

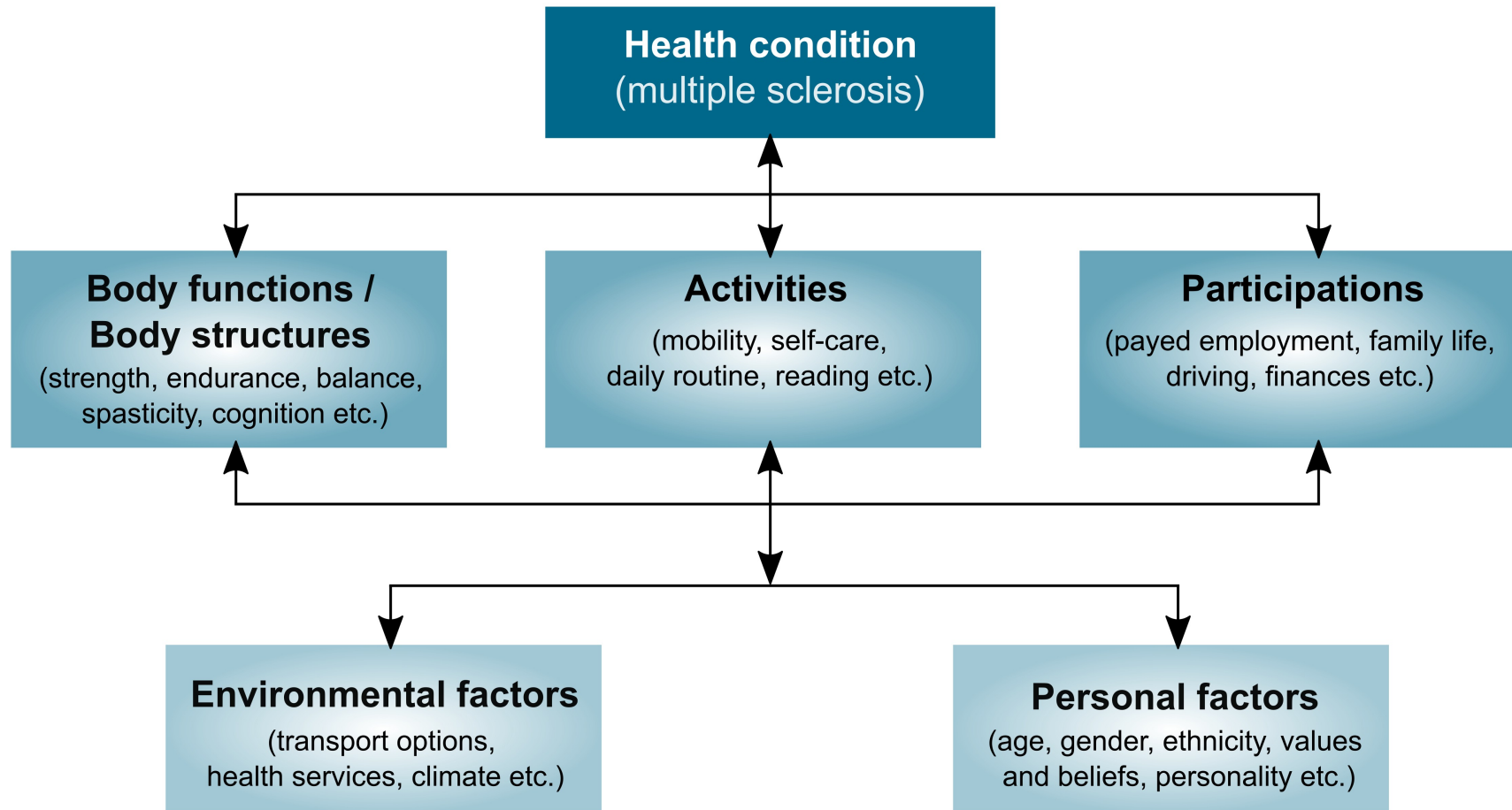
ICF CATEGORICAL PROFILE AS A VERSATILE TOOL TO ASSESS AND PLAN REHABILITATION OF PEOPLE WITH MULTIPLE SCLEROSIS

Erasmus Blended Intensive Courses Programme In Neurorehabilitation

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ICF MODEL



ICF – International Classification of Functioning, Disability and Health (WHO 2001)

ICF CLASSIFICATION

Four main domains

- **b1-b8** – Body functions
- **s1-s8** – Body structures
- **d1-d9** – Activities and participations
- **e1-e5** – Environmental factors

<https://apps.who.int/classifications/icfbrowser/>

<https://www.rehadat-icf.de/en/>

Three levels of precision

- d4 Mobility → d450 Walking → d4500 Walking short distances

Over 1400 categories → **Core Sets**

Comprehensive Core Set for MS (138 cat.):

- 40b + 7s + 53d + 38e

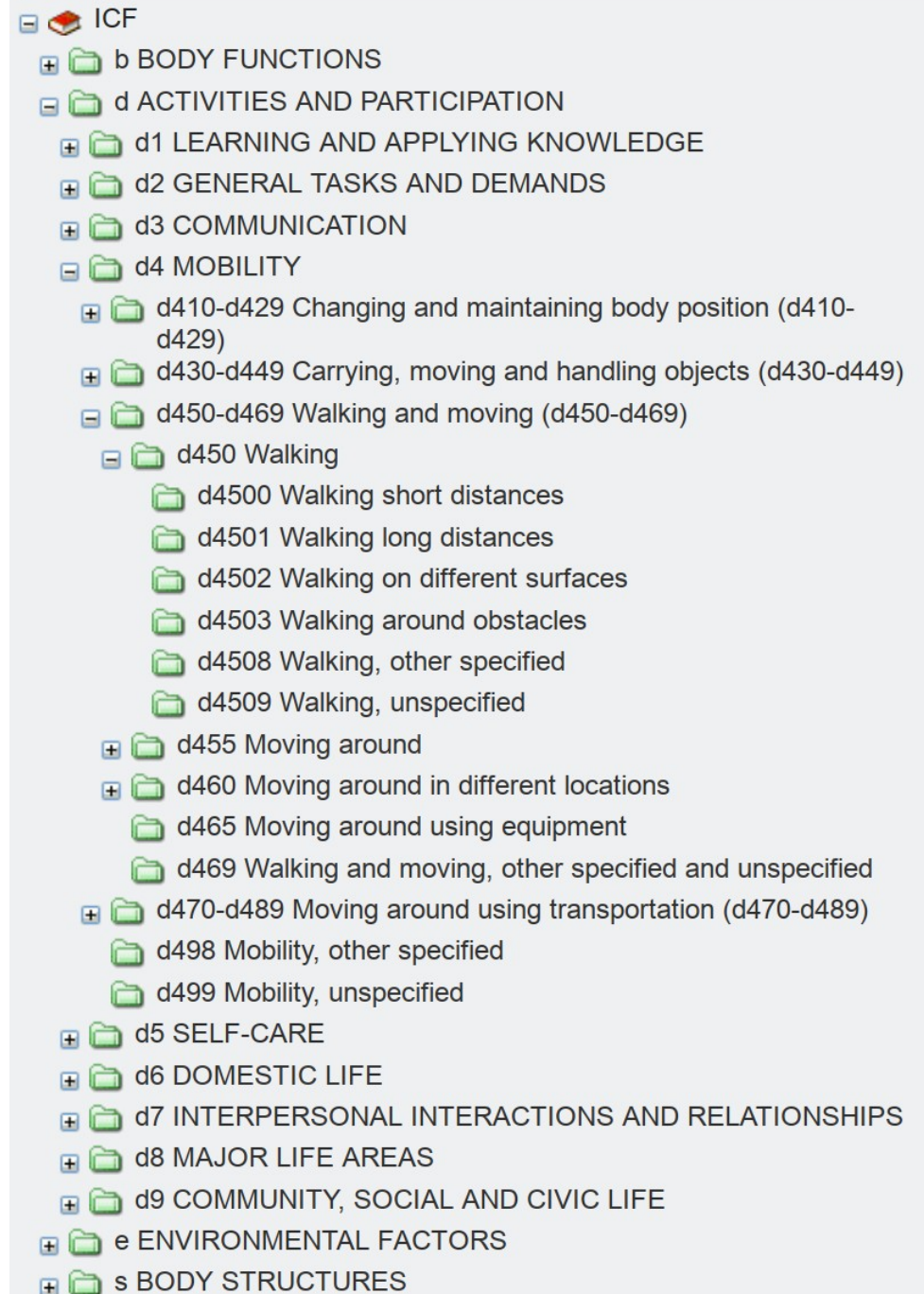
Brief Core Core Set for MS (19 cat.):

- 8b + 2s + 5d + 4e

Add categories that seem important for your case.

ICF Browser

Language/Version



EXAMPLE FROM A STUDY

- Virtual reality in physiotherapy of people with MS (pwMS)
- oriented on **upper arm** (UA)
- **8 measurement tools** (Hand and Pinch grip, Box-and-Block, 9 Hole Peg Test, 5-times Sit to Stand, MSIS-29, EQ-5D-5L, VAS assessment of fine hand use and sitting stability)
- initial assessment included **ICF classification** by ICF Brief Core Set for MS, with 3 extra categories:
 - **d430** Lifting and carrying objects, **d440** Fine hand use, **d445** Hand and arm use
- **29** pwMS (9 men, 20 women), average age 42 years (25 – 57)
- three pwMS examples

BODY FUNCTIONS		0	1	2	3	4			
b130 Energy and drive functions									
b152 Emotional functions									
b164 Higher-level cognitive functions									
b210 Seeing functions									
b280 Sensation of pain									
b620 Urination functions									
b730 Muscle power functions									
b770 Gait pattern functions									
BODY STRUCTURES		0	1	2	3	4			
s110 Structure of brain									
s120 Spinal cord and related structures									
ACTIVITIES AND PARTICIPATIONS		0	1	2	3	4			
d175 Solving problems	P								
	C								
d230 Carrying out daily routine	P								
	C								
d430 Lifting and carrying objects	P								
	C								
d440 Fine hand use	P								
	C								
d445 Hand and arm use	P								
	C								
d450 Walking	P								
	C								
d760 Family relationships	P								
	C								
d850 Remunerative employment	P								
	C								
ENVIRONMENTAL F.	+4	+3	+2	+1	0	1	2	3	4
e310 Immediate family									
e355 Health professionals									
e410 Indiv. attitudes of family members									
e580 Health services/systems/policies									

Note: strong tremor, with an assisstant at work (scientist)

man, age 43, RR type 12 years, EDSS 5, MSIS-29 = 29

Note: strong tremor, with an assisstant at work (scientist)

man, age 37, RR type 9 years, EDSS 2, MSIS-29 = 45

BODY FUNCTIONS		0	1	2	3	4
b130 Energy and drive functions						
b152 Emotional functions						
b164 Higher-level cognitive functions						
b210 Seeing functions						
b280 Sensation of pain						
b620 Urination functions						
b730 Muscle power functions						
b770 Gait pattern functions						
BODY STRUCTURES		0	1	2	3	4
s110 Structure of brain						
s120 Spinal cord and related structures						
ACTIVITIES AND PARTICIPATIONS		0	1	2	3	4
d175 Solving problems	P					
	C					
d230 Carrying out daily routine	P					
	C					
d430 Lifting and carrying objects	P					
	C					
d440 Fine hand use	P					
	C					
d445 Hand and arm use	P					
	C					
d450 Walking	P					
	C					
d760 Family relationships	P					
	C					
d850 Remunerative employment	P					
	C					
ENVIRONMENTAL F.	+4 +3 +2 +1	0	1	2	3	4
e310 Immediate family						
e355 Health professionals						
e410 Indiv. attitudes of family members						
e580 Health services/systems/policies						

Person No. 39 man, age 43, RR type 12 years, EDSS 5, MSIS-29 = 29

BODY FUNCTIONS		0	1	2	3	4				
b130	Energy and drive functions									
b152	Emotional functions									
b164	Higher-level cognitive functions									
b210	Seeing functions									
b280	Sensation of pain									
b620	Urination functions									
b730	Muscle power functions									
b770	Gait pattern functions									
BODY STRUCTURES		0	1	2	3	4				
s110	Structure of brain									
s120	Spinal cord and related structures									
ACTIVITIES AND PARTICIPATIONS		0	1	2	3	4				
d175	Solving problems	P								
		C								
d230	Carrying out daily routine	P								
		C								
d430	Lifting and carrying objects	P								
		C								
d440	Fine hand use	P								
		C								
d445	Hand and arm use	P								
		C								
d450	Walking	P								
		C								
d760	Family relationships	P								
		C								
d850	Remunerative employment	P								
		C								
ENVIRONMENTAL F.		+4	+3	+2	+1	0	1	2	3	4
e310	Immediate family									
e355	Health professionals									
e410	Indiv. attitudes of family members									
e580	Health services/systems/policies									

Note: strong tremor, with an assisstant at work (scientist)

Person No. 52 man, age 37, RR type 9 years, EDSS 2, MSIS-29 = 45

BODY FUNCTIONS		0	1	2	3	4				
b130	Energy and drive functions									
b152	Emotional functions									
b164	Higher-level cognitive functions									
b210	Seeing functions									
b280	Sensation of pain									
b620	Urination functions									
b730	Muscle power functions									
b770	Gait pattern functions									
BODY STRUCTURES		0	1	2	3	4				
s110	Structure of brain									
s120	Spinal cord and related structures									
ACTIVITIES AND PARTICIPATIONS		0	1	2	3	4				
d175	Solving problems	P								
		C								
d230	Carrying out daily routine	P								
		C								
d430	Lifting and carrying objects	P								
		C								
d440	Fine hand use	P								
		C								
d445	Hand and arm use	P								
		C								
d450	Walking	P								
		C								
d760	Family relationships	P								
		C								
d850	Remunerative employment	P								
		C								
ENVIRONMENTAL F.		+4	+3	+2	+1	0	1	2	3	4
e310	Immediate family									
e355	Health professionals									
e410	Indiv. attitudes of family members									
e580	Health services/systems/policies									

Person No. 4 woman, age 48, RR type 23 years, EDSS 7, MSIS-29 = 39

BODY FUNCTIONS						0	1	2	3	4
b130	Energy and drive functions									
b152	Emotional functions									
b164	Higher-level cognitive functions									
b210	Seeing functions									
b280	Sensation of pain									
b620	Urination functions									
b730	Muscle power functions									
b770	Gait pattern functions									
BODY STRUCTURES						0	1	2	3	4
s110	Structure of brain									
s120	Spinal cord and related structures									
ACTIVITIES AND PARTICIPATIONS						0	1	2	3	4
d175	Solving problems	P								
		C								
d230	Carrying out daily routine	P								
		C								
d430	Lifting and carrying objects	P								
		C								
d440	Fine hand use	P								
		C								
d445	Hand and arm use	P								
		C								
d450	Walking	P								
		C								
d760	Family relationships	P								
		C								
d850	Remunerative employment	P								
		C								
ENVIRONMENTAL F.		+4	+3	+2	+1	0	1	2	3	4
e310	Immediate family									
e355	Health professionals									
e410	Indiv. attitudes of family members									
e580	Health services/systems/policies									

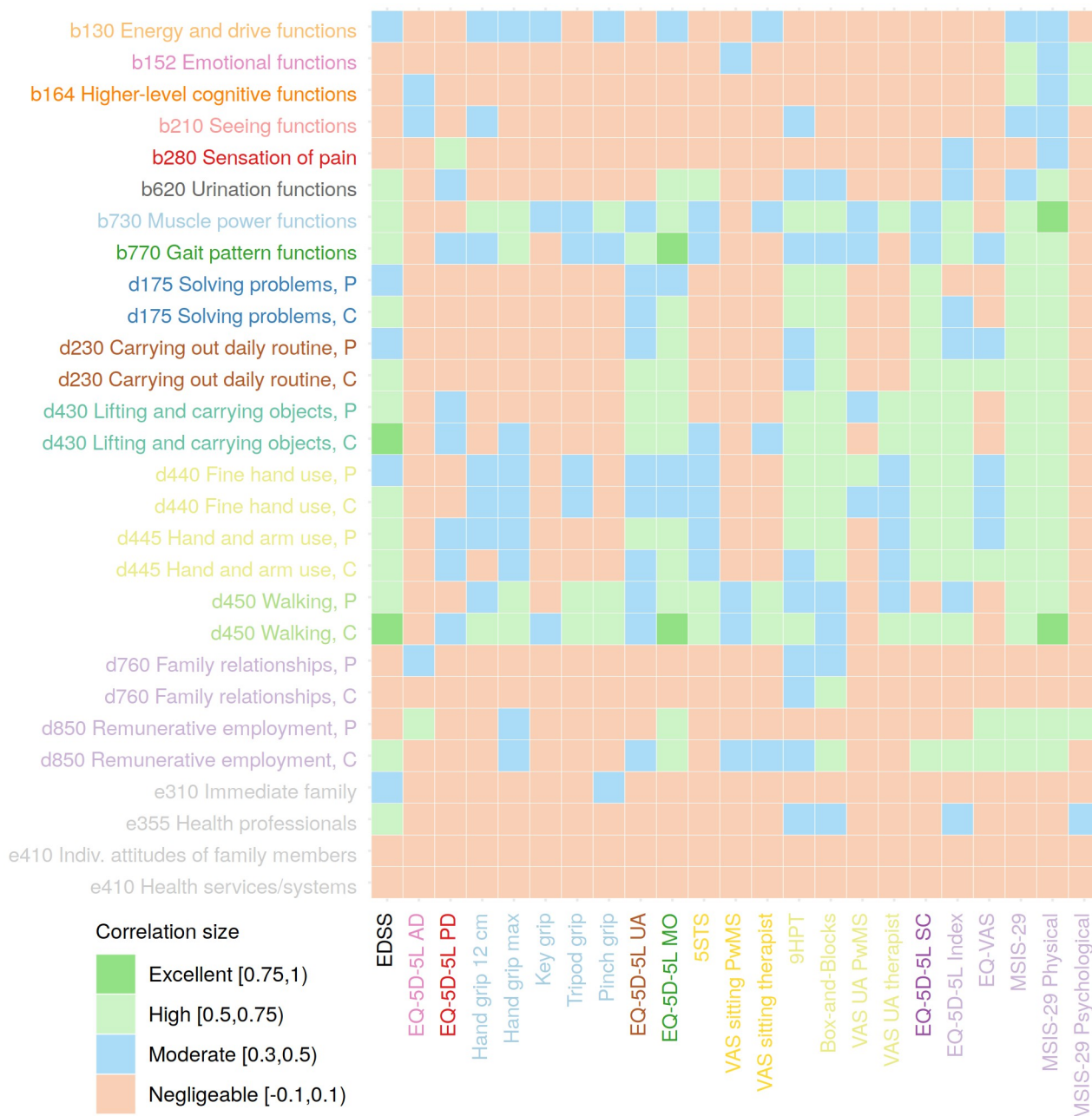
Note: participant is on wheelchair

ICF IN PRACTICE

- understanding the **situation and needs** of pwMS
 - highlights less considered areas
 - at individual level → **EBP**; Evidence-based Practice
 - at broader level – healthcare providers concentrate more on mobility and **capacity**, pwMS value **participations** at various levels
 - basis for discussion, identification of **therapy goals**
- visual aid in the form of a card helps the rehabilitation team to recall the client
- **complete framework** for the rehabilitation program
 - initial **assessment**, identification of therapy **goals**, intervention **planning**, **monitoring** the course up to final **evaluation**
- **validation** of measurement tools

HEATMAP ICF CORE SET × MEASUREMENT TOOLS

- correlations at initial assessment
- color coded by ICF linking
- specific × general tools
- „objective“ × subjective



HEATMAP ICF CORE SET × MEASUREMENT TOOLS

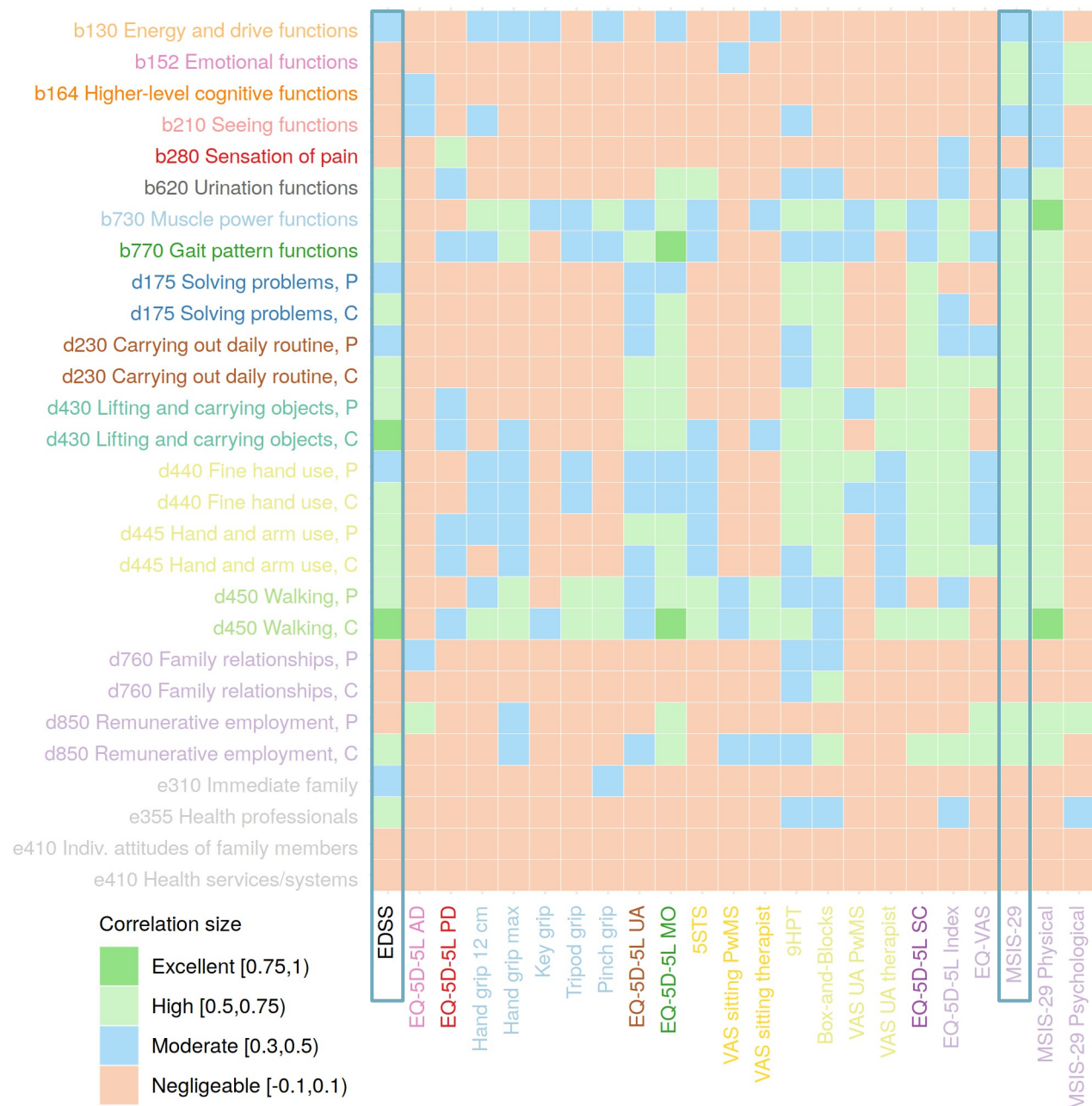
- correlations at initial assessment
- color coded by ICF linking
- specific × general tools
- „objective“ × subjective

EDSS

- omits some functions
- stresses **capacity**

MSIS-29

- includes impact on mental and emotional wellbeing
- stresses **performance**



ICF IN PRACTICE

- understanding the **situation and needs** of pwMS
 - highlights less considered areas
 - at individual level → **EBP**; Evidence-based Practice
 - at broader level – healthcare providers concentrate more on mobility and **capacity**, pwMS value **participations** at various levels
 - basis for discussion, identification of **therapy goals**
- visual aid in the form of a card helps the rehabilitation team to recall the client
- **complete framework** for the rehabilitation program
 - initial **assessment**, identification of therapy **goals**, intervention **planning**, **monitoring** the course up to final **evaluation**
- **validation** of measurement tools
- improvement of the **research** and of the **care systems**

THANK YOU!