outcomes (e.g., PAS, MID)

OMERACT *Worker Productivity Working Group* (2006)

Started with 26 different instruments

Measures evaluated using the OMERACT filter:

1. Truth (face/content validity and construct validity)
2. Discrimination (reliability, responsiveness, use in RCTs, score interpretability)
3. Feasibility (ease of application)

Work productivity is nuanced…

Work performance – the ability to work with relative ease or difficulty

Work productivity – the assessment of the quality and quantity of work output

Global Measures	Content/ Source	Concept	Recall Period	Disease Attribution	Comparative Referencing	Scaling
WAI*	Item 1	Work ability	Current	None	In relation to lifetime best	0-10 (0= completely unable to work; assume best work ability =10)
QQ	Multiplication of 2 items	How much work performed and the quality of the work	Last work-day	None (N/A)	Compared to a normal "work-day"	Quantity: 0-10 (practically nothing to normal quantity); Quality: 0-10 (very poor to normal quality)
WPAI	Item 5	Work productivity	Last 7 days	Can be adapted to any health condition	None	0-10 (health problem had no effect on my work to completely prevented me from working)
WPS-RA	Item 4	Interference with work productivity	Last month	Arthritis	None	0-14 (no interference to complete interference)

* Acronym definitions: WAI-Work Ability Index; QQ-Quantity and Quality Method; WPAI-Work Productivity and Activity Impairment/specific health problem version; WPS-RA-Rheumatoid Arthritis-specific Work Productivity Survey (Tang et al., 2013 JRheum).

	OMERACT Truth		OMERACT Discrimination				OMERACT Feasibility
Global measures	*Face/content validity*	*Construct validity*	*Reliability*	*Responsiveness*	*RCTs*	*Score Interpretability*	
WPAI (item 5)	++	++	++	++	++	+	++
WPS-RA (item 4)	+	+	++	++	++	(+)	++
QQ	+	+	++	+	+	+	++
WAI (item 1)	++	++	++	++	(+)*	+	++

++ = evidence from 2 or more studies, in the absence of conflicting evidence
+ = evidence from at least 1 study, and overall body of evidence supporting >refuting
(+) = estimates expected from an ongoing study; (+)* = not exclusively MSK

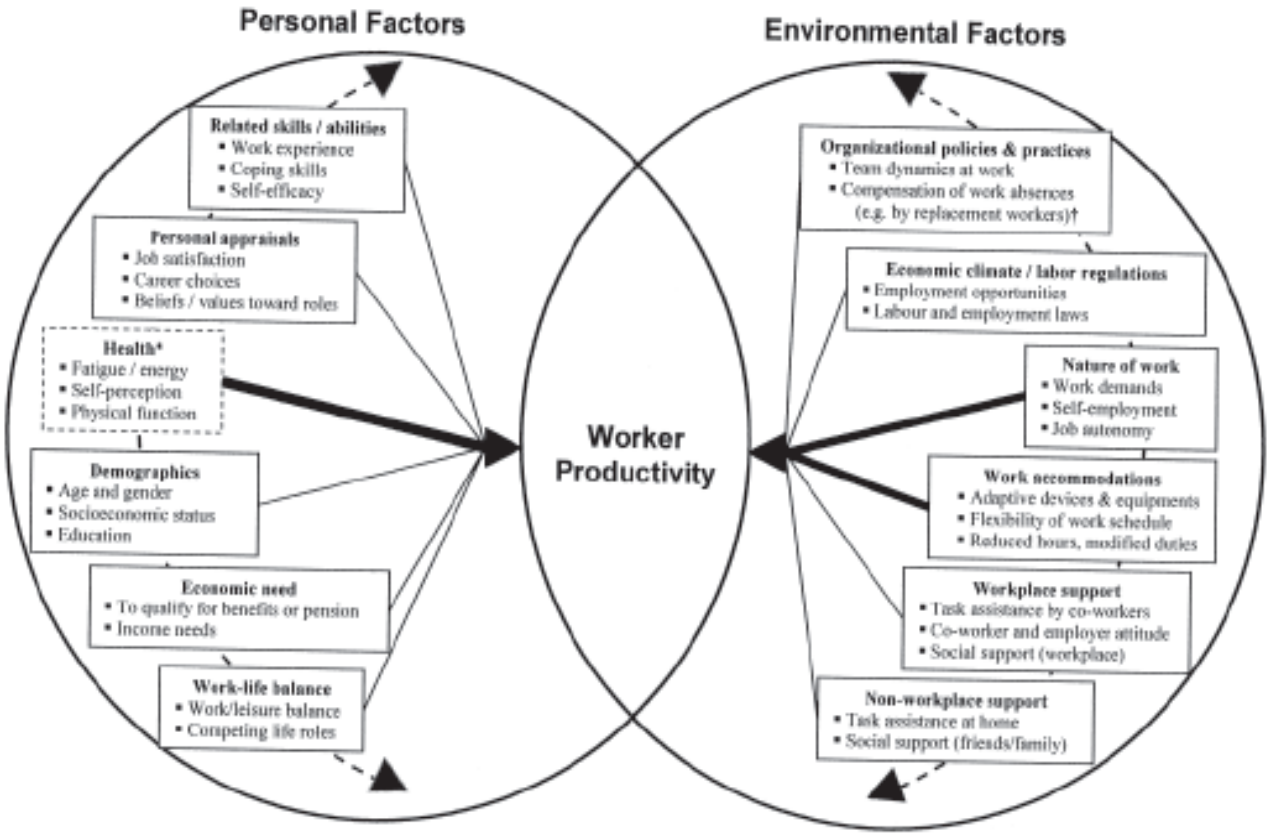
Multi-item Measures	Concept	Scored Scales & Number of Items	Time Frame
WALS*	Amount/level of difficulty	Summed score of 12 items	Not specified
WLQ-25 (modPD)	Frequency/proportion of time having difficulty	25 items: Physical demands; Mental-interpersonal; Time management; Output demands	Past 2 weeks

*Acronym definitions: WALS-Workplace Activity Limitations Scale; WLQ-25 (modPD)-Work Limitations Questionnaire with modified physical demands scale (PD scale reoriented to be consistent with other subscales; with permission of developers [D. Lerner]) (Beaton et al., 2009)

	OMERACT Truth		OMERACT Discrimination				OMERACT Feasibility
Multi-Item Measures	*Face/content validity*	*Construct validity*	*Reliability*	*Responsiveness*	*RCTs*	*Score Interpretability*	
WALS	++	++	++	++	(+)[#]	+	++
WLQ-25	++	++	++	++	(+)[#]	+	++

++ = evidence from 2 or more studies, in the absence of conflicting evidence
+ = evidence from at least 1 study, and overall body of evidence supporting >refuting
(+)[#] = Trials ongoing. For WLQ, trials were negative and difference in WLQ was negative. Both WALS and WLQ have evidence of discrimination between subgroups (one group improved; other not). Monitoring trial results is ongoing

Possible Work Outcome Contextual Factors



Thank you!

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