Background

The PROPr was shown to measure health state utility (HSU) significantly lower than the EQ-5D-5L. Also, it shows floor effects in clinical samples. Comparison to the EQ-5D-3L, severity levels, and in low back pain patients is pending.

Objectives

1. Comparison of PROPr and EQ-5D-3L in terms of correlation, distribution, floor and ceiling effects, and agreement in low back patients before surgery
2. Investigation of known-construct validity in different severity groups of the Oswestry Disability Index (ODI)
3. Discussion of the causes of differences in either score's HSU measurement

Results

Figure 1: Intermediate correlation, high floor (PROPr) and ceiling effects (EQ-5D-3L)

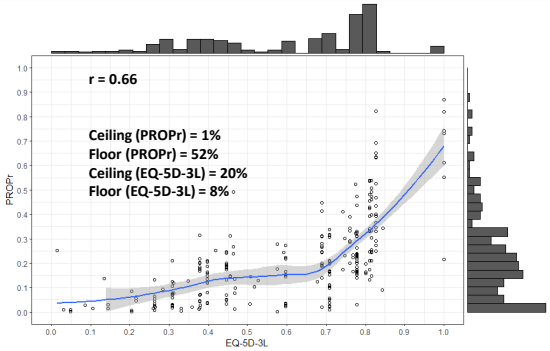


Figure 2: Low agreement and systematic bias between PROPr and EQ-5D-3L

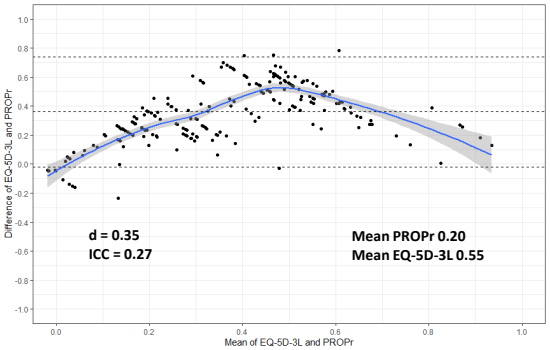


Figure 3: PROPr discriminates better (worse) in lower (higher) severity groups

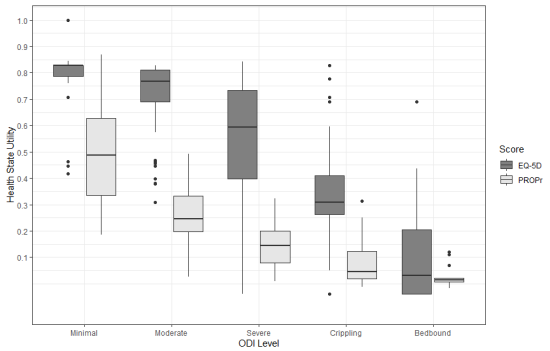
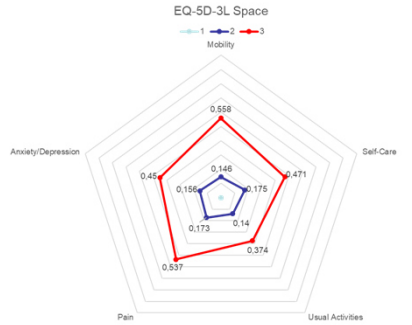
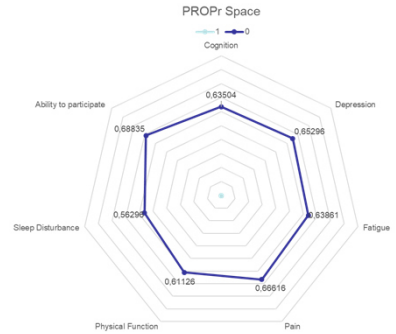


Table 1: Utility models: SG multiplicative (PROPr) vs. TTO linear-additive (EQ-5D-3L)

Properties	PROPr	EQ-5D-3L
# of Domains/Dimensions	7	5
Domain widths	0.56-0.69	0.37-0.56
Utility model type	Multiplicative	Linear-additive
Valuation technique	Standard Gamble (SG)	Time Trade-Off (TTO)
Domain interactions	Yes	No
Good type of domains	Complements	Substitutes
Scales of Measurement	Continuous	Interval
# of health states	→ ∞	243
Item Likert-Scale levels	5	3
# of items	14-33	5

Figure 4: The PROPr defines a wider health space than the EQ-5D-3L





Conclusions

1. Between PROPr and EQ-5D-3L, correlation is moderate and agreement is low in low back patients before surgery
2. The EQ-5D-3L differentiates better at higher severity in terms of ODI, while the PROPr differentiates better at lower severity which reflects the EQ-5D-3L's ceiling and the PROPr's floor effect
3. The low agreement of both scores is a result of different conceptualiziations of HSU, expressed by differences in number of domains, domain widths, valuation technique, measurement scales, and utility modelling