

Effective Outcome Measures for Family Caregivers of Patients with Alzheimer’s Disease in Japan: Factor Analysis Using ASCOT-Carer, ZBI, and EQ-5D-5L

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INTRODUCTION & OBJECTIVE

- The caregiver burden is rarely evaluated in terms of quality of life (QoL)¹⁾, and when it is measured, EQ-5D-5L is generally used¹⁾²⁾.
- The dimensions measured by EQ-5D-5L may not fully reflect the full range of aspects of QoL that can be affected by caregivers and medical and social-care interventions³⁾.
- Therefore, the Adult Social Care Outcomes Toolkit for Carers (ASCOT-Carer) was developed as a new preference-based measure (PBM) for assessing caregivers’ social-care–related QoL (SCRQoL)⁴⁾⁵⁾.
- The validity of ASCOT-Carer remains inadequately established.
- In this study, we explored the associations between ASCOT-Carer and EQ-5D-5L (as health-related QoL [HRQoL]) and caregiver burden.

METHODS

- A web-based survey of 705 caregivers of patients with Alzheimer’s disease (AD) in Japan was conducted.
- The criterion-related validity of ASCOT-Carer, EQ-5D-5L, and the short version of the Japanese Zarit Caregiver Burden Interview (J-ZBI_8) were evaluated through correlation analysis.
- Exploratory factor analysis (EFA) with oblimin rotation was performed on all items in these scales to analyze their inter-factorial correlations.
- Parameters were estimated using maximum-likelihood estimation.

RESULTS

- Of 8108 registered caregivers, 705 completed the survey.
- The background characteristics of caregivers of patients with AD is shown in **Table 1**.
- All 705 caregivers were included in the analysis. The absolute correlation coefficient between the J-ZBI_8 and EQ-5D-5L scores was 0.268, that between the J-ZBI_8 and ASCOT-Carer scores was 0.472, and that between the EQ-5D-5L and ASCOT-Carer scores was 0.463.
- The number of factors was determined as seven, using the sample-size–adjusted Bayesian Information Criterion.
- Items within each scale did not merge with items from other scales (**Figure 1**, **Table 2**).

Table 1. Background characteristics of caregivers of patients with AD

	N	N=705
Caregiver sex, n (%)	705	
Female		304(43)
Caregiver age, years, mean ± SD	705	54.6 ± 11.5
Relationship to the patient, n (%)	705	
Spouse/partner		39 (5.5)
Siblings and siblings-in-law		3 (0.4)
Parents and in-laws		592(84)
Grandparents and grandparents-in-law		65 (9.2)
Other		6 (0.9)
Primary caregiver, n (%)	705	
Respondent		428(61)
Other family member		277(39)
J_ZBI-8, mean ± SD	705	15.5 ± 8.4
EQ-5D-5L, mean ± SD	705	0.76 ± 0.19
ASCOT-Carer, mean ± SD	705	0.71 ± 0.24

Table 2. Correlations among factors

Factor	1	2	3	4	5	6	7
1	1						
2	0.29	1					
3	0	0.22	1				
4	0.76	0.31	0.12	1			
5	0.61	0.50	0.13	0.57	1		
6	0.16	0.41	0.39	0.18	0.25	1	
7	0.21	0.57	0.27	0.28	0.24	0.32	1

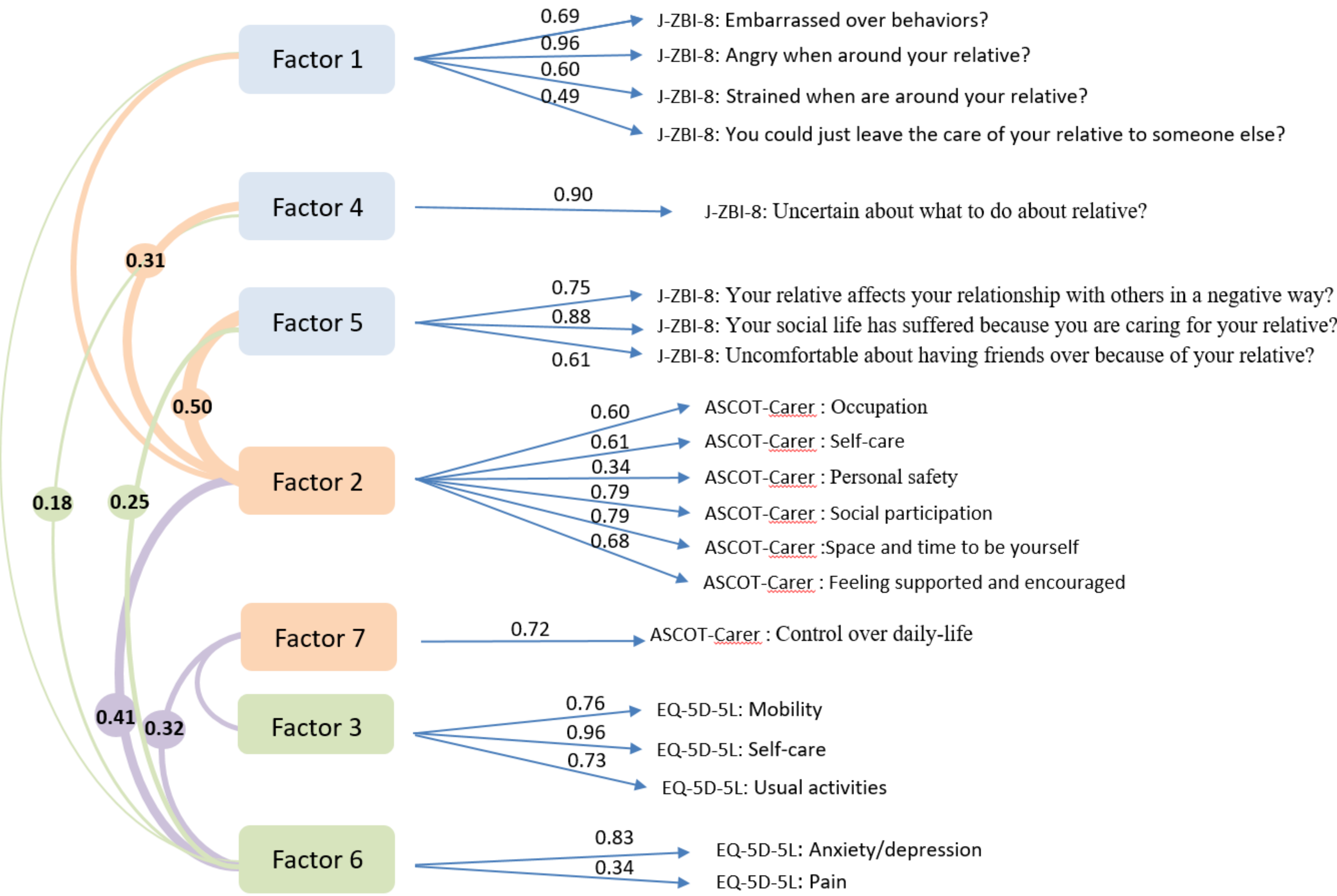


Figure 1. Results from the EFA
Green line: Correlation between J-ZBI_8 and EQ-5D-5L
Orange line: Correlation between J-ZBI_8 and ASCOT-Carer
Purple line: Correlation between ASCOT-Carer and EQ-5D-5L

CONCLUSION

- ASCOT-Carer, EQ-5D-5L, and J-ZBI_8 effectively captured unique dimensions of SCRQoL, HRQoL, and the caregiver burden, respectively.
- ASCOT-Carer seems more effective than EQ-5D-5L as a PBM for assessing the QoL of caregivers in health economic evaluations in disease areas strongly related to caregivers.

References
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