Language and ageing in healthy late-age adults: What can longitudinal computerised analysis tell us about discourse skills over time?

What happens to language and discourse abilities as we age is a somewhat vexed question but one of increasing interest due to two factors in particular – the increase in ageing populations and the potential for language ability to provide insight into cognitive health. There is an increasing amount of work exploring the effects of ageing on cognition in both healthy ageing individuals (e.g. Park, 2012) and on individuals with diseases of ageing such as dementias and stroke (e.g. Kemper, et al., 2001, Farais et al, 2012.). High language function, as indicated by the linguistic measure of Propositional Density, has been associated with protective factors against diseases of ageing. Also, in people with dementia, low propositional density has been associated with the development of dementia (Kemper et al. 2001; Farais et al, 2012). However, there is a paucity of data on whether, in what ways, and how much linguistic ability may change in the course of healthy ageing. Data about language and ageing is essential to help our understanding of healthy ageing and the ability to continue to be effective communicators into old age as well as to detect early indicators of language decline which may signal cognitive change. Our previous research has shown that there was a small but statistically significant change in the amount of information provided across three different age cohorts of women's written texts. Also, there was change for the older women's texts as they aged, such that their comments contained less information as measured by the metric of Propositional Density (PD) (authors withheld). This presentation will present additional data to explore the continuation of the effects of ageing on language into late-age.

Data

Results will be presented of computerised linguistic analyses that were conducted on repeated samples of written texts from the oldest cohort of women from the Australian Longitudinal Study on Women's Health (Lee et a., 2005). This cohort was born between 1921-26 and had participated in the survey six times over a sixteen year period.

Results/Conclusions

The presentation will present detailed data on the linguistic characteristics of the written comments made by these women aged 85-90 years (n=2,139), and change over time for this cohort will be discussed. Linguistic metrics including measures of the amount of information (Propositional Density) plus standard measures of lexical diversity and grammatical complexity will be presented with particular reference to the potential variable of the women's educational status.

As this program of research has analysed in excess of 20,000 written comments from this age cohort across 6 survey periods (as well as comments from other age cohorts in the study), the presentation will also discuss methods for analysing large tranches of data using computerised linguistic analyses and the practical considerations involved, such as data preparation for computerised analyses and effects of large sample size.

References:

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Acknowledgements: (withheld for review)