How do EQ-HWB candidate items perform in individuals with health conditions across varying education levels?

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Abstract

- The EQ-HWB consists of 25 items aiming to measure health and well-being outcomes across the healthcare and social care systems.
- Population with low education levels may struggle with understanding the questionnaire in general.
- We aimed to explore the item performance of the EQ-HWB in the population with low education levels using DIF.

Methods

Face-to-Face administration for interviewing 500+ samples

Sample

• The sample was consisted of patients and healthy individuals but with different education variables

Item response theory

- Three premise hypothesis: Monotonicity; Local independence; and Unidimensionality (check by factor analysis)
- Item characteristic curves and item information curves

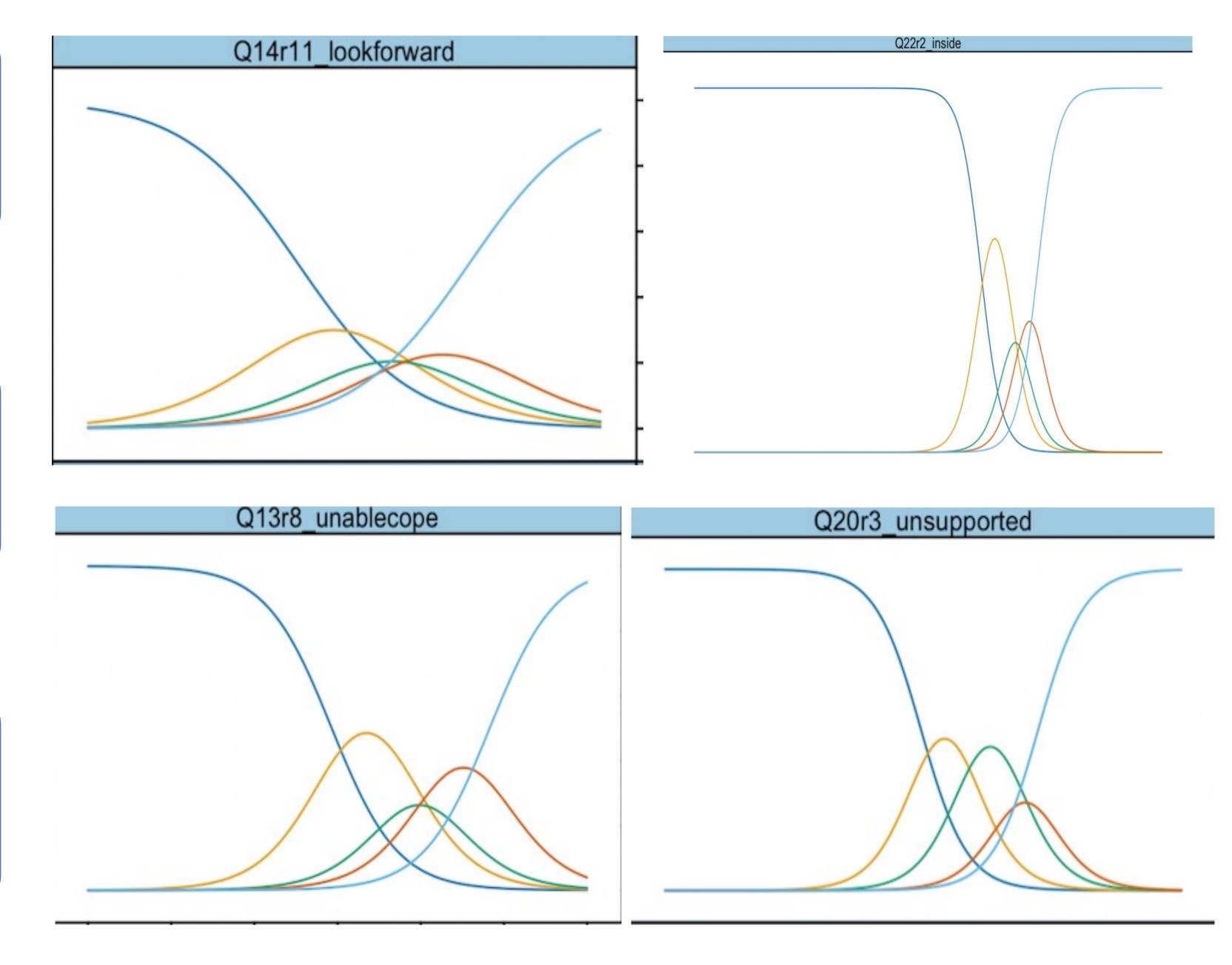
Differential item function

 Test self-reported health and well-being related to different education levels

Conclusion

- We found only a few indications that people with low education levels experienced difficulties in understanding the items.
- Further investigation into context and response scales is essential to ensure all items are comprehensible and effective across different education levels.

Problematic ICCs



Results

Table 1 IRT parameters and results								
Domain	Item name	P s_χ2	Α	B1	B2	В3	B4	Range
Psychological well- being	Self-respect	0.01	-1.49	3.13	1.97	0.73	-0.65	3.78
	Relationship	0.17	-1.39	3.07	2.02	0.84	-0.59	3.66
	Meaningful activity	0.05	-1.57	2.89	1.65	0.75	-0.53	3.42
	Cope	0.35	1.26	-0.14	1.54	2.39	3.66	3.80
	Sad	0.10	1.94	-0.17	0.66	1.67	2.82	2.98
	Concentrate	0.65	1.98	-0.46	0.43	1.41	2.29	2.76
	Anger	0.23	2.99	-0.15	0.73	1.69	2.38	2.53
	Safety	0.39	3.00	0.09	1.15	1.99	2.78	2.69
	Thinking	0.52	2.01	-0.26	0.74	1.83	2.85	3.11
	Loneliness	0.21	2.73	0.03	0.89	1.68	2.41	2.38
	Control	0.05	2.18	0.25	1.36	2.22	3.32	3.07
	Supported	0.25	1.87	-0.05	1.04	2.07	2.67	2.72
	Anxiety	0.59	2.67	-0.17	0.54	1.34	2.21	2.38
	Memory	0.59	1.27	-0.73	0.32	1.47	3.20	3.93
	Норе	0.05	0.75	-1.07	0.58	1.69	2.91	3.98
Physical function	Self-care	0.02	1.47	0.91	1.88	3.20	4.04	3.13
	Outside	0.10	7.36	0.99	1.63	2.00	3.01	2.02
	Activities	0.43	3.82	0.86	1.58	2.04	2.79	1.93
	Inside	0.02	3.74	1.35	2.07	2.40	2.81	1.46
Physical sensation	Pain fre	0.60	3.39	-0.61	0.47	1.36	2.45	3.06
	Pain sev	0.12	3.26	0.10	1.24	2.25	2.91	2.81
	Exhausted	0.24	1.19	-0.48	0.61	1.93	3.35	3.83

553 respondents, mean age 47.98;

28.4% of respondents had primary or lower than primary school education

43% of respondents completed secondary school education

29.1% of respondents completed high school or had a higher than high school educational level

3 premise conditions: achieved;

Unidimensionality: 3-factors; CFI= 0.976, TLI= 0.97, and RMSEA= 0.059 (0.051, 0.066)

Problematic ICCs: 'I felt I had nothing to look forward to'; 'unable to cope with day-to-day life'; 'I felt unsupported by other people'; 'get around inside'

Uniform and non-uniform: I could do the things I wanted to do Uniform: 'I felt I had no control over my day-to-day life'







Sample

IRT

DIF



