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Pilot testing the Hungarian version of Online elicitation of Personal Utility Functions (OPUF) tool for valuing EQ-5D-5L health states

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I. OBJECTIVE

The Online elicitation of Personal Utility Functions (OPUF) tool is a newly developed online survey for valuing health related quality of life instruments (e.g. EQ-5D-5L) applying compositional elicitation method and allowing value set estimation on the individual level [1,2]. To date, the survey has only been available in English. Our objective was to translate OPUF into Hungarian and pilot its use in valuing EQ-5D-5L.

II. METHODS

A forward translation was undertaken; two health economic experts reviewed and compared translation with original English version. A non-probabilistic convenience sample of the Hungarian general population were surveyed online. The OPUF tool was built using modern JavaScript frameworks (Vue.js, Node.js) by one of the authors (PS). To construct a Personal Utility Function (PUF), dimension specific level ratings were combined with dimension weights and anchored on to the QALY scale. PUFs were truncated at -1.0 and infinite values were excluded.

III. RESULTS

Altogether, 91 survey (completed=98, excluded=7) were analyzed. There were 46 (50.5%) females in the sample, half of the respondents (50.5%) were young (age 18-19) and majority of respondents (81%) had a degree, mean (SD) EQ-5D-5L index was 0.94 (0.06).

Comparing mean PUF values for single dimension level 5 problems (Table 1), SC was ranked as the most while AD the least important, rank ordering differed from the Hungarian value set (HVS) (SC>MO>PD>UA>AD [OPUF] vs MO>PD> SC>AD>UA [HVS]).

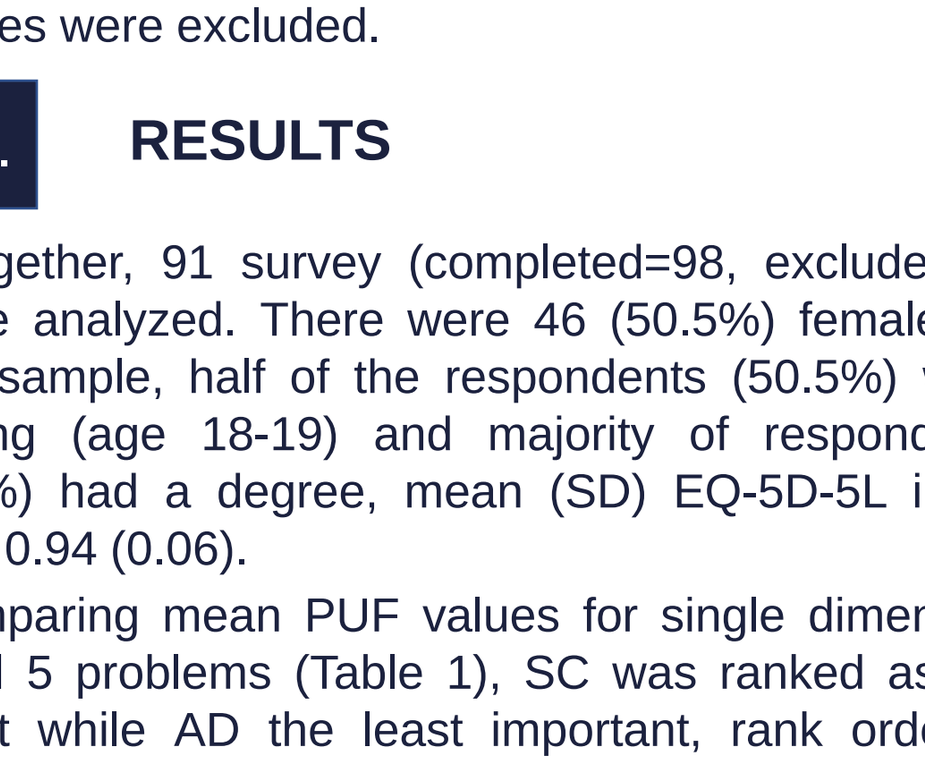

Figure 1 Kernel density distribution plots of OPUF social value set and Hungarian Value Set

Altogether 62 (63%) participants preferred being dead over the worst state. PUFs varied considerably between respondents, the mean utility of the worst health state was -0.179, higher (less negative) than HVS (-0.848). Figure 1 compares the kernel density distribution of the OPUF social and Hungarian value sets, midpoints were similar and OPUF scale length was broader.

Comparing utility function by sub-groups, younger age, female gender and having children associated with higher utility (Figure 2).

Table 1 OPUF social value set – descriptives statistics for PUFs

EQ-5D dimension	Level 2	Level 3	Level 4	Level 5
	Mean (95% CI)			
Mobility	0.063 (0.048; 0.078)	0.115 (0.097; 0.134)	0.188 (0.167; 0.209)	0.245 (0.225; 0.267)
Self-Care	0.066 (0.051; 0.082)	0.116 (0.098; 0.135)	0.193 (0.171; 0.216)	0.249 (0.226; 0.274)
Usual Activities	0.045 (0.035; 0.056)	0.102 (0.086; 0.118)	0.173 (0.154; 0.193)	0.229 (0.210; 0.249)
Pain/Discomfort	0.050 (0.040; 0.062)	0.102 (0.088; 0.117)	0.176 (0.156; 0.196)	0.234 (0.213; 0.254)
Anxiety/Depression	0.049 (0.038; 0.063)	0.099 (0.085; 0.116)	0.165 (0.145; 0.186)	0.222 (0.200; 0.246)

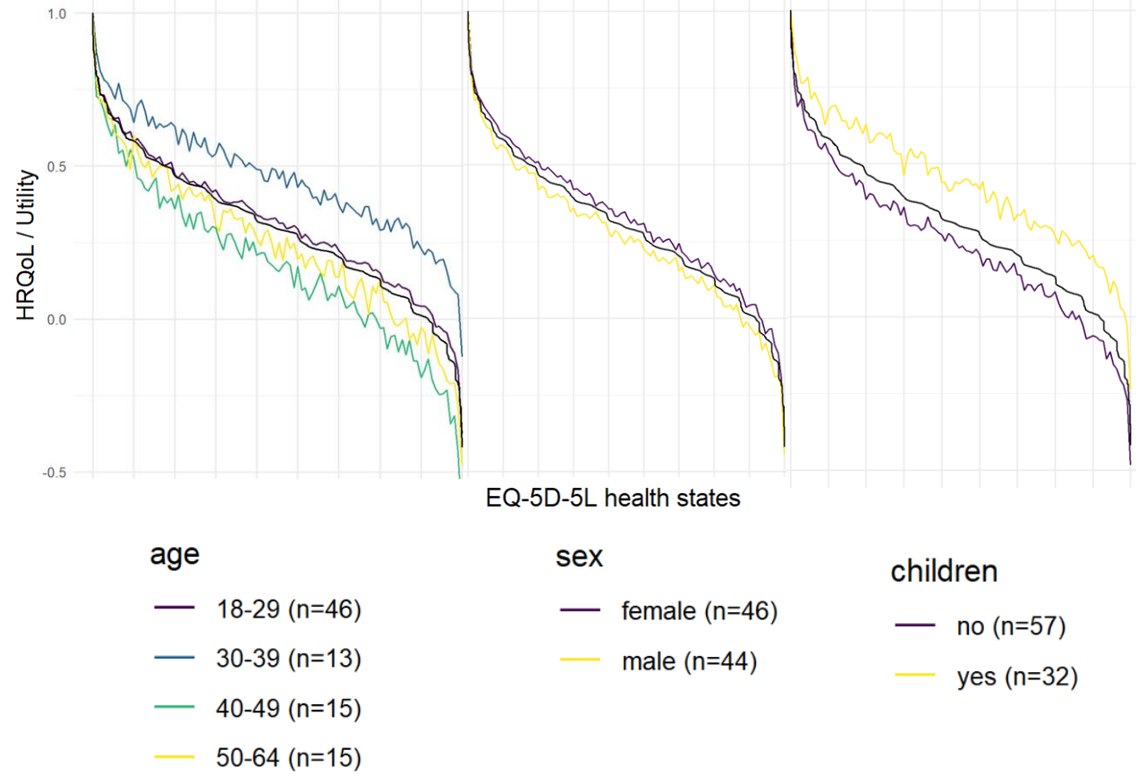

Figure 2 Utility functions by sub-groups

IV. CONCLUSION

This study successfully piloted a Hungarian OPUF survey and derived personal and social values set for the EQ-5D-5L. The relative importance of dimensions was different and the scale length shorter, than the Hungarian value set. In contrast to conventional decompositional elicitation methods, the OPUF tool allowed us to precisely estimate social value set from relatively small sample.

References

1: Schneider PP, van Hout B, Heisen M, Brazier J, Devlin N. The Online Elicitation of Personal Utility Functions (OPUF) tool: a new method for valuing health states. Wellcome Open Res. 2022 Jan 14;7:14.

2: Devlin NJ, Shah KK, Mulhern BJ, Pantiri K, van Hout B. A new method for valuing health: directly eliciting personal utility functions. Eur J Health Econ. 2019 Mar;20(2):257-270.