

Quality of life in south-eastern Australia: Normative values for the WHOQOL-BREF in a population-based sample of adults



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Introduction

Quality of life (QoL) is an interdisciplinary concept that has gained prominence over the years as an important outcome measure in healthcare. The World Health Organisation defines QoL as an individual's "perception of their position in life in the context of the culture and value systems in which they live".¹ QoL research has important implications for policy, treatment evaluation, and clinical use. However, normative data for the general population are lacking for commonly used QoL assessments such as the WHOQOL-BREF. To date, only one study has provided preliminary data for the WHOQOL-BREF in the Australian setting.² In the absence of up-to-date, population-specific normative data, the usefulness of QoL assessments is limited.

Objectives

1. Derive normative data for the WHOQOL-BREF based on a representative sample of Australian adults
2. Identify socio-demographic factors associated with QoL

Method

This cross-sectional study involved 1,759 participants (53% male) aged 24-94 years. Data were generated by the Geelong Osteoporosis Study, a population-based cohort study comprising a randomly selected sample of adults from south-eastern Australia.³ We utilised data from the 5-year follow-up for males (2006-2011) and 15-year follow-up for females (2011-2014). We used the Australian version of the WHOQOL-BREF; a 26-item QoL assessment with four domains: physical health, psychological, social relationships, and environment. Domain scores were computed in accordance with the WHOQOL manual and converted to a 0-100 scale. To examine associations between socio-demographic factors and QoL domains, we used multivariable logistic regression (odds ratios with 95% confidence intervals) in which QoL domain scores were dichotomised as high or low using the median score. We considered five socio-demographic factors: age, socioeconomic status (SES), education, employment, and marital status.

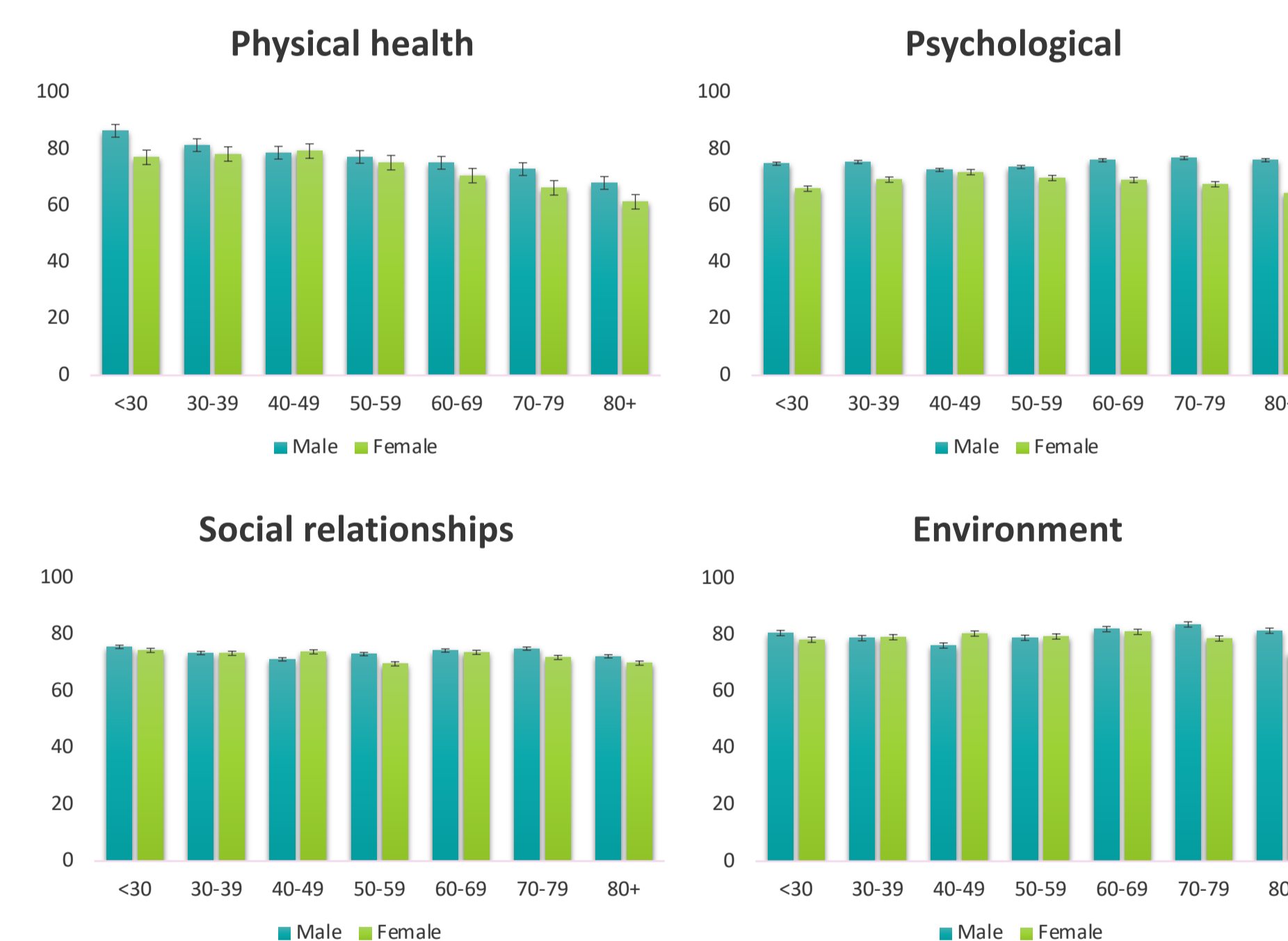
The study was approved by Barwon Health Human Research Ethics Committee (92/01 & 00/56). Participants provided written informed consent.

Results

Normative values

Overall mean scores for WHOQOL-BREF domains were 74.61 ($SD = 16.16$) for physical health, 72.09 ($SD = 15.37$) for psychological, 72.91 ($SD = 18.75$) for social relationships, and 79.10 ($SD = 12.53$) for environment. Figure 1 shows mean scores of the WHOQOL-BREF domains by age group and sex.

Figure 1: Mean scores for WHOQOL-BREF domains by age and sex. Error bars represent standard error



Multivariable models

Table 1 shows the associations between WHOQOL-BREF domains and socio-demographic factors. For both sexes, associations were observed between mid and upper SES and high environment-related QoL. For both sexes, university education was associated with high QoL in physical, psychological and environment domains. For females, full time employment was associated with high physical-related QoL. For females, being married/in a relationship was associated with high QoL across all domains. For males, being married/in a relationship was associated with high QoL in psychological and social domains.

Table 1: Associations between WHOQOL-BREF domains and socio-demographic factors, data presented as odds ratios and 95% confidence intervals

	Physical health		Psychological		Social relationships		Environment	
	Males	Females	Males	Females	Males	Females	Males	Females
Age (yr)	0.98 (0.97-1.00)*	0.98 (0.97-1.00)**	1.01 (1.00-1.02)	1.01 (0.99-1.02)	1.01 (0.99-1.02)	1.00 (0.98-1.01)	1.02 (1.01-1.03)**	1.01 (1.00-1.02)
SES low†	-	-	-	-	-	-	-	-
SES mid	1.53 (0.99-2.36)	1.28 (0.87-1.89)	2.01 (1.36-2.99)**	1.16 (0.80-1.68)	1.11 (0.75-1.66)	1.17 (0.79-1.73)	2.04 (1.35-3.07)**	1.89 (1.27-2.81)**
SES upper	1.35 (0.95-1.92)	1.59 (1.07-2.36)*	1.03 (0.75-1.41)	0.89 (0.61-1.31)	0.96 (0.70-1.33)	1.16 (0.78-1.74)	1.51 (1.08-2.12)*	1.86 (1.24-2.79)**
No secondary school†	-	-	-	-	-	-	-	-
Completed secondary	1.29 (0.83-2.02)	1.77 (1.13-2.77)*	1.30 (0.86-1.95)	1.36 (0.88-2.11)	1.02 (0.67-1.55)	1.05 (0.66-1.66)	1.29 (0.84-1.99)	0.97 (0.61-1.54)
TAFE/Trade qualification	1.30 (0.80-2.10)	1.60 (1.06-2.44)*	0.91 (0.59-1.41)	1.36 (0.91-2.10)	0.89 (0.57-1.40)	1.04 (0.68-1.60)	1.02 (0.64-1.62)	1.39 (0.91-2.11)
University	1.70 (1.16-2.48)**	1.75 (1.09-2.82)*	1.54 (1.08-2.21)*	2.29 (1.44-3.65)**	1.15 (0.80-1.65)	1.14 (0.70-1.84)	1.91 (1.32-2.76)**	1.72 (1.07-2.75)**
Not full time employed†	-	-	-	-	-	-	-	-
Full time employed	1.02 (0.66-1.58)	1.90 (1.23-2.92)**	1.29 (0.81-1.89)	1.40 (0.93-2.11)	1.10 (0.72-1.68)	1.07 (0.70-1.63)	0.68 (0.44-1.06)	1.20 (0.79-1.82)
Retired/home duties	0.69 (0.42-1.14)	0.76 (0.51-1.14)	0.80 (0.51-1.26)	0.82 (0.56-1.22)	0.73 (0.46-1.16)	0.92 (0.62-1.39)	0.76 (0.48-1.20)	0.85 (0.56-1.27)
Single†	-	-	-	-	-	-	-	-
Married/relationship	1.36 (0.76-2.43)	2.46 (1.34-4.51)**	2.14 (1.19-3.84)*	2.37 (1.31-4.28)**	2.34 (1.25-4.38)**	3.44 (1.67-7.09)**	1.58 (0.84-2.96)	2.26 (1.21-4.23)*
Divorced/separated	0.54 (0.18-1.65)	1.22 (0.58-2.56)	0.86 (0.34-2.18)	1.23 (0.60-2.55)	0.72 (0.25-2.11)	1.41 (0.59-3.41)	0.63 (0.23-1.78)	0.83 (0.37-1.85)
Widowed	1.12 (0.41-3.10)	1.45 (0.62-3.35)	2.07 (0.88-4.86)	1.12 (0.51-2.48)	1.61 (0.63-4.06)	1.33 (0.51-3.47)	1.03 (0.42-2.54)	0.93 (0.40-2.16)

† held as referent, * Significant at <0.05, ** significant at <0.01

Conclusions

This study provides representative estimates for the WHOQOL-BREF for the general population in south-eastern Australia. Overall mean scores were higher than preliminary norms previously reported by Hawthorne et al.² This may be reflective of improving QoL standards. We also identified several associations between socio-demographic factors and QoL domains which provide some context to QoL scores. Our results will be useful to researchers and clinicians using the WHOQOL-BREF, who can compare their findings to these data.

References

1. WHOQOL Group (1998). Development of the World Health Organization WHOQOL-BREF quality of life assessment. *Psychol Med* 28:551
2. Hawthorne G, Herrman H, Murphy B (2006) Interpreting the WHOQOL-Bref: Preliminary Population Norms and Effect Sizes. *Soc Indic Res* 77:37
3. Pasco JA, Nicholson GC, Kotowicz MA (2012) Cohort profile: Geelong Osteoporosis Study. *Int J Epidemiol* 41:1565

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