

Objectives

- In economic evaluations, all health effects should be considered. These effects are not limited to patients, as family member’s health substantially impacts the rest of the family (Drummond et al., 2015).
- However, these family impacts are not commonly included in cost-utility analyses.
- Previous work found people living with a non-healthy family member were willing to sacrifice a large proportion of their remaining life expectancy to improve their family member’s health, resulting in high non-patient disutilities (Krol et al., 2022).
- Further work is still needed to explore these non-patient utilities. For instance, altruistic preferences were not considered, which could have led to double counting of certain effects.
- The previous work of Krol et al., 2022. was conducted in individuals who reported living with a non-healthy family member; however, utility values for use in economic evaluations are typically based on the general population.
- The study aimed to further explore non-patient utilities using time trade-off (TTO) exercises in the UK general population.

Methods

- An online survey included 8 TTO exercises describing hypothetical family members in moderately and severely impaired health states.
- The hypothetical health states were described through the 5 domains of the EQ-5D-5L.
- Participants were asked how many years of their own remaining life they would be willing to sacrifice for this family member to be fully healthy again by donating an organ. **(Figure 1)**
- Half of participants were instructed to focus *only* on the impact on their own quality of life (QoL) in the TTO exercises to control for altruism.
- TTO results were calculated into disutility scores (time sacrificed divided by remaining life expectancy) on a 0 – 1 scale. Higher scores indicated larger sacrifices from their remaining life expectancy.

Results

- We removed respondents who had negative differences in utilities between moderate and severe states, took less than 3 minutes to complete the survey, or stated not understanding the TTO exercises. A total sample of 373 adults living in the UK were included in the analysis (mean age = 48.5).
- Most participants lived with a partner and reported not living with a non-healthy family member. Their mean EQ-5D-5L index (0.83) was consistent with the UK general population (0.85). **(Table 1)**
- The largest sacrifices were to restore a child to full health from a severe health state (67% of remaining life expectancy) and moderate state (55%). **(Figure 2)**
- The smallest sacrifice was for a grandparent to full health from a moderate health state (28%).
- Disutility scores for those who were instructed to focus on the impact on their own QoL did not significantly differ from those not receiving this instruction (p-values > 0.05). **(Figure 3)**

Conclusions

- Our findings resulted in high disutility estimates for each hypothetical family member in moderately and severely impaired health states.
- Individuals were willing to sacrifice a greater number of life years for family members in severe health states compared to moderate health states.
- Individuals were willing to sacrifice more for children and less for grandparents.
- Altruism was identified as a key factor through cognitive debriefing interviews (Poster EE147), however instructions to control for altruism had no significant effects on outcomes.
- There may still be risk of double-counting the family member’s improved health benefit with the respondent’s spillover effects. It is also difficult to capture altruism, as there may be a bidirectional relationship between the person they are helping and any outcomes for themselves (e.g., self-interest).
- As a result, alternative methods may be needed to further explain these non-patient disutilities for economic evaluations.

References

1. Drummond, M., Sculpher, M. J., Claxton, K., Stoddart, G. L., & Torrance, G. W. (2015). Methods for the Economic Evaluation of Health Care Programmes. Oxford University Press.

2. Krol, M., Voronetska, S., & Batchelder, L. (2022). Willingness to trade off life years or accept risk of dying in time trade-off and standard gamble exercises to restore the life of a non-healthy family member: Considerations for measurement of non-patient utilities. Value in Health, 25(12), Supp S3

Figure 1. Example TTO exercise

Now imagine that you live with a **non-healthy partner**. Your **partner** would be in the health state described below:

- Health state 1.**
- Your **partner** has severe problems in walking about.
 - Your **partner** has moderate problems with washing or dressing oneself.
 - Your **partner** has severe problems doing their usual activities (e.g., work, study, housework, family or leisure activities).
 - Your **partner** has no pain or discomfort.
 - Your **partner** is moderately anxious or depressed.
 - Your **partner** will be in this health state for the rest of their life.

Imagine that a new treatment is available to restore your partner's health. The new treatment will consist of you donating an organ to restore your **partner's** health.

The organ donation will not affect your overall health, but it will potentially shorten your life expectancy. There are no other risks involved with donating this organ.

Please assume that you would live another X years. (X = Average UK life expectancy – age of respondent)

How much time of your remaining life span would you be willing to sacrifice for your partner to be fully healthy again by donating an organ? Please assume your remaining life span is X.



Table 1. Sample Characteristics (n = 373)

Characteristics	Sample (n = 373)
Gender	
Female (%)	198 (53.1)
Male (%)	172 (46.1)
Other (%)	3 (0.8)
Age (Mean, SD)	48.46 (17.2)
Highest level of education attained	
Low (%)	30 (8.0)
Medium (%)	192 (51.5)
High (%)	132 (35.4)
Other (%)	19 (5.1)
Living with a partner (%)	275 (73.7)
In paid employment (%)	231 (61.9)
Having children (<18 years) (%)	121 (32.4)
Living with a non-healthy family member	
Yes (%)	136 (36.5)
No (%)	237 (63.5)
Self-reported happiness: VAS (Mean, SD)	67.32 (22.3)
EQ-5D health state respondent (Mean, SD)	0.83 (0.2)
Self-reported current health status	
Excellent (%)	32 (8.6)
Very good (%)	133 (35.7)
Good (%)	122 (32.7)
Fair (%)	66 (17.7)
Poor (%)	20 (5.4)

Figure 2. Mean TTO Disutility Valuations (n = 373)

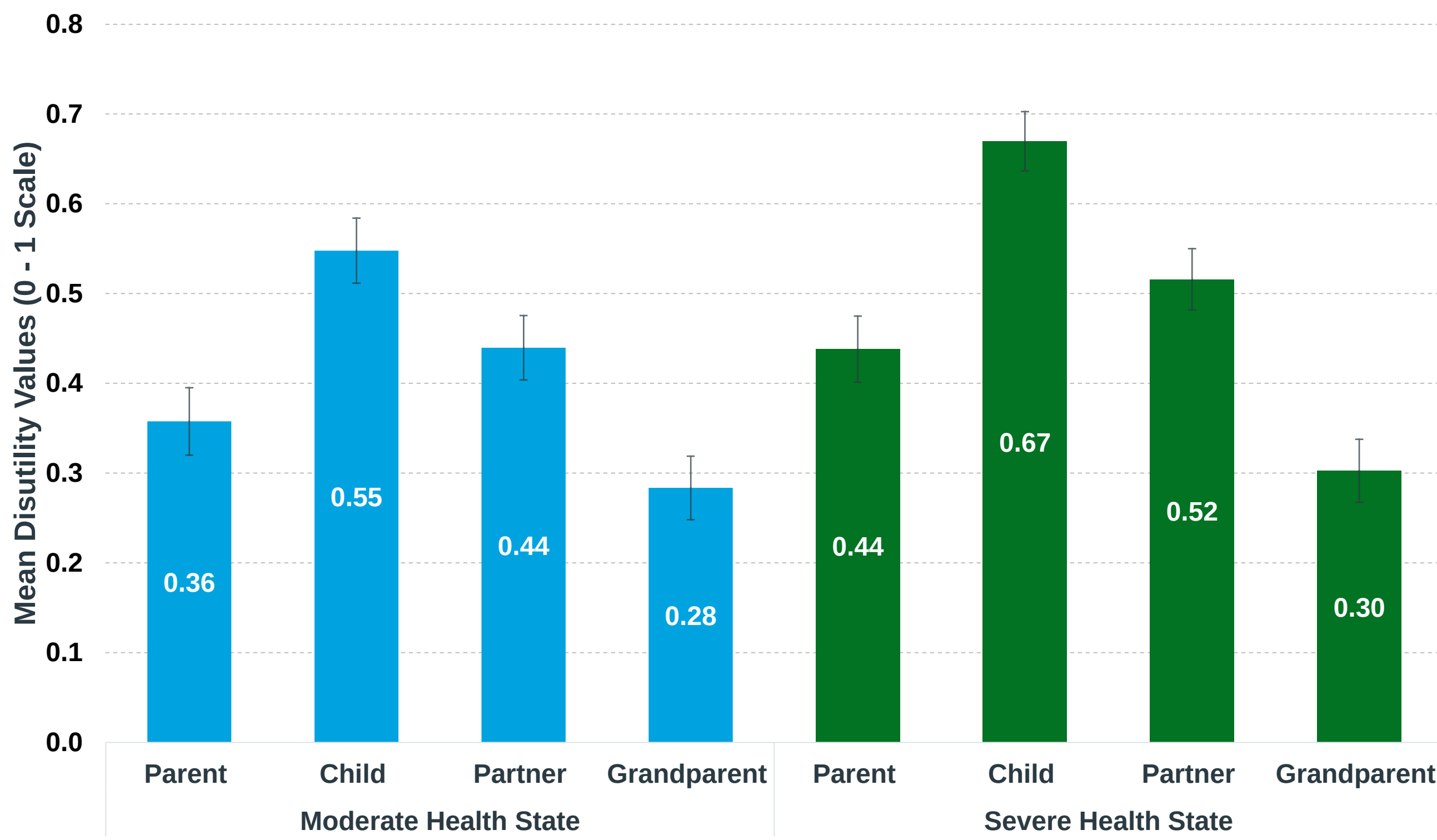
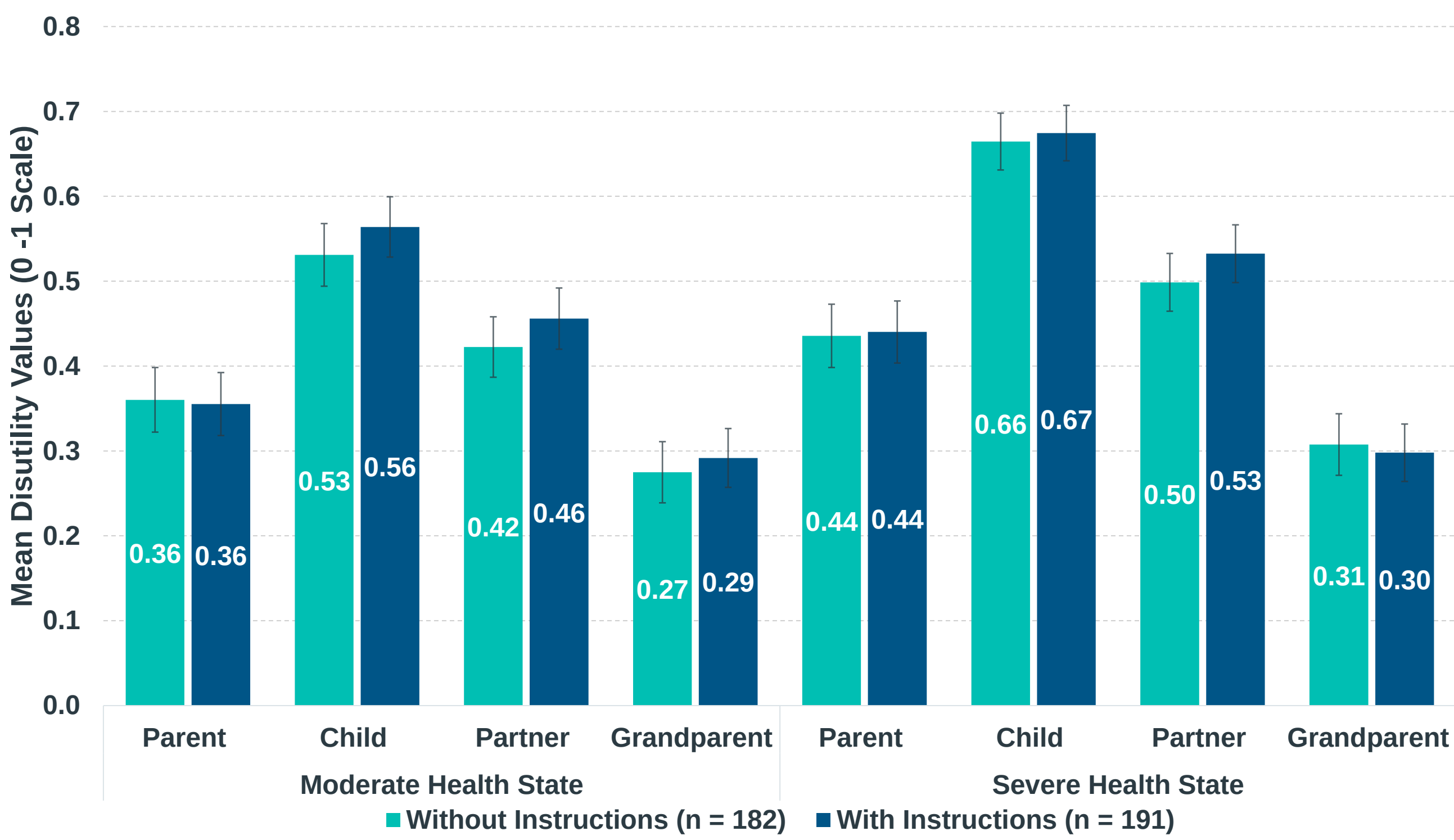


Figure 3. Mean TTO Disutility Valuations Between Those Who Received Instruction to Focus on Their Own QoL (n = 191) Compared to Those Without This Instruction (n = 182)



Comparisons between mean disutility valuations in each group (those with and without instructions) were calculated using Mann-Whitney tests. All comparisons were non-significant (p > 0.05)