

4th NORDIC CONFERENCE IN
WORK
REHABILITATION
REYKJAVÍK, ICELAND, SEPTEMBER 5–7 2016

How well does ICF predict the possibilities of work participation for individuals exiting services from VIRK ?

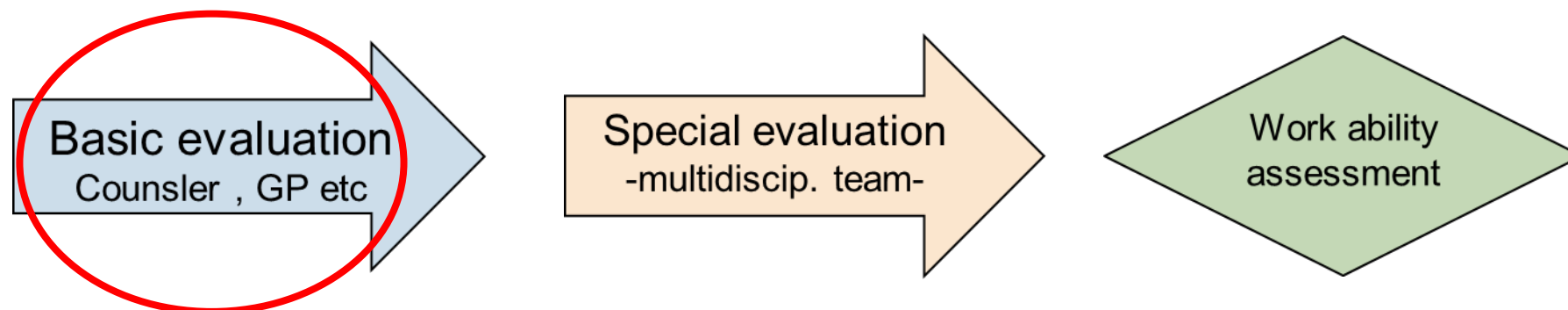
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VIRK Vocational Rehabilitation Fund

Work ability assessment and use of ICF

- VIRK Vocational Rehabilitation Fund was **established** in the year **2008**
- **All** working age **Icelanders** are **eligible** for services provided they meet conditions for admission
- A comprehensive assessment of the individual's ability to **participate actively in the labour market** was developed
- The focus is on what the individual is **capable of doing** from a physical, mental and social perspective.
- The **work ability assessment** is divided into **three phases** and in each step ICF categories are incorporated

Evaluation process

- Evaluation **closely connected** to vocational rehabilitation
- **Multidisciplinary** approach at all points



- **Working** systematically with **loss of function** through vocational rehabilitation
- Important for the **work ability assessment** and the RTW assessment

Basic evaluation

- The emphasis is on **early intervention, activation, and removal of barriers** to work
- The assessment is based on; information from the **referring physician, questionnaires** and **interviews** carried out by the VR counsellor
- The goal is to **promote health**, improve social conditions, and **motivate** to early return to work
- **Individual's subjective assessment** of his/her functional capabilities and self believe play an important role
- ICF based questioner, divided into **6 categories**, is conducted ***“Mat og leiðir” → Assessment and directions***

“Mat og leiðir” → Assessment and directions

- A 6 category questioner (48 questions) which purpose was to extract the **individual's perspective on his situation**
- Also important as a **frame around discussions/interview** during basic evaluation
- Based on theories from the Danish system (Arbejdsevnetmetoden) and also from the Norwegian (NAV) and the Swedish system (SASSAM)
 - A **framework for dialogue** and **individualized** counselling
 - Each question was **related to** a specific **ICF category**

Mat og leiðir” ➔ Assessment and directions

Does your health or condition have any effect on the following factors?

- Rated on a 5-point **Likert scale**

1. Attitude toward and connections to the labour market (7 quest.)

Attending work on time? (d850)

2. The ability to acquire new knowledge and skills (9 quest.)

Ability to acquire new skills? (d155)

3. Interests/hobbies (5 quest.)

Ability to traveling for pleasure? (d920)

4. Social skills – personal competence (9 quest.)

Ability to control your anger and irritations? (d720)

5. Social and financial circumstances (6 quest.)

Connections with your immediate family? (e310)

6. Health (12 quest.)

Ability to fall a sleep? (b134)

“Mat og leiðir” → Assessment and directions

- How well did the questions in each category “**go together**”?
- Can the **answers** to the questioners in “Mat og leiðir”:
 - **predict** whether an individual who finished VR would either enter the **workforce**/start an education or go on **benefits**
 - **assist** in the initial evaluation to **decide how much** intervention/length of VR the individual will need – grouping them together according to **expected need**: easy/light, medium, difficult/hard

Statistical analysis

- **Factor analysis** of the 48 items/questions in the questionnaire “Mat og leiðir” – Assessment and directions
- **Exploratory factor analysis** (EFA) to discover the **number of factors** influencing variables and to analyze which variables “go together”
- **Logistic regression** analysis to evaluate how well the retained ICF-factors predicted
 - destination of discharged individuals – work/education or benefits

Participants

- **Individuals** who were discharged after VR at VIRK from 2013 – 2015 = 2828
- **Mean age 43** (18-69, sd=12)
- **67%** konur (n=1882)
- **33%** karlar (n=946)
- **Length of VR:**

0 – 12 months	64%
12 – 24 months	15%
Over 2 years	21%

Participants - Descriptive statistics

	Participants	Psychiatric problems	Musculo-skeletal problems	Psychiatric and Musculo-skeletal problems	Other condition
Participants n (%)	2828	817(29)	718(25)	658(23)	635(23)
Gender					
Female	1882(67)	499(26)	500(27)	520(28)	363(19)
Male	946(33)	318(34)	218(23)	138(14)	272(29)
Number of participants in age groups					
18 – 25 n (%)	211(7)	114(54)	12(6)	41(19)	44(21)
26 – 35 n (%)	630 (22)	254(40)	103(17)	145(23)	128(20)
36 – 50 n (%)	1093(39)	303(28)	297(27)	267(24)	226(21)
51 – 70 n (%)	894(32)	146(16)	306(34)	205(23)	237(27)
Education n=2677					
University	592(22)	188(32)	126(21)	165(28)	113(19)
Upper secondary education/gymnasia	423(16)	138(32)	100(24)	93(22)	92(22)
Technical college/Vocational school	515(19)	102(20)	165(32)	106(21)	142(27)
Compulsory	918(34)	278(30)	227(25)	210(23)	203(22)
Other	229(9)	57(25)	74(32)	46(20)	52(23)
Marital status n=2806					
Married/cohabitation	1188(42)	214(18)	413(35)	262(22)	299(25)
Single	1618(58)	599(37)	297(18)	395(25)	327(20)

Participants - Descriptive statistics

	Participants	Psychiatric problems	Musculo-skeletal problems	Psychiatric and Musculo-skeletal problems	Other condition
Work participation at discharge n=2828					
Work or education	1431(51)	524(37)	293(20)	318(22)	296(21)
Disability benefits and other benefits	1397(49)	293(21)	425(31)	340(24)	339(24)
Time away from work n=2715					
0-6 months	1234(45)	377(31)	321(26)	323(26)	213(17)
6-12 months	528(19)	144 (27)	149(28)	96(18)	139(27)
12-18 months	272(10)	74(27)	75(28)	53(19)	70(26)
18-24 months	122(5)	36(30)	31(25)	23(19)	32(26)
Over 2 years	559(21)	147(26)	123(22)	144(26)	145(26)
Length of rehabilitation n=2828					
0-6	481(17)	174(36)	103(21)	67(14)	137(29)
6-12	992(35)	321(32)	224(23)	241(24)	206(21)
12-18	757(27)	174(23)	206(27)	203(27)	174(23)
18-24	388(14)	95(25)	121(31)	97(25)	75(19)
More than 2 years	210(7)	53(25)	64(31)	50(24)	43(20)

Exploratory Factor Analysis (EFA)

- EFA demonstrated **6 new functional factors** that had eigenvalue higher than 1 (Kaiser's criterion)
- Only factors loading demonstrating **correlation > 0.4** were retained for analysis
- 6 new functional factors with **31 items/questions emerged**

Results - Exploratory Factor Analysis (EFA)

Factorial loadings for the ICF items generated by means of explorative factorial analysis							
		1	2	3	4	5	6
	Emotional control						
d720	Complex interpersonal interaction						
	Ability to control your anger and irritations?	.848					
	Ability to regulate your emotions?	.787					
d710	Basic interpersonal interaction						
	Ability to respond to criticism?	.718					
	Ability to show tolerance when interacting?	.706					
	Ability to interact with people?	.435					
d570	Looking after one's health						
	Mental well-being?	.477					
	Mental drive and participation						
d920	Recreation and leisure						
	Ability to engage in hobbies?	.691					
	Ability to travel for pleasure?	.669					
	Attending entertainment e.g. art galleries/cinemas?	.628					
d570	Looking after one's health						
	Maintaining appropriate level of physical activity?	.587					
	Physical well-being?	.479					
d230	Carrying out daily routine						
	Energy for day-to-day procedures or duties?	.564					
	Ability to manage daily routine?	.487					
b130	Energy and drive functions						
	Motivation (what you usually want to do)?	.559					
	Cognitive functioning						
d220	Undertaking multiple tasks						
	Ability to attend to multiple tasks?			.845			
b144	Memory functions						
	Ability to remember things?			.815			
d160	Focusing attention						
	Ability to maintain focus and concentration?			.798			
d155	Acquiring skills						
	Ability to acquire new skills?			.781			
d210	Undertaking a single task						
	Ability to organize yourself?			.745			
	Ability to complete tasks?			.646			
d820	School education						
	Ability to take direction?			.545			
d920	Recreation and leisure						
	Ability to read for enjoyment?			.438			

Question:

Does your health or condition have any effect on the following factors?

Results - Exploratory Factor Analysis (EFA)

Factorial loadings for the ICF items generated by means of explorative factorial analysis							
		1	2	3	4	5	6
	Sleep						
b134	Sleep function						
	Ability to maintain sleep?				.886		
	Ability to fall a sleep?				.829		
	Ability to wake up rested?				.779		
	Economic life						
d870	Economic self-sufficiency						
	Ability to affect your source of income private and public economic entitlement?					.975	
	Ability to ensure economical security?					.962	
	Relationships						
e310	Immediate family						
	Connections with your immediate family?						.719
e310/ e320	Immediate family/Friends						
	Support from your immediate family and/or friends?						.771
	Maintaining a relationship with others (immediate family, friends and co-workers)?						.621
d750	Informal social relationships						
	Creating new relationships?						.496

Question:

Does your health or condition have any effect on the following factors?

“Mat og leiðir” → Assessment and directions

1. Emotional control

1. Ability to control your anger and irritations?
2. Ability to regulate your emotions?
3. Ability to respond to criticism?
4. Ability to show tolerance when interacting?
5. Ability to interact with people?
6. Mental well-being?

2. Mental drive and participation

1. Ability to engage in hobbies?
2. Ability to travel for pleasure?
3. Attending entertainment e.g. art galleries/cinemas?
4. Maintaining appropriate level of physical activity?
5. Physical well-being?
6. Energy for day-to-day procedures or duties?
7. Ability to manage daily routine?
8. Motivation (what you usually want to do)?

3. Cognitive functioning

1. Ability to attend to multiple tasks?
2. Ability to remember things?
3. Ability to maintain focus and concentration?
4. Ability to acquire new skills?
5. Ability to organize yourself?
6. Ability to complete tasks?
7. Ability to take direction?
8. Ability to read for enjoyment?

4. Sleep

1. Ability to maintain sleep?
2. Ability to fall a sleep?
3. Ability to wake up rested?

5. Economic Life

1. Ability to affect your source of income, private and public economic entitlement?
2. Ability to ensure economical security?

6. Relationships

1. Connections with your immediate family?
2. Support from your immediate family and/or friends?
3. Maintaining a relationship with others (immediate family, friends and co-workers)?
4. Creating new relationships?

Internal reliability – Chronbach's alpha

1. Emotional control, $\alpha = .868$
2. Mental drive and participation $\alpha = .855$
3. Cognitive functioning, $\alpha = .893$
4. Sleep, $\alpha = .859$
5. Economic life, $\alpha = .912$
6. Relationships, $\alpha = .824$

➔ Chronbach's alpha = good to excellent

Logistic regression

	Participants	Psychiatric problems	Musculoskeletal problems
Functional factors:			
Emotional control	OR=1.069*** CI(1.033-1.107)		
Mental drive and participation			OR=0.933* CI(0.878-0.991)
Cognitive functioning		OR=0.937** CI(0.894-0.983)	
Sleep	OR=0.952* CI(0.912 – 0.994)		
Economic Life	OR=0.940* CI(0.888 -0.996)	OR=0.875* CI(0.781-0.981)	
Education:			
Compulsory	OR=0.633** CI(0.457-0.878)		
University	OR=1.579** CI(1.139-2.188)		
Age:			
≤ 50 years old	OR=2.142** CI(1.248-3.676)		
51 – 70 years old	OR=0.683*** CI(0.594-0.784)		
Time from the labour market:			
More than 2 years	OR=0.298*** CI(0.215-0.414)	OR=0.210*** CI(0.109 – 0.404)	OR=0.300** CI(0.144-0.625)
Time in vocational rehabilitation:			
Less than 18 months	OR=2.712** CI(1.653-4.450)		
More than 18 months		OR=0.210*** CI(0.102-0.433)	OR=0.354* CI(0.171-0.735)

$P \leq 0.05^*$, $P \leq 0.01^{**}$, $P \leq 0.001^{***}$ CI= 95% Confidence Interval

Conclusions

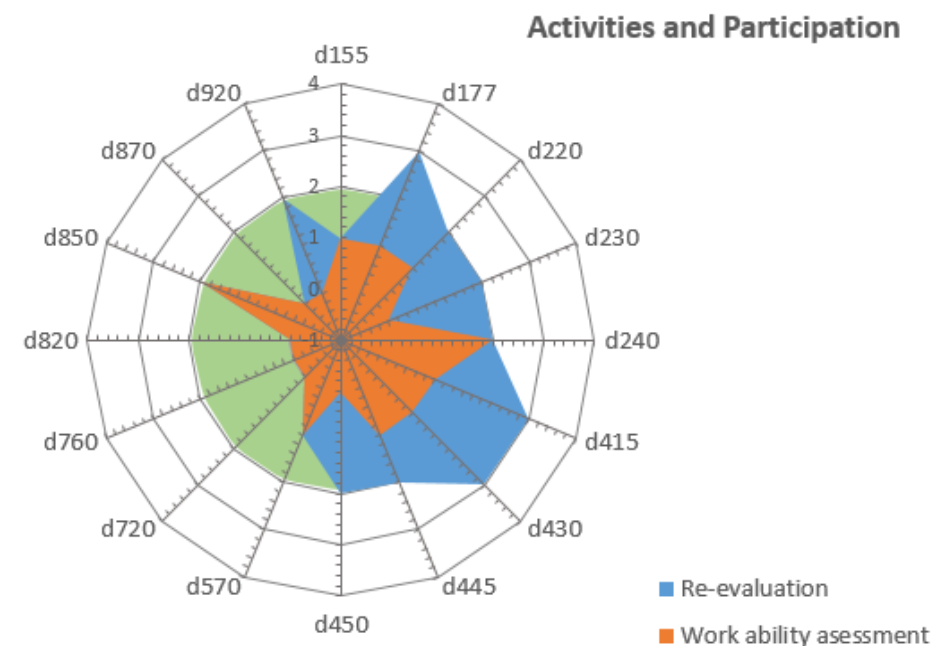
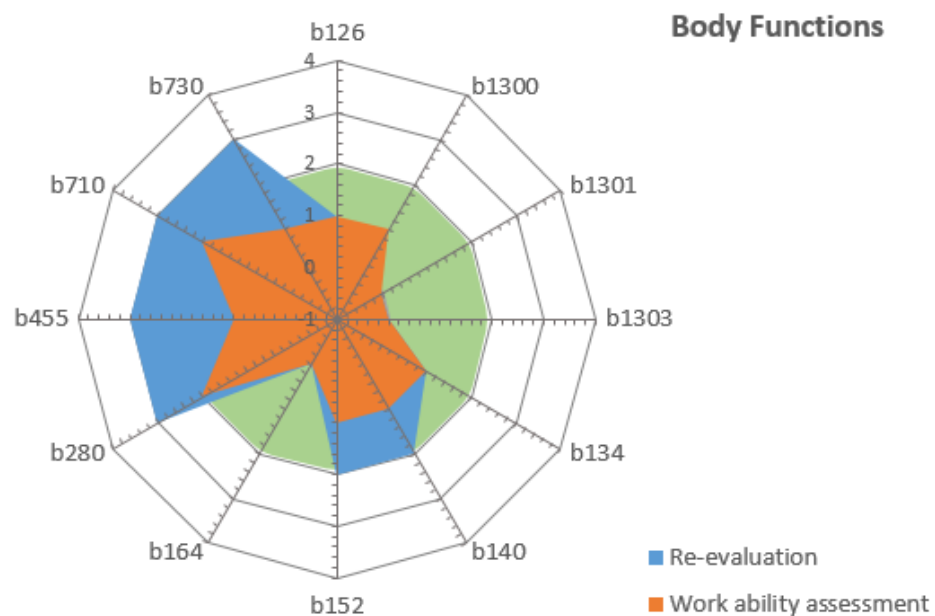
- Individuals with problems when it comes to **sleep and economic life** when entering VR are **less likely** to enter the labour market/school after discharge
- Individuals with **higher education** are **more likely** to enter the labour market/school after discharge
- **Younger individuals** are **more likely** to enter the labour market/school after discharge
- Individuals who have been **more than 2 years away** from the labour market when starting VR are **less likely** to enter the labour market after discharge
- Individuals that are **less than 18 months in VR** are **more likely** to enter the labour market after discharge

Nafn: _____ Sérfr.: _____											
ICF þættir b – líkamsstarfsemi; d – athafnir og þátttaka <small>Færnissskerðing eða þátttökuhindrun: 0=engin; 1=lítil; 2=nokkur; 3=mikil; 4=algjör</small>	Mat á ICF þáttum										Árangur +/- eða =
	Sérhæft mat					Endurmat					
	0	1	2	3	4	0	1	2	3	4	
b126 Skapgerð og persónuleiki											
b1300 Orkustig											
b1301 Áhugahvöt											
b1303 Fýsn (fíkn)											
b134 Svefn											
b140 Athygli											
b152 Tilfinningalíf											
b164 Æðri hugræn starfsemi											
b280 Sársaukaskyn (upplifun sársauka - verkur)											
b455 Áreynsluból											
b710 Hreyfanleiki í liðum											
b730 Væðvastyrkur											
d110 Horfa											
d115 Hlusta											
d155 Ávinna sér færni											
d177 Taka ákvarðanir											
d220 Inna af hendi margþætt viðfangsefni											
d230 Fylgja dagsskiptum											
d240 Takast á við streitu og annað andlegt álag											
d399 Tjáskipti, ótilgreind											
d410 Breyta grunnlíkamsstöðu											
d415 Vera í líkamsstöðu											
d430 Lyfta og bera hluti											
d440 Fínhyfing handa											
d445 Nota hendur og handlegg											
d450 Ganga											
d470 Nota farartæki											
d570 Hugsa um eigin heilsu											
d720 Flókin samskipti											
d760 Flókskyldutengsl											
d820 Skólaganga											
d850 Launuð störf											
d870 Efnahagslegt sjálfstæði											
d920 Afbreyting og tómstundaiðja											
Umhverfisþættir í endurmati <small>4+= mjög styðjandi; 0=hlutlaus; 4 = mjög hindrandi</small>	stuðningur					hindranir					Árangur +/- eða =
	4+	3+	2+	1+	0	1	2	3	4		
e310 Nánasta fjölskylda											
e460 Viðhorf samfélags											
e580 Heilbrigðismál, þjónusta, kerfi og stefnur											
E590 Atvinnumál – þjónusta, kerfi og stefnur											

Special evaluation and Work ability assessment

- The EUMASS core set for functional assessments in disability benefit claims – yellow highlighted
- Contribute to rehabilitation management
- Assist with setting rehabilitation goals and intervention targets
- Clear depiction of a patient's functional status

Spider graphs comparing special evaluation and Work ability assessment



Final notes

- These are **preliminary results** and extensive further evaluation of data is being conducted
- Will assist us in the **development work** which is ongoing in regards to the **basic evaluation** form
- Will **improve our ability** to assign individuals to appropriate group which will/may **determine initial** vocational rehabilitation needs

Thank You!

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