

# **The New Zealand Longitudinal Study of Ageing**

**Summary Report**

## **- Application of the ICECAP-A Measure -**

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A research collaboration between

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## Introduction

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This paper provides a preliminary analysis of results from the ICECAP-A capabilities measure included in the second wave postal survey of the New Zealand Longitudinal Study of Ageing (NZLSA). ICECAP-A is still under development by its authors (Al-Janabi, Flynn, & Coast, 2012) and scoring parameters are only available for the United Kingdom at present. Scoring parameters are under development for other countries, including Australia and it is hoped that data from this survey will enable New Zealand specific parameters to be developed. In the meantime, this report has employed the available United Kingdom parameters to calculate index values for the measure's five dimensions and overall scores that are calculated from those index values.

### Background

The ICECAP-A measure was included in the second wave NZLSA postal survey to provide the study with a wellbeing measure based on Sen's Capabilities approach to understanding and measuring wellbeing and to complement other wellbeing and quality of life measures already included in the study.

The ICECAP-A Capabilities-based approach to evaluating wellbeing and quality of life was developed to complement measures of functional health (such as the EuroQol EQ-5D and SF-12, for example) for evaluating outcomes of integrated health and social care provision. The distinction between function and capability is important within the Capabilities literature where it is discussed in terms of "functionings" and "capabilities". Functionings are "the various things [a person] manages to do or be in leading a life" (Sen, 1993, p.31). These range from the most elementary functions, such as providing for basic physical needs, to such complex functions as those associated with achieving social integration and self-respect, for example. A person's capabilities, on the other hand, represent their capacity to combine the functions available to them in ways that enable them to achieve chosen goals and objectives in their lives (King, 2007; King & Waldegrave, 2009).

The ICECAP-A indices are based on five dimensions of wellbeing that were identified during qualitative research carried out to identify the attributes for a generic quality of life measure for older people (Grewal, et al., 2006; Coast, et al., 2008b; Al-Janabi & Coast, 2009). The researchers interviewed older people to learn about the things that were important to their quality of life. Analysis of the interviews identified the following five dimensions or conceptual attributes to be critical factors influencing the quality of life of older people: Attachment; Security; Role; Enjoyment; and Control.

The significance and importance of these attributes for wellbeing was found to be based on the abilities of older people to pursue and achieve them, and that loss of ability to pursue those attributes reduced and limited wellbeing. These findings about the central importance of ability to achieve the attributes of wellbeing led the researchers to link their work with the Capabilities wellbeing literature (Grewal, et al., 2006; Coast, et al.,

2008a, 2008b, 2008c , 2008d) and use Amartya Sen’s Capabilities approach to wellbeing (Sen, 1993; 1999) as a conceptual framework for the ICECAP-O measure designed for older people. ICECAP-O measures respondents’ capabilities on the basis of their self-evaluations of their ability to achieve on each of the five dimensions of wellbeing listed above.

The ICECAP-A was developed for use with adults of any age and selected for use in this study because it is appropriate for the range of ages covered (50-80+). ICECAP-A is based on similar qualitative research to that conducted for the ICECAP-O (Al-Janabi, Flynn & Coast, 2012) and uses the five dimensions of Stability, Attachment, Autonomy, Achievement, and Enjoyment. Stability represents the ‘desire for a sense of continuity in life’; attachment relates to the ‘importance of love, support and social contact’; autonomy represents the ‘desire to be independent’; achievement ‘reflects the degree to which an individual is able to both move forward in their life and attain their goals’; and enjoyment relates to the desire for pleasure and fun in life (Al-Janabi, Flynn, and Coast, 2012, pp.170-171).

The ICECAP questionnaire is suitable for self-administration and takes only a few minutes to complete.

## Data

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Data were obtained from responses to the five ICECAP-A questions for which respondents were asked to select one of four responses to each. The five questions have the wording: (a) Feeling settled and secure; (b) Love, friendship and support; (c) Being independent; (d) Achievement and progress; and (e) Enjoyment and pleasure. These relate to the dimensions of Stability, Attachment, Autonomy, Achievement, and Enjoyment referred to above. The four responses to each dimension range from indicating not having any of each dimension to having a lot of it. Responses are coded from 1 to 4, with 1 representing not having any and 4 representing having a lot.

The scoring procedure applied to these responses followed that developed for the United Kingdom, as indicated earlier. The Stata<sup>1</sup> code specified on the ICECAP website<sup>2</sup> was applied to the NZLSA data to generate index scores for each of the five dimensions and an overall score<sup>3</sup>. The overall score is designed to range from zero to one, with zero representing no capability for any of the five dimensions and one representing full capability in all five dimensions.

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<sup>1</sup> StataCorp. 2011. *Stata Statistical Software: Release 12*. College Station, TX: StataCorp LP.

<sup>2</sup> See <http://www.birmingham.ac.uk/Documents/college-mds/haps/projects/icecap/STATA/ICECAP-A-stata.docx>

<sup>3</sup> Referred to as a Tariff in the ICECAP literature.

## Results

The overall ICECAP-A scores obtained range from zero to one, with a mean of 0.84 and median of 0.89. A majority of the sample (82%) had scores of 0.8 or above, as is illustrated in Figure 1. These results indicate high levels of the capabilities measured by ICECAP-A in the NZLSA sample. On the other hand, 5.7 percent returned scores of 0.441 or less indicating that they enjoyed little, few or no capabilities on any of the dimensions.

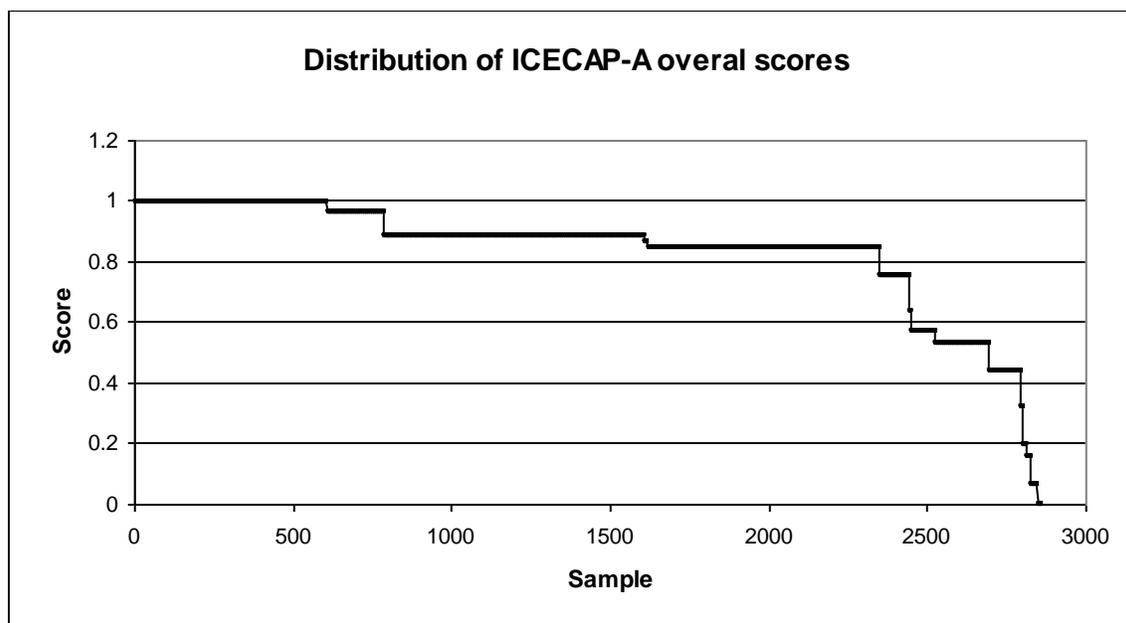


Figure 1. Distribution of ICECAP-A overall scores.

ICECAP-A was introduced into the second wave survey as a complement to other functional and subjective measures already included. Of particular interest is how ICECAP-A compares with the CASP12 measure which was used in both survey waves and is consistent with a functional, capabilities based view of wellbeing.

Table 1 shows correlations<sup>4</sup> between the ICECAP-A scores (dimension scores and overall scores) and some other measures, including CASP12. The measures are listed in Table 1 in declining order of the magnitude of their correlations with the overall ICECAP-A score. Correlations between ICECAP-A Overall score and age is positive, but very weak.<sup>5</sup> Also, not shown in the table, mean scores do not differ significantly by gender or ethnicity. On the other hand, ICECAP-A scores correlate strongly with the range of functional and subjective measures listed in Table 1. The functional orientation of ICECAP-A is most clearly reflected in the difference between its correlations with

<sup>4</sup> Pearson's  $r$ .

<sup>5</sup> The correlation between CASP12 Overall and age is also 0.06, but negative.

Satisfaction (0.61) and the more subjective measure of Happiness (0.45) (a pattern shared by CASP12).

Table 1.

*Correlations of ICECAP-A scale scores with selected living standards and wellbeing measures.*

Selected non-ICECAP measures	ICECAP-A scale measures					
	Stability	Attachment	Autonomy	Achievement	Enjoyment	Overall score
Satisfaction	0.58	0.44	0.58	0.57	0.58	0.61
WHOQoL 8	0.56	0.43	0.56	0.55	0.56	0.59
CASP12 Overall	0.56	0.43	0.56	0.54	0.56	0.58
Mental health SF12	0.55	0.35	0.55	0.53	0.55	0.56
CASP12 Control	0.50	0.35	0.50	0.48	0.50	0.51
CASP12 Self-realisation	0.48	0.39	0.48	0.47	0.49	0.51
Loneliness overall	-0.46	-0.46	-0.46	-0.44	-0.46	-0.50
Social loneliness	-0.44	-0.42	-0.44	-0.42	-0.44	-0.48
Living standards (ELSI)	0.46	0.27	0.46	0.45	0.46	0.46
Happiness	0.42	0.37	0.42	0.42	0.42	0.45
CASP12 Pleasure	0.39	0.36	0.38	0.39	0.39	0.42
Emotional loneliness	-0.37	-0.40	-0.37	-0.35	-0.37	-0.41
Physical health SF12	0.23	0.12	0.23	0.23	0.23	0.23
Age	0.07	0.00	0.08	0.07	0.07	0.06

Age/Attachment correlation  $p > 0.05$ , all other correlations are  $p < 0.01$

Of particular interest for future investigation is the relationship between the ICECAP-A and CASP12 measures. While they correlate quite strongly and both address capabilities, the correlations are not strong enough to suggest they are measuring the same things exactly. For example, the CASP12 Pleasure and ICECAP-A Enjoyment correlation is only 0.39.

Future investigation will include a validation and New Zealand specific scoring of the ICECAP-A measure in partnership with the ICECAP authors.

## References

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- Al-Janabi, H, Flynn, T and Coast, J. (2012). Development of a self-report measure of capability wellbeing for adults: the ICECAP-A. *Quality of Life Research*, 21:167–176.
- Al-Janabi, H, Coast, J. (2009). ICECAP-A: developing a measure of adult’s capabilities. *Patient Reported Outcomes*, 42(Fall):1, 7–8.
- Coast, J, Peters, T, Natarajan, L, Sproston, K, Flynn, T. (2008a). An assessment of the construct validity of the descriptive system for the ICECAP capability measure for older people. *Quality of Life Research*, 17:967-976.
- Coast, J, Flynn, T, Natarajan, L, Sproston, K, Lewis, J, Louviere, J, Peters, T. (2008b) Valuing the ICECAP capability index for older people. *Social Science and Medicine*, 67(5):874-882.
- Coast, J, Smith, R, Lorgelly, P. (2008c). Should the capability approach be applied in health economics? *Health Economics*, 17:667-670.
- Coast, J, Smith, R, Lorgelly, P. (2008d). Welfarism, extra-welfarism and capability: the spread of ideas in health economics. *Social Science and Medicine*, 67:1190-1198.
- Grewal, I., Lewis, J., Flynn, T. N., Brown, J., Bond, J., & Coast, J. (2006). Developing attributes for a generic quality of life measure for older people: preferences or capabilities? *Social Science & Medicine*, 62:1891–1901.
- Sen, A. (1993). Capability and wellbeing. In M. Nussbaum and A. Sen, (Eds.), *The Quality of Life*. Oxford: Clarendon Press. Pp. 30-53.
- Sen, A. (1999). *Development as Freedom*. New York: Anchor.
- King, P. (2007). The concept of wellbeing and its application in a study of ageing in Aotearoa New Zealand. *EWAS Working Paper 8*. The Family Centre Social Policy Research Unit and Population Studies Centre, University of Waikato. <http://www.ewas.net.nz/Publications/filesEWAS/Conceptualising%20wellbeing.pdf>
- King, P., & Waldegrave, C. (2009). Chapter 2: Theoretical background. In P. Koopman-Boyden and C. Waldegrave (Eds.), *Enhancing Wellbeing in an Ageing Society: 65 to 84 Year Old New Zealanders in 2007*. Hamilton and Lower Hutt: Population Studies Centre, University of Waikato and Family Centre Social Policy Research Unit.