

Translation and Cross-cultural Validation of the Chinese Version of Adult Social Care Outcomes Toolkit for Care Service Users in Hong Kong



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Background

- By 2034, it is estimated that nearly 30% of Hong Kong population will be 65 years or above, with around 75% of them suffering from chronic condition to some degree. Consequently, the demand for formal long-term care (LTC) will increase significantly, making urgent development of a comprehensive and well-organized LTC system.
- The Adult Social Care Outcomes Toolkit (ASCOT) is the first preference-based instrument of QOL in the context of LTC, rendering it a potentially valuable tool for supporting (economic) evaluations in this filed. However, a Chinese version of this instrument has yet to be developed. Thus, our study aims to translate and cross-cultural validate the instrument for use in Hong Kong populations.



Methods

Phase I: Translation and cross-cultural adaption

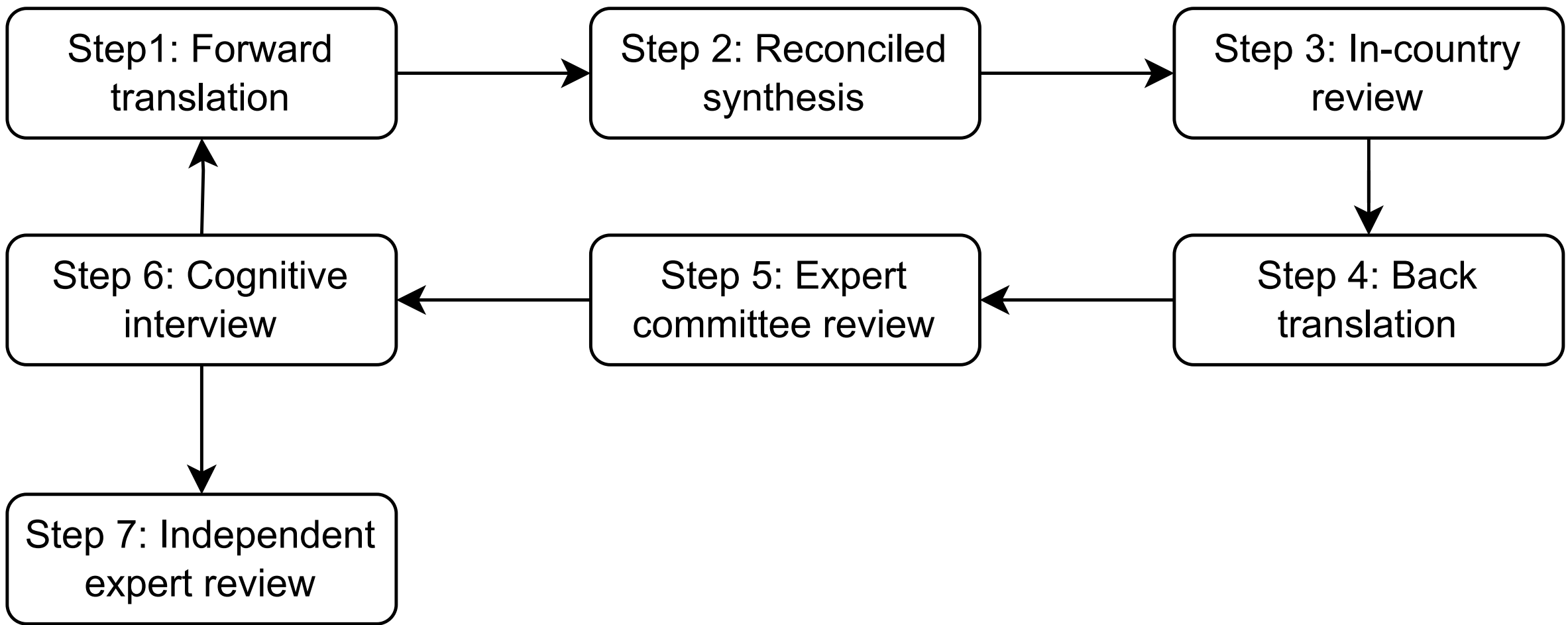


Figure 1. Flow diagram of the translation and cross-cultural adaption of ASCOT process

Phase II: Validation

- Study design:** cross-sectional study
- Inclusion criteria:** (1) aged 60 or over; (2) current LTC service users; (3) have no cognitive impairment that prevents survey participation; (4) can speak Cantonese.

•Data collection:

- ❑ Data were collected either by face-to-face via computer-aided personal interviews in participants’ homes, care centers, or Prince Wales Hospitals, or by phone interviews.
- ❑ To assess the test-retest reliability, data was collected again after a two-week interval.
- ❑ EuroQoL Five–Dimension Scale-5 level (EQ-5D-5L), Control subscale of ‘Control, Autonomy, Self-Realization and Pleasure012 scale’ (CASP-12 Control subscale), Patient Health Questionnaire-9 (PHQ-9), Barthel index of Activities of Daily Living scale (ADL), and Lawton Instrumental Activities of Daily Living scale (IADL) were collected.

•Data analyses:

- ❑ **Ceiling effects** are presented if the proportion of participants scoring at the first level for each item exceeds 15%.
- ❑ **Convergent validity** was evaluated by Spearman’s correlation between EQ-5D-5L, CASP-Control subscale, and PHQ-9, and ASCOT summary scores. We anticipated it would have moderate correlations ($0.2 < r < 0.6$).
- ❑ **Known-group validity** was evaluated by independent sample *t* tests. We anticipated participants with limitations in ADL, IADL, and depression would exhibit lower ASCOT scores than those without.
- ❑ **Test-retest reliability** was assessed by intra-correlation coefficient (ICC), with an ICC ≥ 0.70 indicating acceptable reliability.

Results

Phase I: Translation and cross-cultural adaption

- Overall, the participants (N=27) in Step 6 found the Chinese ASCOT to be clear, comprehensible, and experienced no discomfort during its completion.
- We have identified some comprehension issues for Q8 (Dignity filter) and Q9 (Dignity). As most participants encountered difficulties in linking the impacts of services with their thoughts and feelings, the wordings were modified from “thought and feelings” to “self-esteem or self-confidence”.

Phase II: Validation

- We have recruited 255 eligible participants aged between 60 to 95, with 72% being females. Sixty-six of them participated in the retest survey.
- **Ceiling effects** were observed in all items (Figure 2).
- **Convergent validity** was supported by the moderate correlations observed between EQ-5D, CASP-control, PHQ-9 and ASCOT summary scores (Figure 3).
- **Known-group validity** were supported by the significant differences between participants with limitations in ADL, IADL, and depression as compared to those without (Figure 4).
- **Test-retest reliability** was considered acceptable, as the ICC was 0.79 (Figure 5).

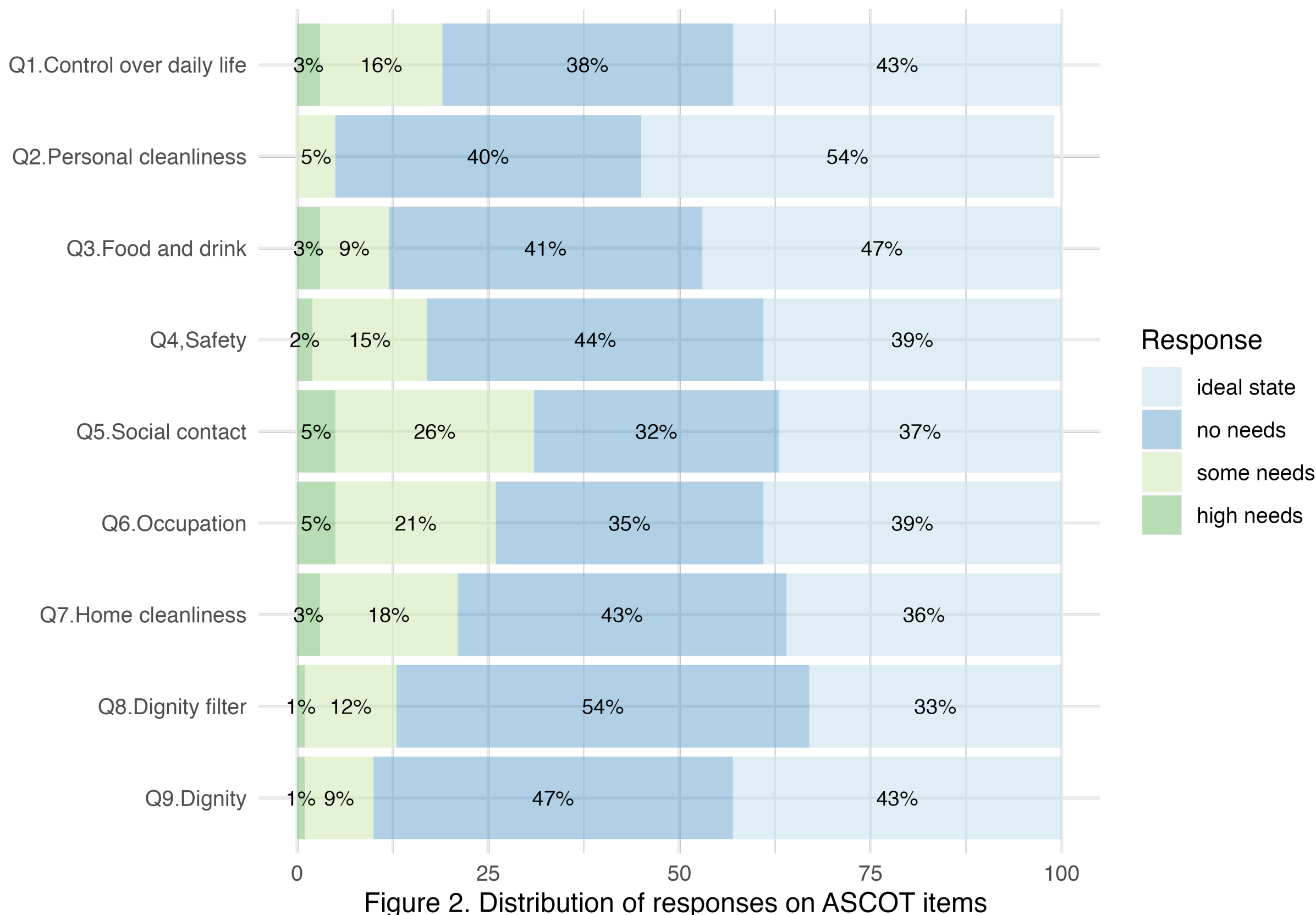


Figure 2. Distribution of responses on ASCOT items

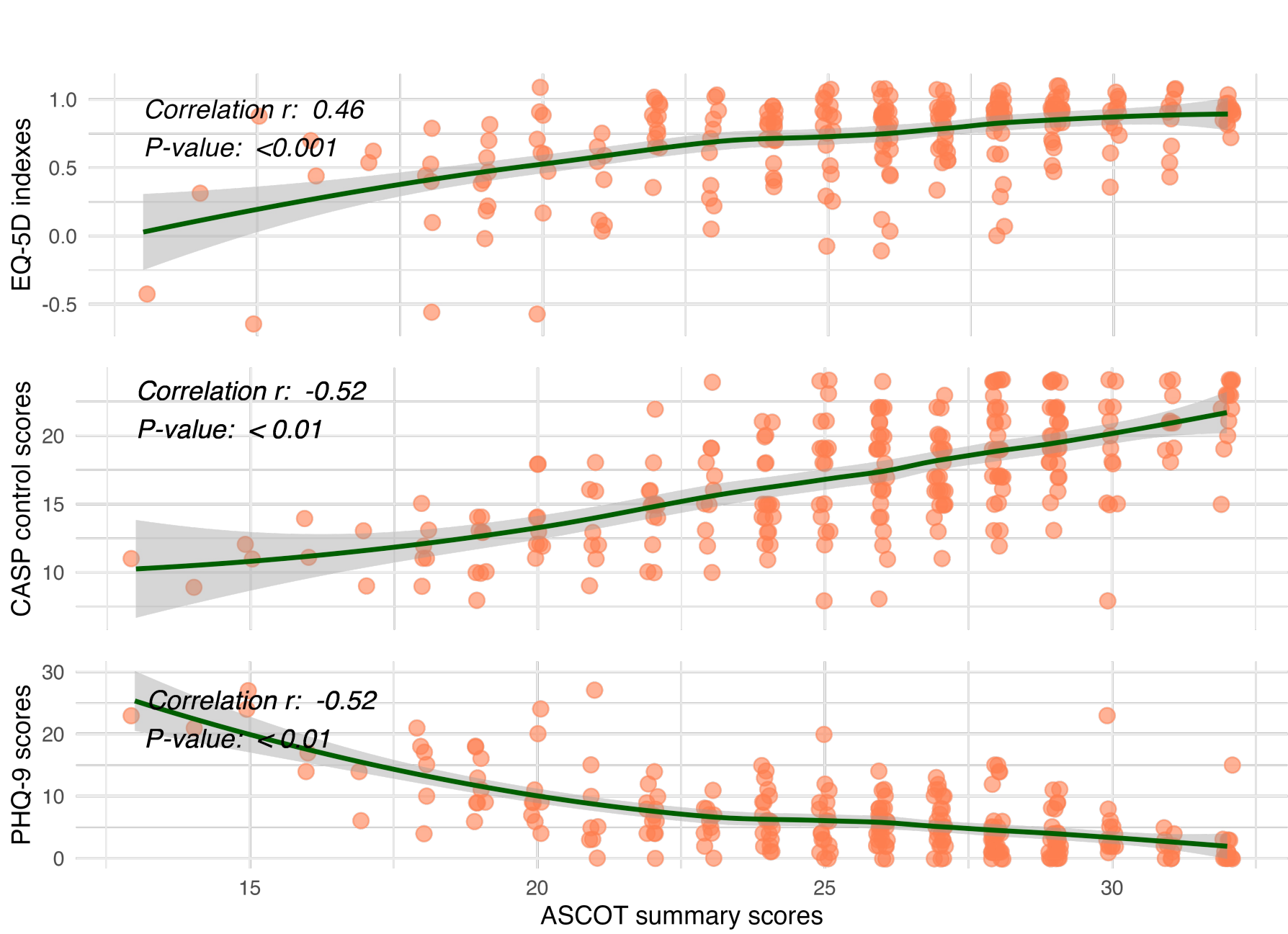


Figure 3. Correlations between EQ-5D, CASP Control Subscale, PHQ-9 and ASCOT

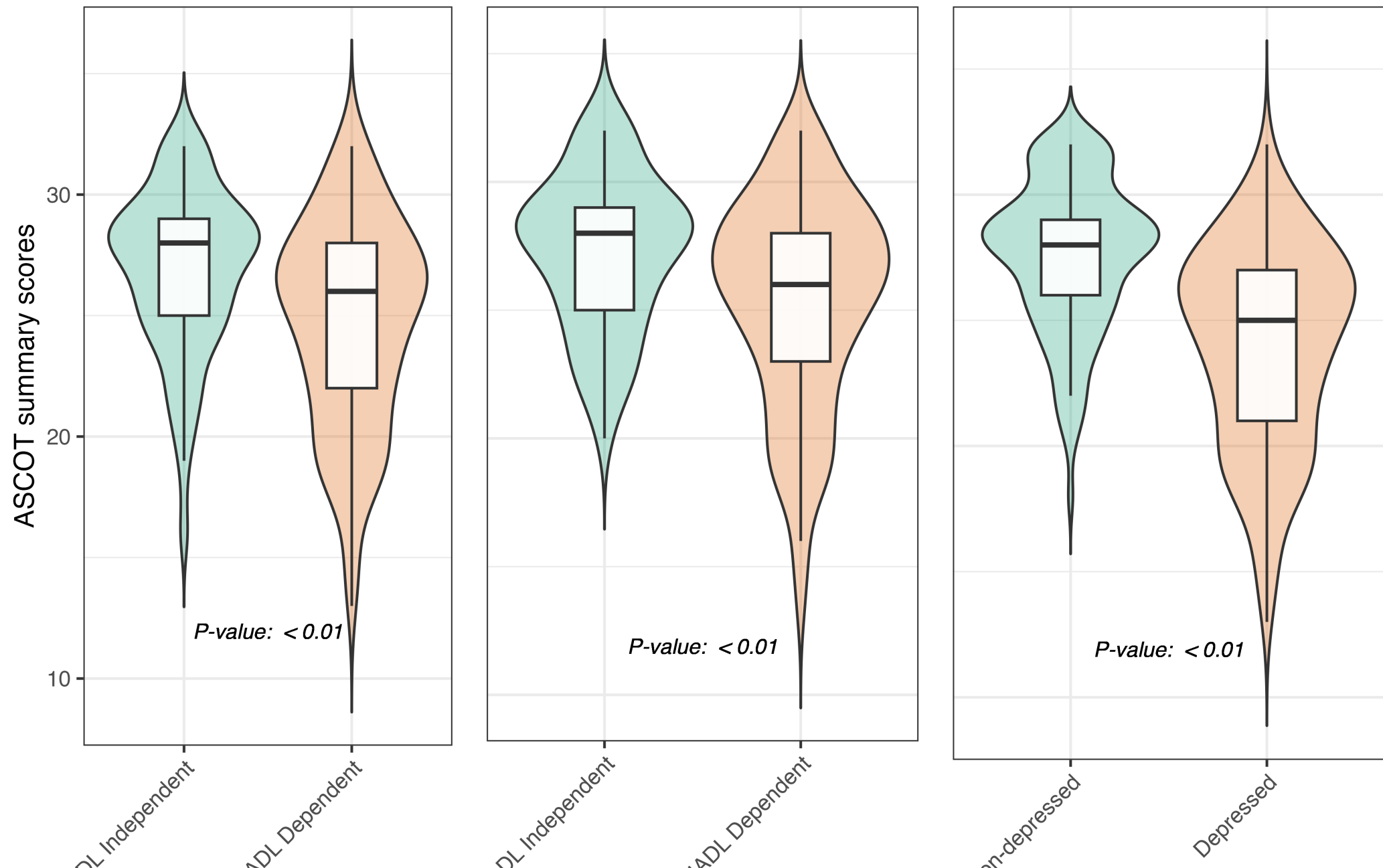


Figure 4. Known-group differences in ASCOT scores between participants by ADL, IADL, and depression

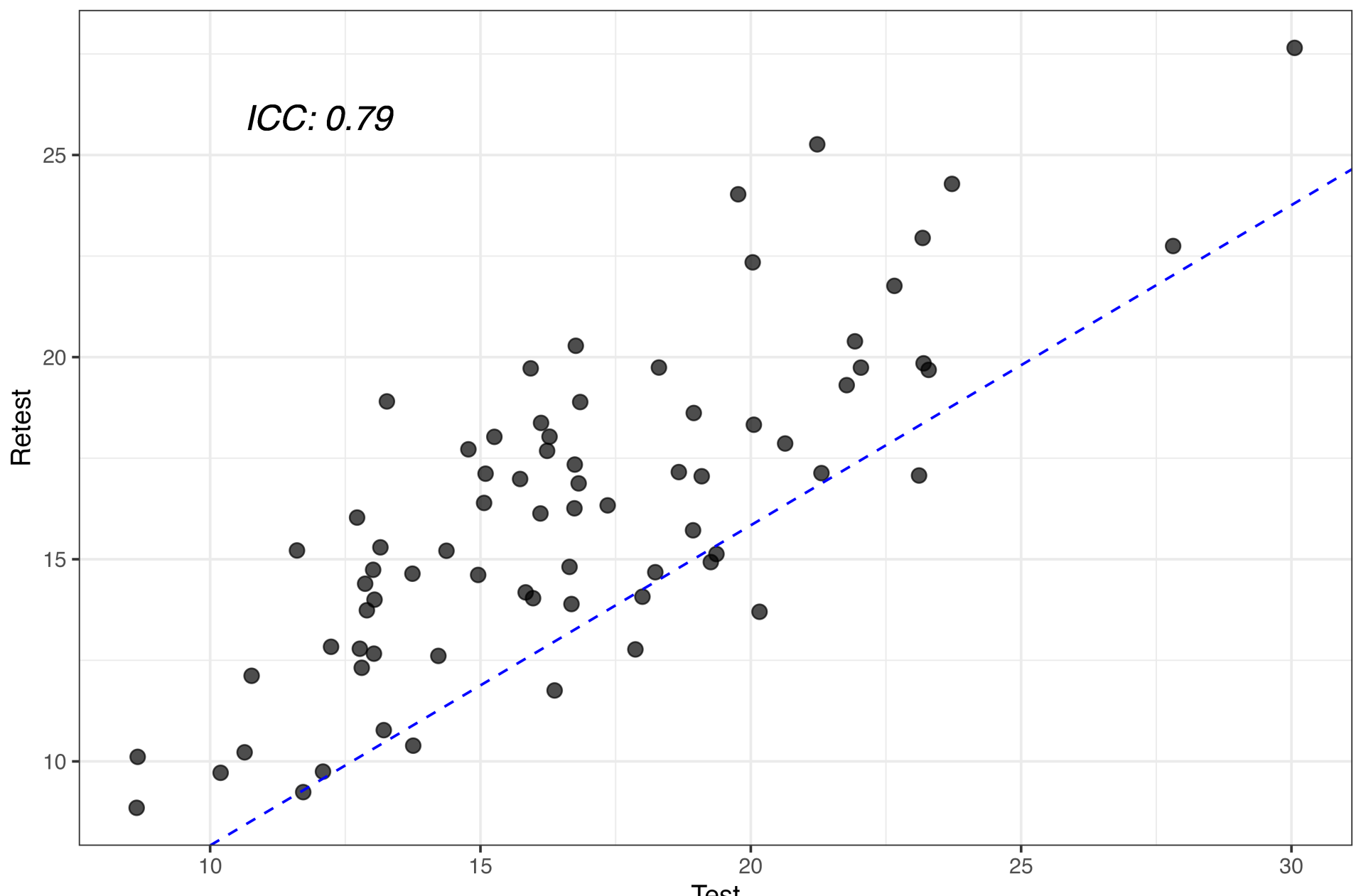


Figure 5. Intra-correlations of ASCOT scores between two measurements at different time points

Conclusions

- The present results provide preliminary evidence suggesting that the Chinese version of ASCOT is valid and reliable in terms of convergent validity, known-group validity, and test-retest reliability. However, the ceiling effects may affect the instrument’s sensitivity to changes over time. Further research should explore the feasibility and responsiveness of the Chinese ASCOT across different samples and care service settings.

References

1. <https://www.pssru.ac.uk/blog/category/ascot/page/2/>

2. Netten, Ann, et al. "Outcomes of social care for adults: developing a preference-weighted measure." *Health technology assessment* 16.16 (2012): 1-166.

3. Hong Kong Population Projections 2020-2069.pdf [Internet]. [cited 2023 Apr 30]. Available from: <https://www.statistics.gov.hk/pub/B1120015082020XXXXB0100.pdf>.

4. Prinsen, Cecilia AC, et al. "COSMIN guideline for systematic reviews of patient-reported outcome measures." *Quality of life research* 27 (2018): 1147-1157.

5. Abma, Inger L., Maroeska Rovers, and Philip J. van der Wees. "Appraising convergent validity of patient-reported outcome measures in systematic reviews: constructing hypotheses and interpreting outcomes." *BMC research notes* 9.1 (2016): 1-5.

6. Wu, Tai-Yin, et al. "Quality of life (QOL) among community dwelling older people in Taiwan measured by the CASP-19, an index to capture QOL in old age." *Archives of gerontology and geriatrics* 57.2 (2013): 143-150.

7. Wong, Eliza LY, et al. "Assessing the use of a feedback module to model EQ-5D-5L health states values in Hong Kong." *The Patient-Patient-Centered Outcomes Research* 11 (2018): 235-247.

8. Yu, Xiaonan, et al. "The Patient Health Questionnaire-9 for measuring depressive symptoms among the general population in Hong Kong." *Comprehensive psychiatry* 53.1 (2012): 95-102.

9. Mahoney, Florence I., and Dorothea W. Barthel. "Functional evaluation: the Barthel Index: a simple index of independence useful in scoring improvement in the rehabilitation of the chronically ill." *Maryland state medical journal* (1965).

10. Graf, Carla. "The Lawton instrumental activities of daily living scale." *AJN The American Journal of Nursing* 108.4 (2008): 52-62.

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