

## ONLINE APPENDIX

### LEQ Scoring

Education scores in the Young Adulthood sub-section were calculated in the following manner: clerical or short business courses were scored 4 points; 3 year trade or technical college course 6 points, 4 year trade apprenticeship 8 points; 3 or 4 year college courses 8 points; undergraduate university courses 10 points; postgraduate Masters 8 points; postgraduate doctorate 10 points; other post graduate courses 4 points per year of study. A cumulative education score for the Young Adulthood section was summed and then normalized<sup>1</sup> with the Young Adulthood non-specific subscores. As indicated above, together these two scores contributed a third of the overall LEQ score. If an individual completed a formal educational course outside his or her Young Adulthood period, an equivalent number of points was added to the LEQ total in the relevant life-stage section as an adjustment.

Occupation scores were calculated for the 30–35, 35–40, 45–50, 50–55, 55–60 and 60–65 year age ranges. The main occupation pursued in each age bracket (in terms of years worked) was classified according the Australian Standard Classification of Occupations (ASCO (ABS Australian Bureau Of Statistics, 1997)) guidelines: professional occupations such as engineers, doctors, lawyers and so forth are classified 1.0; semi-professionals such as teachers and police as 2.0; skilled tradespersons 3.0; unskilled tradespersons 4.0 and so forth with unskilled clerical staff in the ultimate ASCO category (8.0). Each occupational category was first inverted, so that occupations with greater cognitive and managerial responsibilities scored higher, and then summed. A cumulative occupational score for the Mid Life section was summed and then normalized with the Mid Life non-specific subscores (as a whole group). As indicated in the previous section, together these two scores contributed a third of the overall LEQ score. If an individual was continuing in paid employment beyond 65 years of age then an equivalent number of points was added to the Late Life section as an adjustment.

Late life-specific questions focused on social, leisure and information-seeking behaviour. The following questions formed the Specific Late Life score, with each affirmative response in the direction of greater complexity/frequency given an equivalent value out of five (unless indicated otherwise below):

- (i) Reside alone or with partner (not coded)
- (ii) Membership of social groups
- (iii) Membership of charity groups
- (iv) Frequency of seeing family members
- (v) Frequency and diversity of participating in events and entertainment (frequency × diversity recoded and scaled out of 5)
- (vi) Behavioural analysis of typical day – this items was recoded into a 10-point scale based on the diversity of activities listed (25 items to choose from; 0–4 = 1, 5–7 = 2, 8–9 = 3, 10–11 = 4, 12 = 14 = 5, 15–16 = 6, 17–18 = 7, 19–20 = 8, 21–22 = 9, 23 + = 10)
- (vii) Diversity of information sources
- (viii) Diversity of reading materials

A cumulative activity score for the Late Life specific section was summed and then normalized with the Late Life non-specific subscores (as a whole group). As indicated previously, together these two scores contributed a third of the overall LEQ score.

#### <sup>1</sup> Note on normalization.

As this was the first iteration of the LEQ, there was no *a priori* reason to weight scores from any one of the Young Adulthood, Mid Life or Late Life subsections more than another. Thus scores from each Life stage was weighted 33·3% towards the overall LEQ total. Furthermore, *within each Life stage score*, there were items from the Specific and Non-Specific domains and there was no compelling reason to weight scores from one domain over the other. Given scores from the Non-Specific domain in each Life stage had an absolute maximum of 35, and tended towards a mean of around 12, and scores from the Specific domain varied more widely, we applied a different Normalisation Factor to each individual's Life stage Specific score so that at the group level they approximated a mean of 12. Thus, for the Young Adulthood Specific score a normalization factor of 0·7 was applied, for the Mid Life Specific score 0·25, and for the Late Life 0·4 It is for this reason that the mean Life stage scores are about 24–25 and the overall LEQ mean approximately 75.

Non-specific life stage questions: each life stage asked a standard set of 8 questions relating to participation in a diverse number of leisure, mental activity, artistic and fitness pursuits (only the first 7 were used to derive the LEQ total). Each was scored out of 5 and summed to produce a theoretical maximum of 35.