

Valuation of the EQ Health and Wellbeing Short using Time Trade-Off and Discrete Choice Experiments: A feasibility study

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Aims and objectives

The EQ Health and Wellbeing Short (EQ-HWB-S) is a new generic measure that covers aspects of health and wellbeing¹.

EQ-HWB-S covers mobility, daily activities, exhaustion, loneliness, concentrating/ thinking clearly (cognition), anxiety, sadness/depression, control and physical pain with response options related to difficulty, frequency and severity.

It has been developed for use in cost utility analysis for interventions which may impact patients, social care users or informal carers.

The aim of the study was to test the feasibility of using composite time trade-off (cTTO) and discrete choice experiment (DCE) administered using the EuroQol Valuation Technology research protocol² to derive utilities for the EQ-HWB-S.

Methods

Participants (target n=600) from the UK general population were sampled based on age, sex and ethnicity. Interviews were undertaken using video-conferencing which has been tested in other studies^{3,4}.

Participants completed 7 cTTO and 7 DCE tasks. DCE had overlap in 4 out of 9 of the dimensions to minimize cognitive burden. Tasks were presented using EuroQol Portable Valuation Technology (EQ-PVT) which uses Microsoft PowerPoint.⁵ Questions on difficulty answering and understanding were also completed by respondents. Interviewers reported on participant engagement and understanding.

Quality control (QC) steps were used to assess interviewers' performance (not demonstrating lead-time (LT) TTO in the practice stage, taking less than 3 minutes in the wheelchair practice example, inconsistencies in the worst state and at total time less than 5 minutes for the cTTO tasks). DCE data was assessed for suspicious patterns. Data were modelled using linear, Tobit, probit and hybrid models.

Feasibility was assessed based on the evaluation of the distribution of cTTO data, QC assessment and regression modelling results. Regression results were assessed based on theoretical considerations, monotonicity and statistical significance.

Results

Table 1: Participants

	Full sample (%) n=521	General population UK (%)
Age	48.5	
18-30	20.2	20.5
31-50	31.7	32.6
51-65	29.9	24.3
66+	18.2	22.5
Sex		
Male	45.3	49.4
Female	54.1	50.6
Other	0.6	
Ethnicity		
White	82.0	86
Black	6.0	4
Asian	9.4	8
Mixed / Other	2.7	2
Has degree	66.4	42.0

Notes: The age group percentages are calculated as the percentage of the adult UK population based on population projection data from the Office for National Statistics. Ethnicity figures are sourced from the 2011 census. UK population degree estimates are drawn from the ONS Labour market data from 2017

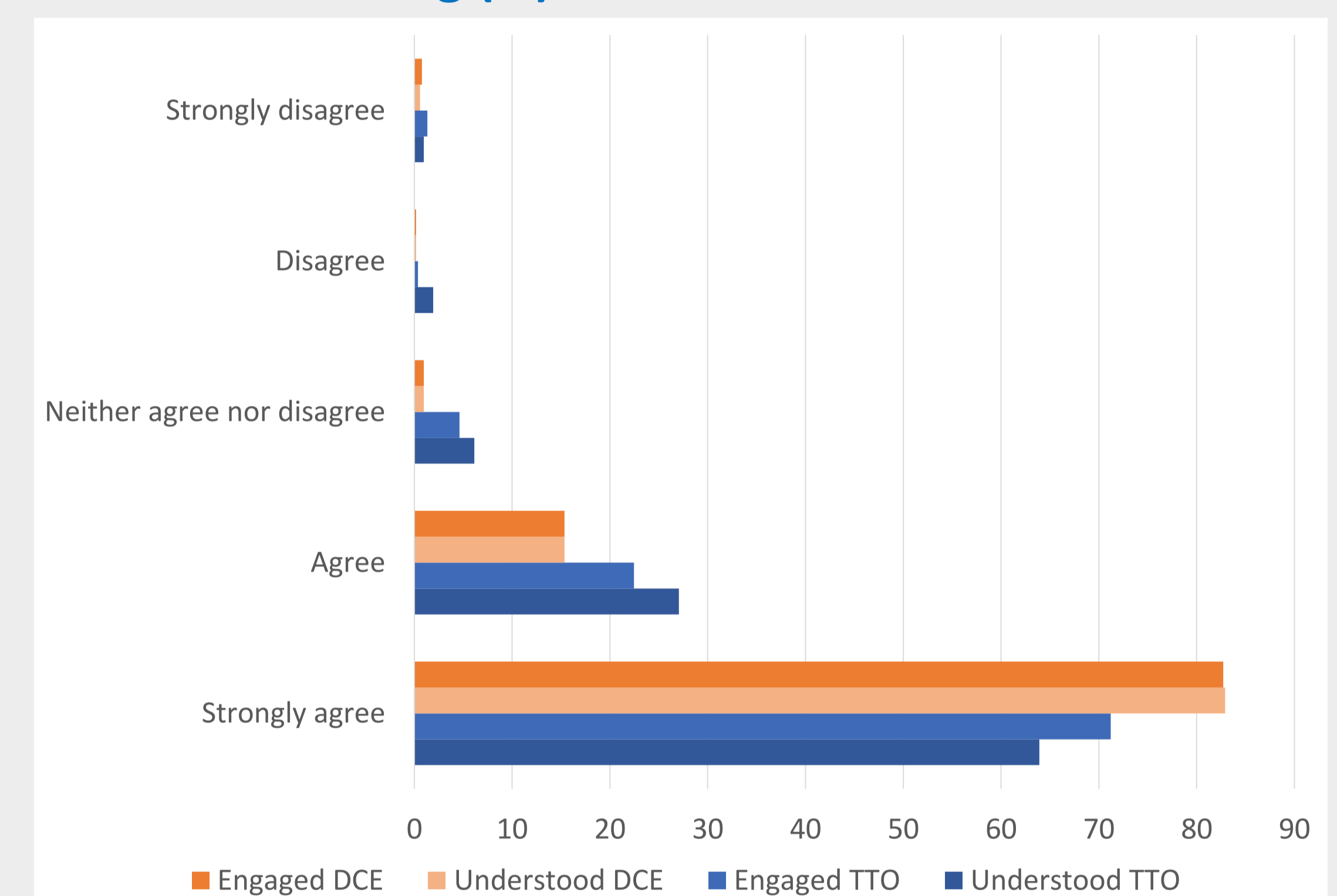
Quality control results

There were 29/520 flagged interviews:

- 10 not demonstrating LT-TTO,
- 8 short time in both the wheelchair practice and overall
- 10 related to inconsistencies with overlap for some of these flags. Technical difficulties affected the QC flag rate as EQ-PVT occasionally stopped working which impacted on demonstrating LT-TTO (not required again) and time. No data were dropped.

There were 11/521 interviews with suspicious patterns for DCE with 3 being selections of either AAAAAA or BBBBBB. No data were dropped.

Figure 1: Interviewer-reported participant engagement and understanding (%)



Majority participants strongly agreed or agreed that cTTO (92.7%) and DCE (99%) were easy to understand but fewer participants strongly agreed or agreed that it was easy to make a decision in the cTTO tasks (61.9%) and the DCE tasks (46%)

Figure 2. Distribution of TTO values

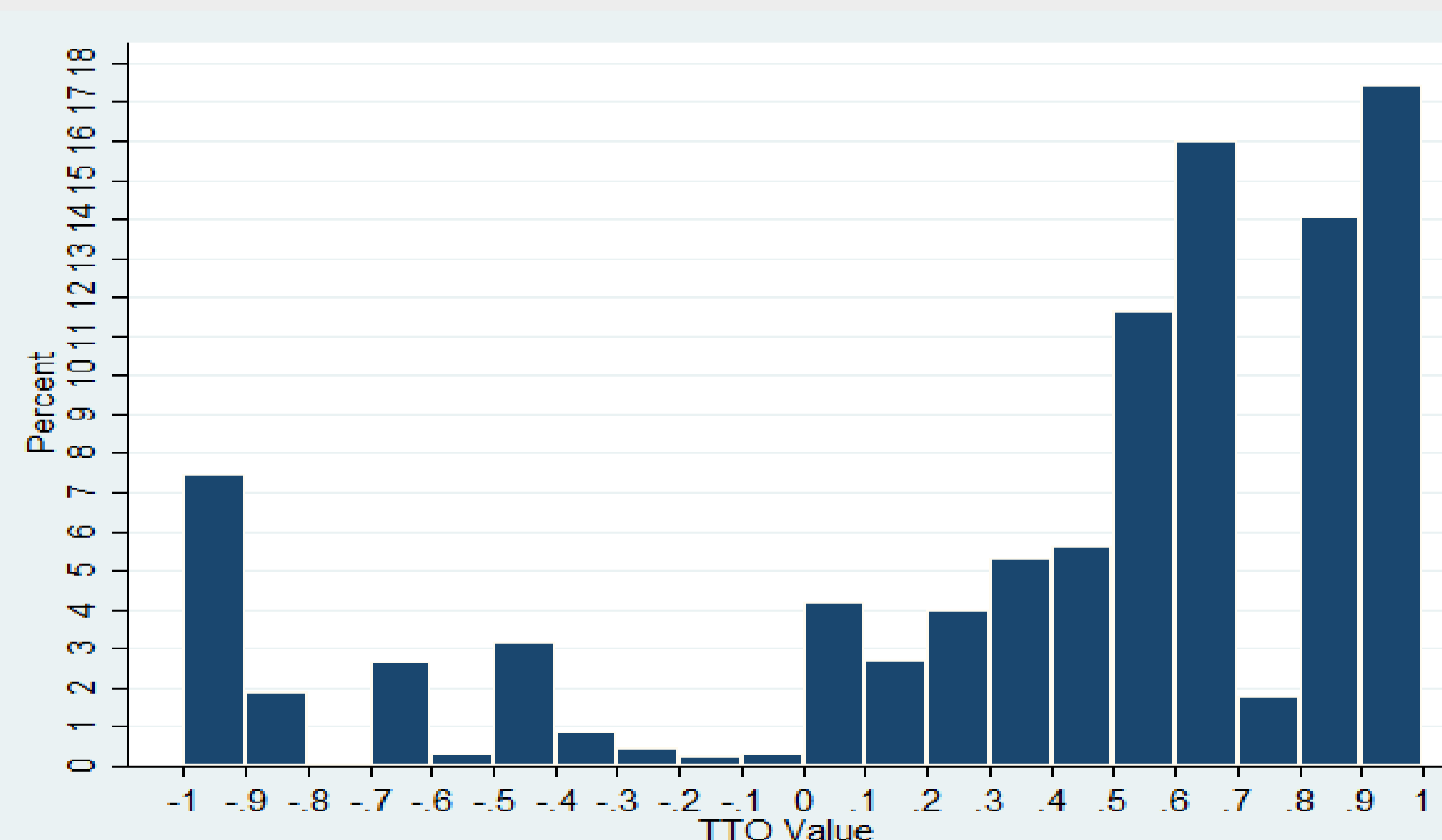
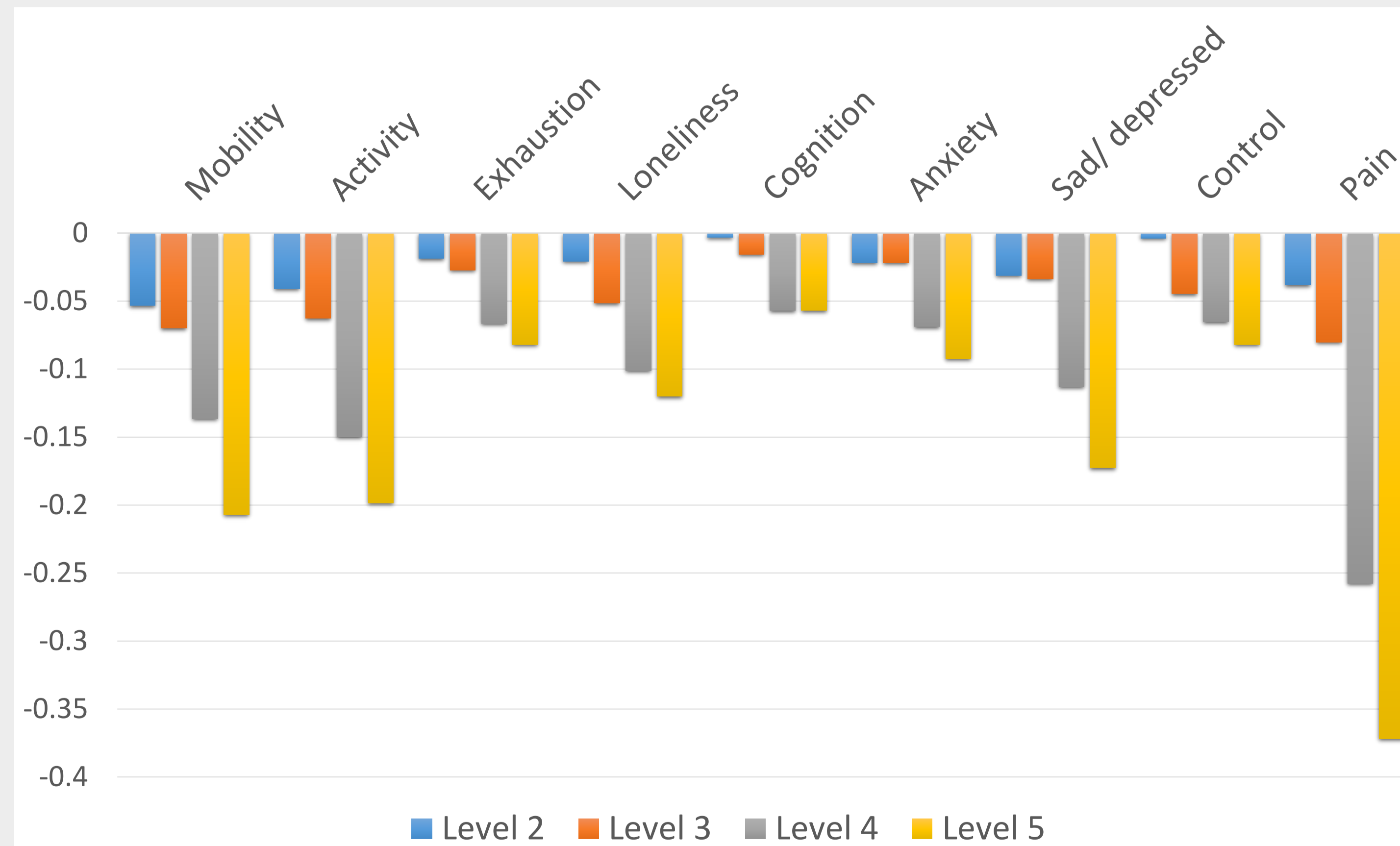


Figure 3. Disutility by dimension (hybrid Tobit controlling for heteroscedasticity)



The hybrid Tobit heteroscedastic model had values ranging from -0.384 to 1.

Pain, mobility, daily activities, sad/depressed had the largest disutilities followed by loneliness, anxiety, exhaustion, control and cognition in this model.

Conclusions

EQ-HWB-S can be valued using cTTO and DCE administered using EQ-VT.

Common health dimensions (pain, mobility, daily activities and sadness/depression) had larger weights than the other additional dimensions.

The results offer an opportunity to test the validity of the EQ-HWB-S utilities.

Further methodological work is recommended to develop a valuation protocol specific to the EQ-HWB-S.

References and funding

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