



# A Population Profile of Quality of Life in South Australia

Population Norms for 2008 using  
the Short Form 36 Version 2

September 2009

South Australian Health  
Omnibus Survey (SAHOS)

Population Research and Outcomes Studies Unit  
Health Intelligence, Operations Division

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Published December by the South Australian Department of Health  
Population Research and Outcome Studies (PROS) Unit  
Health Intelligence, Operations Division  
PO Box 287 Rundle Mall 5000  
South Australia, Australia

Suggested citation: Marin T, Taylor A, Gill T. A Population Profile of Quality of Life in South Australia - Population Norms for 2008 using the SF36 Version 2. Population Research and Outcome Studies Unit. South Australian Department of Health, Adelaide. September 2009.

For further information about data presented in this report, please contact:

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# **CHAPTER 1: INTRODUCTION AND METHODOLOGY**

## 1.1 Introduction

This report provides an analysis of the Health Related Quality of Life (HRQoL) of the South Australian population in 2008.

## 1.2 Health-Related Quality of Life as measured by the SF-36

The Short Form 36 (SF-36) was developed from the Medical Outcomes Study in the United States. It was developed as a generic indicator of health status for use in population surveys and has been applied to assess the outcomes of various health conditions of the general population.<sup>1,2</sup> The instrument has been tested for validity and reliability in Australia, the United States of America, and the United Kingdom.

The SF-36 is comprised of 36 questions that are summarized to eight dimensions. These are presented in Table 1.1.

**Table 1.1: Dimensions of the SF-36**

Abbreviation	Dimension	Description
PF	Physical Functioning	Limitations in physical activities because of health problems
RP	Role Physical	Limitations in usual role activities because of physical health problems
BP	Bodily Pain	Intensity of bodily pain or discomfort
GH	General Health	General health perceptions
VT	Vitality	Energy and fatigue
SF	Social Functioning	Limitations in social activities due to physical or emotional problems
RE	Role Emotional	Limitations in usual role activities because of emotional problems
MH	Mental Health	Psychological distress and well-being

Note: Not clinical measures

Responses are recoded, summed and transformed to provide the eight dimensions with scores between 0 and 100, with higher scores indicating better health.<sup>4</sup>

## 1.3 The Short Form 36 Version 2

The Short Form 36 Version 2 (SF-36V2) was designed as an improvement over Version 1, particularly in terms of less ambiguous instructions and questions, and some changes in response sets. The new version of the SF-36 has been shown to have greater reliability and precision over the previous version.<sup>3</sup>



Due to the different categories and question wording from SF-36V1 to SF-36V2, it is not possible, using percentage scores, to directly compare the results in 2008 to those in previous years.

The following is a summary of general changes in scoring of the SF-36V2.

- > Norm based scoring algorithms introduced for all eight scales;
- > Employs a linear T-score transformation with mean = 50 and standard deviation = 10, thus makes it possible to meaningfully compare scores for eight scale profile and PCS MCS on the same graph; and
- > Missing responses: yields less biased estimates of missing responses and makes it possible to estimate scores for more respondents with incomplete data.

Table 1.2 summarises the eight dimensions of the SF-36V2, including the two additional component summary scores.

**Table 1.2: Dimensions of the SF-36V2**

Abbreviation	Dimension	Description
PFSAT	Physical Functioning	Limitations in physical activities because of health problems
RPSAT	Role Physical	Limitations in usual role activities because of physical health problems
BPSAT	Bodily Pain	Intensity of bodily pain or discomfort
GHSAT	General Health	General health perceptions
VISAT	Vitality	Energy and fatigue
SFSAT	Social Functioning	Limitations in social activities due to physical or emotional problems
RESAT	Role Emotional	Limitations in usual role activities because of emotional problems
MHSAT	Mental Health	Psychological distress and well-being
PCSAT	Physical	Component summary score
MCSAT	Mental	Component summary score

Note: Not clinical measures

The Australian normed t-scores are used to describe quality of life between Australian populations.

## 1.4 Survey Methodology

The data in this report have been collected using the Autumn 2008 Health Omnibus Survey (HOS).

### 1.4.1 The South Australian Health Omnibus Survey (HOS)

HOS has been undertaken each year since 1990 and investigates a range of health and health service issues. The methodology of the HOS has been reported elsewhere in more detail,<sup>5-7</sup> but will be described briefly here. A representative population survey conducted on an annual or biannual basis, the HOS is a clustered, self-weighting, systematic, multi-stage area sample of metropolitan and country areas in South Australia, with populations of more than one thousand people. Hospitals, hotels and nursing homes are not included in the sample, and no replacement is made for a non-response. Australian Bureau of Statistics collector districts are used as a basis for the sample and ten households chosen via a random starting point and a fixed skip interval system. Face-to-face interviews are conducted in each respondent's home by trained interviewers. Respondents are selected if they are the person in the household to have the next birthday and aged fifteen years or over.

Data from the surveys are weighted by age, gender and geographical location to South Australian census data, or to the most recent estimated residential population, correcting for any sample bias and providing accurate estimates for the South Australian population.

Demographic information is collected on gender, age, marital status, household size, country of birth, highest education level achieved, annual household income, work status, and area of residence.

## 1.5 Analysis

The statistical package, SPSS for Windows Version 15.0, was used to generate the norms and to analyse the data. The values reported in the tables for each of the eight dimensions are:

- > mean score;
- > 95% confidence interval of the mean;
- > median score;
- > standard deviation of the mean; and
- > variance of the mean.

To compare between gender, age groups, and demographic variables, t-tests were used to test for statistical significance. The conventional 5% level of statistical significance was used. To compare people with and without chronic conditions, multiple analyses of variance, adjusting for age and sex, was used to compute mean scores for each dimension of the SF-36V2. The chronic conditions analysed were arthritis, osteoporosis, diabetes, and asthma.

Each of the eight SF-36V2 dimension scores were standardised to the 2001 South Australian census population to account for the changing age-sex population structure over time.

## **CHAPTER 2: SF-36 VERSION 2 POPULATION NORMS FOR SOUTH AUSTRALIA**

## 2.1 Overall South Australian Population

The following graphs show the distribution of each of the eight dimensions of the SF-36 V2 for the overall South Australian (SA) population aged 15 years and over.

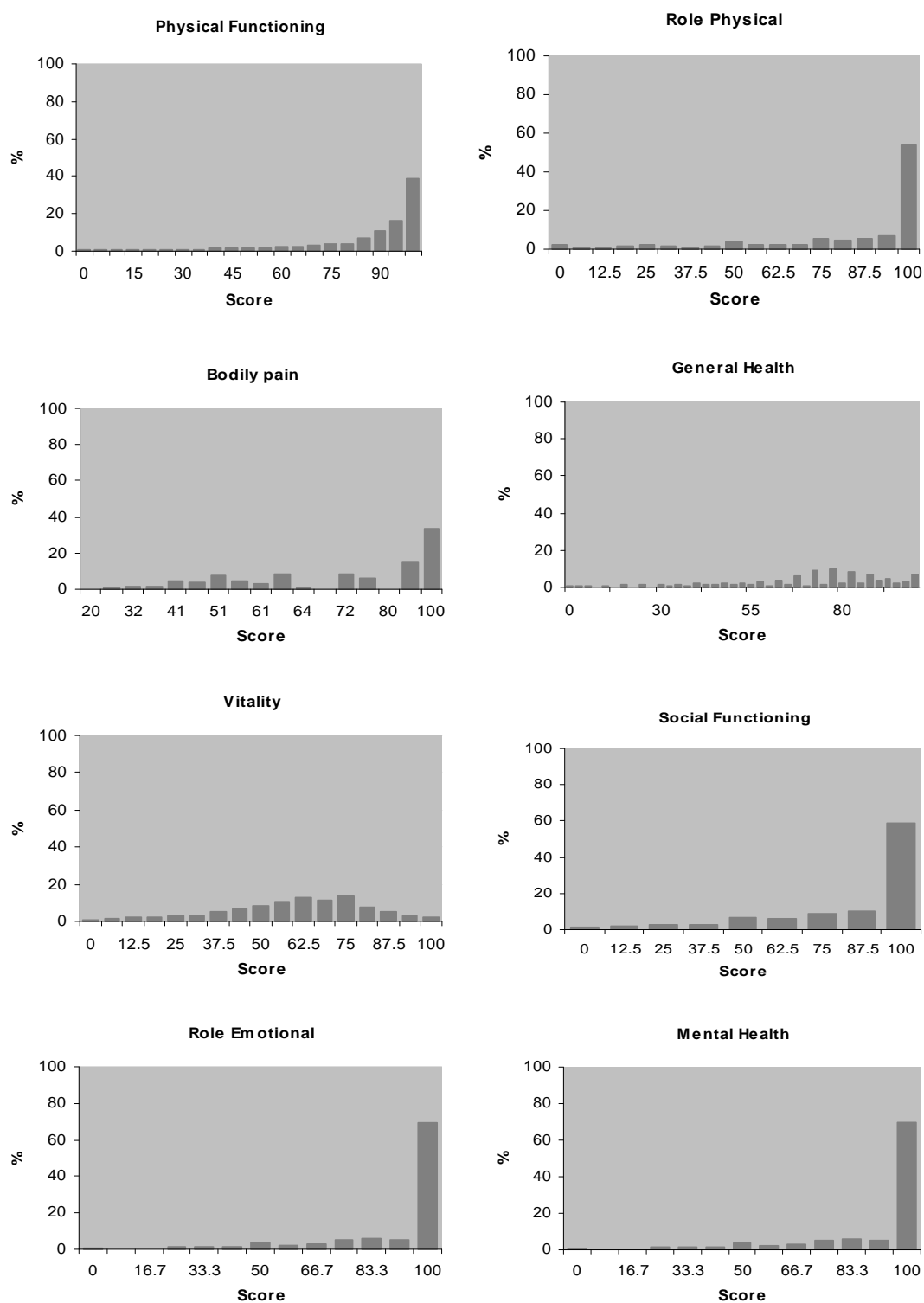


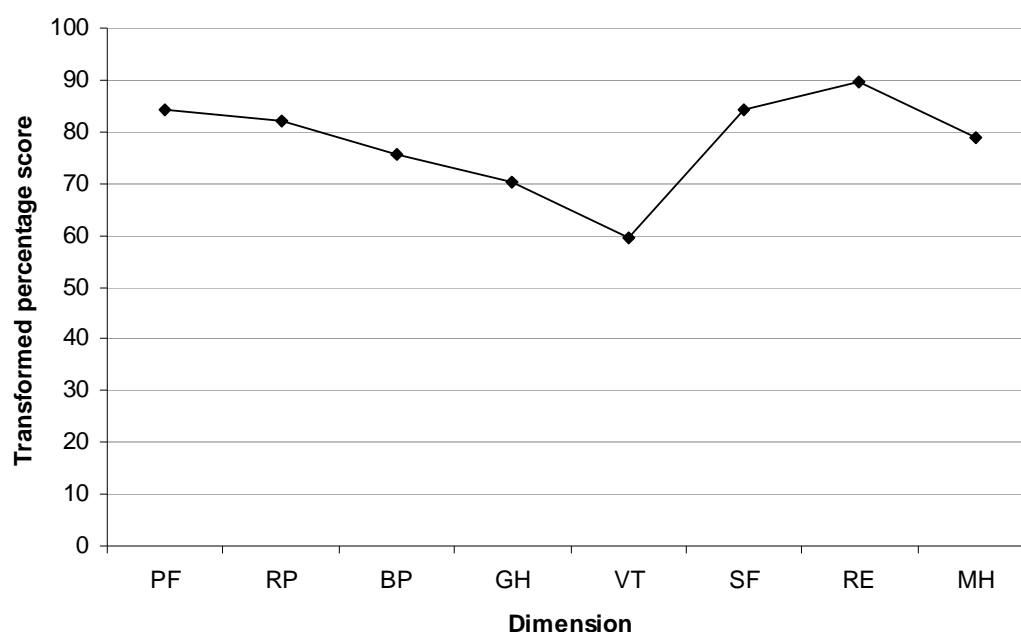
Figure 2.1: Frequency Distribution for SF-36V2 dimension scores, 2008

The SF-36V2 mean transformed percentage scores for each of the eight dimensions are provided for the overall SA population aged 15 years and over in Table 2.1 and Figure 2.2.

**Table 2.1: SF-36V2 norms, SA, aged 15 years and over**

	n	Mean	95% CI	Median	SD	Variance
<b>PF</b> Physical Functioning	3000	<b>84.4</b>	(83.6 – 85.2)	95.00	22.88	523.50
<b>RP</b> Role Physical	3019	<b>82.2</b>	(81.3 – 83.2)	100.00	27.08	733.46
<b>BP</b> Bodily Pain	3029	<b>75.6</b>	(74.8 – 76.4)	74.00	21.77	473.84
<b>GH</b> General health	3021	<b>70.1</b>	(69.3 – 70.9)	75.00	22.42	502.55
<b>VT</b> Vitality	3018	<b>59.6</b>	(58.9 – 60.4)	62.50	21.43	459.23
<b>SF</b> Social Functioning	3021	<b>84.2</b>	(83.3 – 85.1)	100.00	24.41	595.92
<b>RE</b> Role Emotional	3023	<b>89.6</b>	(88.9 – 90.3)	100.00	20.07	402.78
<b>MH</b> Mental Health	3016	<b>78.9</b>	(78.3 – 79.6)	85.00	17.74	314.88

Data source: 2008 Autumn HOS, aged 15 years and over



**Figure 2.2: 2008 SF-36V2 scores, SA, 15 years and over**

## 2.2 South Australian population by gender

Table 2.2 and Figure 2.3 present the mean SF-36V2 mean transformed percentage scores for each of the eight dimensions for male and female for the SA population aged 15 years and over.

**Table 2.2: SF-36V2 norms, SA, 15 years and over, by gender**

	n	Mean	95% CI	Median	SD	Variance
<b>Males</b>						
<b>PF</b> Physical Functioning	1466	<b>87.1</b>	(86.0 – 88.2)	95.00	21.21	449.72
<b>RP</b> Role Physical	1476	<b>83.8</b>	(82.4 – 85.2)	100.00	26.98	727.85
<b>BP</b> Bodily Pain	1478	<b>78.2</b>	(77.1 – 79.3)	84.00	21.00	441.04
<b>GH</b> General health	1472	<b>70.6</b>	(69.5 – 71.7)	77.00	21.95	481.90
<b>VT</b> Vitality	1472	<b>62.2</b>	(61.2 – 62.5)	62.50	20.73	429.75
<b>SF</b> Social Functioning	1472	<b>85.6</b>	(84.3 – 86.8)	100.00	24.21	586.21
<b>RE</b> Role Emotional	1476	<b>90.8</b>	(89.8 – 91.8)	100.00	19.44	377.83
<b>MH</b> Mental Health	1471	<b>80.6</b>	(79.7 – 81.5)	85.00	17.00	289.03
<b>Females</b>						
<b>PF</b> Physical Functioning	1535	<b>81.8</b> <sup>1</sup>	(80.6 – 83.0)	90.00	24.10	580.47
<b>RP</b> Role Physical	1543	<b>80.7</b> <sup>1</sup>	(79.4 – 82.1)	93.75	27.10	734.67
<b>BP</b> Bodily Pain	1551	<b>73.1</b> <sup>1</sup>	(72.0 – 74.2)	74.00	22.20	492.99
<b>GH</b> General health	1549	<b>69.6</b>	(68.4 – 70.7)	75.00	22.85	521.96
<b>VT</b> Vitality	1546	<b>57.2</b> <sup>1</sup>	(56.1 – 58.3)	62.50	21.80	475.24
<b>SF</b> Social Functioning	1548	<b>82.9</b> <sup>1</sup>	(81.7 – 84.2)	100.00	24.24	602.19
<b>RE</b> Role Emotional	1547	<b>88.5</b> <sup>1</sup>	(87.5 – 89.5)	100.00	20.60	424.30
<b>MH</b> Mental Health	1545	<b>77.4</b> <sup>1</sup>	(76.4 – 78.3)	85.00	18.29	334.63

Data source: 2008 Autumn HOS, aged 15 years and over

<sup>1</sup>: means **females** scored statistically significantly **lower** (t-test, p<0.05) than **males**.

Figure 2.3 shows that South Australian women had statistically significantly lower scores on seven of the eight SF-36V2 dimensions than men. The exception was the General Health dimension.

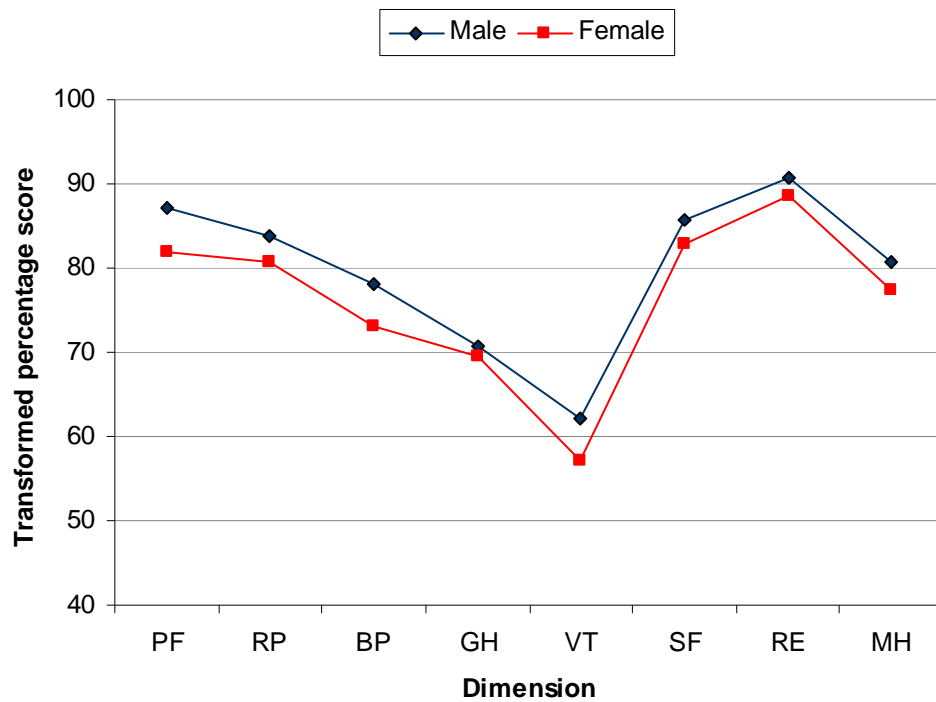


Figure 2.3: 2008 SF-36V2 scores, SA, 15 years and over, by gender

## 2.3 South Australian population by age group

Table 2.3 and Table 2.4 show the SF-36V2 mean transformed percentage scores by ten year age groups. The mean scores are shown in Figure 2.4. Analysis of the SF-36V2 scores shows that:

- > All four of the physical health dimensions, Physical Functioning, Role Physical, Bodily Pain, and General Health, statistically significantly decline with age;
- > All those over the age of 24 years had statistically significantly lower scores for the vitality dimension when compared to those 15 to 24 years of age; and
- > Those aged 45 to 54 years showed statistically significantly lower scores for mental health than those aged 65 to 74 years.

Table 2.3: SF-36V2 norms, SA, 15 years and over, by age group

	PF Physical Functioning	RP Role Physical	BP Bodily Pain	GH General Health	VT Vitality	SF Social Functioning	RE Role Emotional	MH Mental Health
<b>15 to 24 years</b>								
n	494	490	492	489	489	492	492	492
Mean	<b>94.9</b>	<b>90.5</b>	<b>83.2</b>	<b>75.60</b>	<b>66.0</b>	<b>88.1</b>	<b>91.1</b>	<b>79.8</b>
95% CI	(93.8 – 95.9)	(88.9 – 92.2)	(81.5 – 84.9)	(73.9 – 77.3)	(64.2 – 67.7)	(86.4 – 89.9)	(89.6 – 92.6)	(78.4 – 81.2)
Median	100.00	100.00	84.00	80.00	68.75	100.00	100.00	85.0
SD	12.12	18.29	19.27	18.71	19.57	19.86	16.91	15.80
Variance	147.00	334.48	371.34	350.01	383.19	394.50	286.00	249.55
<b>25 to 34 years</b>								
n	453	456	457	454	456	454	457	453
Mean	<b>94.2</b>	<b>89.0</b>	<b>80.3</b>	<b>76.2</b>	<b>59.7<sup>1</sup></b>	<b>86.5</b>	<b>91.1</b>	<b>79.6</b>
95% CI	(93.1 – 95.3)	(87.1 – 90.9)	(78.4 – 82.3)	(74.4 – 77.9)	(57.8 – 61.5)	(84.6 – 88.5)	(89.4 – 92.8)	(78.0 – 81.1)
Median	100.00	100.00	84.00	80.00	62.50	100.00	100.00	85.00
SD	11.77	20.80	21.10	19.05	20.37	21.09	18.17	16.66
Variance	138.55	432.48	445.30	362.98	414.98	444.65	330.29	277.50
<b>35 to 44 years</b>								
n	536	539	538	538	539	538	537	538
Mean	<b>91.2</b>	<b>87.5</b>	<b>77.1<sup>1</sup></b>	<b>72.4</b>	<b>58.8<sup>1</sup></b>	<b>85.1</b>	<b>89.7</b>	<b>78.1</b>
95% CI	(89.5 – 92.5)	(85.6 – 89.3)	(75.3 – 78.9)	(70.6 – 74.2)	(57.2 – 60.4)	(83.1 – 87.1)	(87.9 – 91.4)	(76.6 – 79.5)
Median	95.00	100.00	84.00	77.00	62.50	100.00	100.00	85.00
SD	15.26	22.11	21.26	21.42	18.89	23.05	20.38	17.21
Variance	233.03	489.09	452.11	458.71	356.81	531.22	415.57	296.28
<b>45 to 54 years</b>								
n	526	530	533	533	530	530	532	533
Mean	<b>84.1<sup>1,2,3</sup></b>	<b>81.1<sup>1,2,3</sup></b>	<b>73.8<sup>1,2</sup></b>	<b>68.7<sup>1,2</sup></b>	<b>58.5<sup>1</sup></b>	<b>80.5<sup>1,2,3,6</sup></b>	<b>87.7<sup>6</sup></b>	<b>77.4<sup>6</sup></b>
95% CI	(82.5 – 85.9)	(78.6 – 83.5)	(71.9 – 75.6)	(66.7 – 70.6)	(56.6 – 60.4)	(78.2 – 82.8)	(85.8 – 89.6)	(75.7 – 79.1)
Median	90.78	100.00	74.00	72.00	62.50	100.00	100.00	85.00
SD	21.16	28.69	21.64	22.72	22.11	27.13	22.15	19.93
Variance	447.84	823.34	468.37	516.14	488.86	735.91	490.86	397.39

Data source: 2008 Autumn HOS, aged 15 years and over

<sup>1</sup>: means statistically significantly **lower** (t-test, p<0.05) than **15 to 24 years** category<sup>2</sup>: means statistically significantly **lower** (t-test, p<0.05) than **25 to 34 years** category<sup>3</sup>: means statistically significantly **lower** (t-test, p<0.05) than **35 to 44 years** category<sup>6</sup>: means statistically significantly **lower** (t-test, p<0.05) than **65 to 74 years** category



Table 2.4: SF-36V2 norms, SA, 15 years and over, by age group, continued

	PF	RP	BP	GH	VT	SF	RE	MH
	Physical Functioning	Role Physical	Bodily Pain	General Health	Vitality	Social Functioning	Role Emotional	Mental Health
<b>55 to 64 years</b>								
<b>n</b>	431	435	436	436	435	436	435	434
<b>Mean</b>	<b>77.1</b> <sup>1,2,3,4</sup>	<b>75.8</b> <sup>1,2,3,4</sup>	<b>69.3</b> <sup>1,2,3,4</sup>	<b>64.8</b> <sup>1,2,3</sup>	<b>58.3</b> <sup>1</sup>	<b>82.2</b> <sup>1</sup>	<b>87.9</b> <sup>6</sup>	<b>77.9</b>
<b>95% CI</b>	(74.8 – 79.4)	(73.1 – 78.3)	(67.3 – 71.4)	(62.6 – 67.1)	(56.2 – 60.3)	(49.7 – 84.6)	(85.8 – 89.9)	(76.2 – 79.7)
<b>Median</b>	85.00	87.50	72.00	72.00	56.25	100.00	100.00	85.00
<b>SD</b>	24.28	29.45	21.72	24.12	21.98	25.98	21.57	18.62
<b>Variance</b>	589.39	867.16	471.94	581.60	483.20	674.76	465.31	346.80
<b>65 to 74 years</b>								
<b>n</b>	315	320	322	321	320	320	318	317
<b>Mean</b>	<b>76.0</b> <sup>1,2,3,4</sup>	<b>77.2</b> <sup>1,2,3</sup>	<b>71.2</b> <sup>1,2,3</sup>	<b>66.0</b> <sup>1,2,3</sup>	<b>61.1</b> <sup>1</sup>	<b>86.3</b> <sup>4</sup>	<b>92.3</b>	<b>81.8</b>
<b>95% CI</b>	(73.2 – 78.8)	(73.9 – 80.5)	(68.8 – 73.7)	(63.3 – 68.7)	(58.6 – 63.5)	(83.6 – 89.1)	(90.3 – 94.4)	(79.8 – 83.7)
<b>Median</b>	85.00	93.75	72.00	72.00	62.50	100.00	100.00	85.00
<b>SD</b>	24.83	29.81	20.00	24.49	22.36	24.81	19.04	17.93
<b>Variance</b>	616.78	888.82	493.22	599.92	499.87	615.44	362.36	321.52
<b>75 years and over</b>								
<b>n</b>	245	250	250	250	249	250	251	249
<b>Mean</b>	<b>54.5</b> <sup>1,2,3,4,5,6</sup>	<b>62.3</b> <sup>1,2,3,4,5,6</sup>	<b>69.3</b> <sup>1,2,3</sup>	<b>60.7</b> <sup>1,2,3,4</sup>	<b>51.9</b> <sup>1,2,3,4,5,6</sup>	<b>79.1</b> <sup>1,2,3,6</sup>	<b>87.4</b> <sup>1</sup>	<b>79.4</b>
<b>95% CI</b>	(50.5 – 58.4)	(58.0 – 66.6)	(66.4 – 72.0)	(57.7 – 63.7)	(48.8 – 55.0)	(75.5 – 82.8)	(84.7 – 90.1)	(77.3 – 81.6)
<b>Median</b>	60.00	68.75	70.87	67.00	56.25	100.00	100.00	85.00
<b>SD</b>	31.38	34.68	21.85	23.84	24.83	29.20	21.60	17.27
<b>Variance</b>	984.67	1202.50	477.48	568.74	616.42	852.66	466.62	298.32

Data source: 2008 Autumn HOS, aged 15 years and over

<sup>1</sup> : means statistically significantly **lower** (t-test, p<0.05) than **15 to 24 years** category<sup>2</sup> : means statistically significantly **lower** (t-test, p<0.05) than **25 to 34 years** category<sup>3</sup> : means statistically significantly **lower** (t-test, p<0.05) than **35 to 44 years** category<sup>4</sup> : means statistically significantly **lower** (t-test, p<0.05) than **45 to 54 years** category<sup>5</sup> : means statistically significantly **lower** (t-test, p<0.05) than **55 to 64 years** category<sup>6</sup> : means statistically significantly **lower** (t-test, p<0.05) than **65 to 74 years** category<sup>7</sup> : means statistically significantly **lower** (t-test, p<0.05) than **75 years and over** category

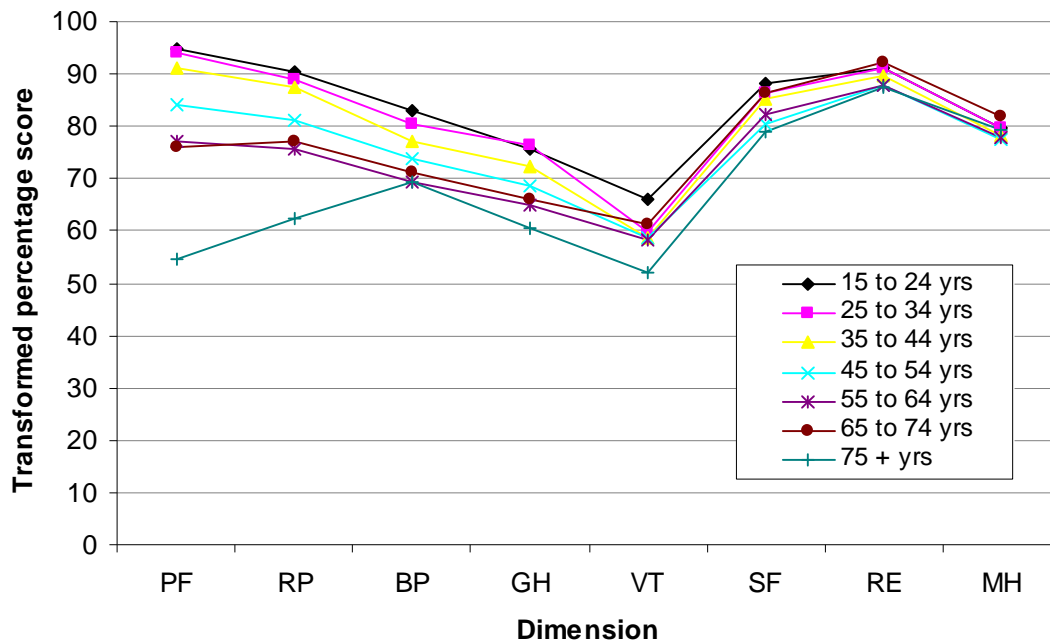


Figure 2.4: 2008 SF-36V2 scores, SA, 15 years and over, by age group

## 2.4 South Australian population by gender and age group

The SF-36V2 mean transformed percentage scores, by age group, are shown in Table 2.5 and Table 2.6 for males, and for females in Table 2.7 and Table 2.8.

Table 2.5: SF-36V2 norms, SA, males 15 years and over, by age group

	PF Physical Functioning	RP Role Physical	BP Bodily Pain	GH General Health	VT Vitality	SF Social Functioning	RE Role Emotional	MH Mental Health
<b>15 to 24 years</b>								
n	253	252	253	250	252	253	253	253
Mean	<b>95.1</b>	<b>91.8</b>	<b>85.7</b>	<b>77.9</b>	<b>68.7</b>	<b>89.6</b>	<b>93.6</b>	<b>82.5</b>
95% CI	(93.4 – 96.7)	(89.52 – 94.14)	(83.6 – 87.7)	(75.6 – 80.1)	(66.5 – 70.9)	(87.0 – 92.2)	(91.8 – 95.4)	(80.7 – 84.3)
Median	100.00	100.00	100.00	82.00	68.75	100.00	100.00	85.00
SD	13.44	18.64	17.38	17.88	17.58	20.84	14.65	14.55
Variance	180.57	247.50	301.94	319.62	309.28	434.21	214.75	211.80
<b>25 to 34 years</b>								
n	226	229	229	226	229	226	229	225
Mean	<b>90.6</b>	<b>90.0</b>	<b>82.1</b>	<b>77.3</b>	<b>63.7</b>	<b>88.2</b>	<b>92.3</b>	<b>81.7</b>
95% CI	(93.1 – 96.2)	(87.1 – 92.8)	(79.3 – 84.9)	(74.9 – 79.7)	(61.1 – 66.3)	(85.5 – 90.8)	(90.0 – 94.7)	(79.4 – 83.9)
Median	100.00	100.00	84.00	82.00	68.75	100.00	100.00	85.00
SD	12.10	22.16	21.36	18.21	20.08	20.33	17.89	17.10
Variance	146.46	490.97	456.25	331.61	403.04	413.41	319.99	292.40
<b>35 to 44 years</b>								
n	267	267	266	267	267	267	265	267
Mean	<b>93.9</b> <sup>5,7</sup>	<b>89.3</b>	<b>79.2</b> <sup>1,7</sup>	<b>72.2</b> <sup>1</sup>	<b>60.9</b> <sup>1</sup>	<b>86.9</b>	<b>90.8</b>	<b>79.1</b> <sup>6</sup>
95% CI	(92.5 – 95.2)	(86.8 – 91.8)	(76.7 – 81.7)	(69.9 – 75.6)	(58.7 – 63.0)	(84.3 – 89.6)	(88.5 – 93.2)	(77.1 – 81.1)
Median	100.00	100.00	84.00	77.00	62.50	100.00	100.00	85.00
SD	11.16	20.50	20.52	19.25	17.87	22.07	19.50	16.64
Variance	124.51	420.07	421.36	370.61	319.18	487.18	380.15	276.90
<b>45 to 54 years</b>								
n	258	263	263	263	261	260	263	262
Mean	<b>85.9</b> <sup>1,2,3</sup>	<b>81.5</b> <sup>1,2,3</sup>	<b>76.4</b> <sup>1,2</sup>	<b>69.1</b> <sup>1,2</sup>	<b>61.0</b> <sup>1</sup>	<b>81.5</b> <sup>1,2,6</sup>	<b>87.8</b> <sup>1,6</sup>	<b>78.5</b> <sup>6</sup>
95% CI	(83.2 – 88.5)	(77.9 – 85.1)	(73.90 – 78.95)	(66.3 – 71.9)	(58.4 – 63.7)	(78.2 – 84.8)	(85.1 – 90.4)	(76.4 – 81.1)
Median	95.00	100.00	84.00	75.00	62.50	100.00	100.00	85.00
SD	21.18	29.65	20.84	22.84	21.75	26.93	21.81	18.97
Variance	448.68	878.98	434.51	521.80	472.99	725.51	475.50	359.76

Data source: 2008 Autumn HOS, aged 15 years and over

<sup>1</sup>: means statistically significantly **lower** (t-test, p<0.05) than **15 to 24 years** category<sup>5</sup>: means statistically significantly **lower** (t-test, p<0.05) than **55 to 64 years** category<sup>6</sup>: means statistically significantly **lower** (t-test, p<0.05) than **65 to 74 years** category<sup>7</sup>: means statistically significantly **lower** (t-test, p<0.05) than **75 years and over** category

Table 2.6: SF-36V2 norms, SA, males 15 years and over, by age group, continued

	PF	RP	BP	GH	VT	SF	RE	MH
	Physical Functioning	Role Physical	Bodily Pain	General Health	Vitality	Social Functioning	Role Emotional	Mental Health
<b>55 to 64 years</b>								
n	213	214	215	215	215	215	215	215
Mean	<b>79.6</b> <sup>1,2,3,4</sup>	<b>76.4</b> <sup>1,2,3</sup>	<b>71.6</b> <sup>1,2,3</sup>	<b>63.0</b> <sup>1,2,3,4</sup>	<b>59.5</b> <sup>1</sup>	<b>80.7</b> <sup>1,2,6</sup>	<b>87.6</b> <sup>1,6</sup>	<b>78.5</b> <sup>6</sup>
95% CI	(76.2 – 82.9)	(72.4 – 80.5)	(68.7 – 74.5)	(59.7 – 66.2)	(56.6 – 62.3)	(77.1 – 84.6)	(84.5 – 90.6)	(75.9 – 81.0)
Median	90.00	93.75	72.00	72.00	61.05	100.00	100.00	85.00
SD	24.95	30.22	21.43	23.86	21.17	28.04	22.85	18.78
Variance	622.37	913.20	459.19	569.33	448.16	786.50	522.34	352.75
<b>65 to 74 years</b>								
n	141	143	143	143	142	143	142	141
Mean	<b>80.0</b> <sup>1,2,3,4</sup>	<b>80.0</b> <sup>1,2,3</sup>	<b>75.2</b> <sup>1,2</sup>	<b>66.5</b> <sup>1,2,3</sup>	<b>64.3</b>	<b>89.8</b>	<b>94.6</b>	<b>84.7</b>
95% CI	(76.07 – 83.9)	(75.2 – 84.8)	(71.9 – 78.6)	(62.4 – 70.5)	(60.6 – 68.0)	(86.2 – 93.3)	(91.8 – 97.4)	(82.3 – 87.2)
Median	90.00	93.75	74.00	72.00	68.75	100.00	100.00	90.00
SD	23.52	29.01	20.44	24.61	22.28	21.52	16.78	14.59
Variance	553.06	841.42	417.65	605.69	496.50	463.23	281.44	212.93
<b>75 years and over</b>								
n	107	109	109	108	108	108	109	108
Mean	<b>62.7</b> <sup>1,2,3,4,5,6</sup>	<b>63.5</b> <sup>1,2,3,4,5,6</sup>	<b>80.0</b> <sup>1,2</sup>	<b>60.3</b> <sup>1,2,3,4</sup>	<b>52.9</b> <sup>1,2,3,4,6</sup>	<b>80.7</b> <sup>1,6</sup>	<b>89.3</b>	<b>80.9</b>
95% CI	(56.9 – 68.5)	(57.0 – 70.0)	(66.8 – 75.2)	(55.7 – 64.8)	(48.2 – 57.6)	(75.3 – 86.2)	(85.4 – 93.1)	(77.8 – 83.9)
Median	70.10	68.75	72.00	67.00	56.25	100.00	100.00	85.00
SD	30.28	34.19	22.18	23.72	21.86	28.67	20.24	15.92
Variance	917.03	1169.00	492.13	562.61	618.23	821.92	409.78	253.47

Data source: 2008 Autumn HOS, aged 15 years and over

<sup>1</sup>: means statistically significantly **lower** (t-test, p<0.05) than **15 to 24 years** category<sup>2</sup>: means statistically significantly **lower** (t-test, p<0.05) than **25 to 34 years** category<sup>3</sup>: means statistically significantly **lower** (t-test, p<0.05) than **35 to 44 years** category<sup>4</sup>: means statistically significantly **lower** (t-test, p<0.05) than **45 to 54 years** category<sup>5</sup>: means statistically significantly **lower** (t-test, p<0.05) than **55 to 64 years** category<sup>6</sup>: means statistically significantly **lower** (t-test, p<0.05) than **65 to 74 years** category<sup>7</sup>: means statistically significantly **lower** (t-test, p<0.05) than **75 years and over** category

Table 2.7: SF-36V2 norms, SA, females, 15 years and over, by age group

	PF Physical Functioning	RP Role Physical	BP Bodily Pain	GH General Health	VT Vitality	SF Social Functioning	RE Role Emotional	MH Mental Health
<b>15 to 24 years</b>								
n	241	238	239	239	237	239	239	239
Mean	<b>94.6</b>	<b>89.2</b>	<b>80.5</b>	<b>73.2</b>	<b>63.1</b>	<b>85.6</b>	<b>88.5</b>	<b>76.9</b>
95% CI	(93.3 – 96.0)	(86.9 – 91.5)	(77.8 – 83.1)	(70.8 – 75.7)	(60.4 – 65.8)	(84.2 – 88.9)	(86.1 – 90.8)	(74.8 – 79.0)
Median	100.00	100.00	84.00	77.00	68.75	100.00	100.00	80.00
SD	10.59	17.85	20.80	19.29	21.14	18.69	18.67	16.56
Variance	112.22	318.49	432.22	372.08	447.06	349.48	348.71	274.41
<b>25 to 34 years</b>								
n	226	227	228	228	228	228	228	228
Mean	<b>93.7</b>	<b>88.0</b>	<b>78.5</b>	<b>75.1</b>	<b>55.6<sup>1</sup></b>	<b>84.8</b>	<b>89.9</b>	<b>77.5</b>
95% CI	(92.2 – 95.2)	(85.5 – 90.6)	(75.8 – 81.2)	(72.5 – 77.7)	(53.0 – 58.19)	(82.0 – 87.3)	(84.5 – 92.3)	(75.4 – 79.6)
Median	100.00	100.00	84.00	77.00	56.25	100.00	100.00	80.00
SD	11.44	19.33	20.73	19.83	19.90	21.73	18.41	15.98
Variance	130.83	373.52	429.84	393.20	395.62	472.06	339.00	255.34
<b>35 to 44 years</b>								
n	269	272	272	271	272	271	271	272
Mean	<b>88.6<sup>1</sup></b>	<b>85.6</b>	<b>75.0</b>	<b>72.5</b>	<b>56.8<sup>1</sup></b>	<b>83.3</b>	<b>88.6</b>	<b>77.1</b>
95% CI	(86.5 – 90.8)	(82.8 – 88.4)	(72.4 – 77.6)	(69.7 – 75.3)	(54.4 – 59.1)	(80.4 – 86.1)	(86.0 – 91.1)	(75.0 – 79.2)
Median	95.00	100.00	74.00	77.00	62.50	100.00	100.00	80.00
SD	18.10	23.49	21.79	23.39	19.66	23.87	21.19	17.73
Variance	327.68	551.77	475.02	546.94	386.59	569.92	449.22	314.35
<b>45 to 54 years</b>								
n	268	267	271	270	270	270	270	271
Mean	<b>82.3<sup>1,2,3</sup></b>	<b>80.5<sup>1,2</sup></b>	<b>71.2<sup>1,2</sup></b>	<b>68.2<sup>2</sup></b>	<b>56.1<sup>1</sup></b>	<b>79.5<sup>1</sup></b>	<b>87.6</b>	<b>76.1</b>
95% CI	(79.7 – 84.8)	(77.2 – 83.9)	(68.5 – 73.8)	(65.5 – 70.9)	(53.4 – 58.7)	(76.3 – 82.8)	(84.9 – 90.3)	(73.6 – 78.6)
Median	90.00	100.00	72.00	72.00	56.25	100.00	100.00	85.00
SD	21.03	27.77	22.12	22.63	22.22	27.32	22.53	20.78
Variance	442.15	771.24	489.75	512.13	493.86	746.76	507.63	431.82

Data source: 2008 Autumn HOS, aged 15 years and over

<sup>1</sup> : means statistically significantly **lower** (t-test, p<0.05) than **15 to 24 years** category<sup>2</sup> : means statistically significantly **lower** (t-test, p<0.05) than **25 to 34 years** category<sup>3</sup> : means statistically significantly **lower** (t-test, p<0.05) than **35 to 44 years** category

Table 2.8: SF-36V2 norms, SA, females, 15 years and over, by age group, continued

	PF	RP	BP	GH	VT	SF	RE	MH
	Physical Functioning	Role Physical	Bodily Pain	General Health	Vitality	Social Functioning	Role Emotional	Mental Health
<b>55 to 64 years</b>								
n	218	221	221	221	220	221	220	219
Mean	<b>74.6</b> <sup>1,2,3,4</sup>	<b>75.2</b> <sup>1,2,3</sup>	<b>67.1</b> <sup>1,2,3</sup>	<b>66.6</b> <sup>1,2</sup>	<b>57.1</b> <sup>1</sup>	<b>83.5</b>	<b>88.2</b>	<b>77.5</b>
95% CI	(71.5 – 77.7)	(71.4 – 79.0)	(64.2 – 70.0)	(63.4 – 69.8)	(54.1 – 60.1)	(80.3 – 86.6)	(85.5 – 90.9)	(75.0 – 80.0)
Median	80.00	87.50	62.00	72.00	56.25	100.00	100.00	85.00
SD	23.40	28.74	21.83	24.28	22.73	23.79	20.28	18.49
Variance	547.66	825.75	476.50	589.47	516.85	565.93	411.35	342.07
<b>65 to 74 years</b>								
n	174	177	178	177	178	177	176	176
Mean	<b>72.8</b> <sup>1,2,3,4</sup>	<b>74.9</b> <sup>1,2,3</sup>	<b>68.1</b> <sup>1,2,3</sup>	<b>65.7</b> <sup>1,2,3</sup>	<b>58.5</b>	<b>83.5</b>	<b>90.4</b>	<b>79.4</b>
95% CI	(70.0 – 76.6)	(70.4 – 79.4)	(64.7 – 71.5)	(62.0 – 69.3)	(55.2 – 61.8)	(79.5 – 87.5)	(87.3 – 93.5)	(76.4 – 82.3)
Median	80.00	89.26	72.00	72.00	62.50	100.00	100.0	85.00
SD	25.47	30.43	23.10	24.46	22.15	26.90	20.53	19.93
Variance	648.67	920.70	533.64	598.37	490.59	723.88	421.57	397.41
<b>75 years and over</b>								
n	138	141	141	143	141	141	143	140
Mean	<b>48.1</b> <sup>1,2,3,4,5,6</sup>	<b>61.4</b> <sup>1,2,3,4,5,6</sup>	<b>67.9</b> <sup>1,2,3</sup>	<b>61.1</b> <sup>1,2,3,4</sup>	<b>51.2</b> <sup>1,6</sup>	<b>77.9</b> <sup>1</sup>	<b>86.0</b>	<b>78.3</b>
95% CI	(42.9 – 53.3)	(55.5 – 67.2)	(64.4 – 71.5)	(57.1 – 65.0)	(47.1 – 55.3)	(73.0 – 82.8)	(82.2 – 89.7)	(75.3 – 81.3)
Median	50.00	62.50	62.00	66.00	56.25	100.00	100.00	85.00
SD	30.84	35.14	21.58	24.02	24.86	29.64	22.55	18.22
Variance	951.36	1234.70	465.59	577.11	618.14	878.72	508.41	332.14

Data source: 2008 Autumn HOS, aged 15 years and over

<sup>1</sup>: means statistically significantly **lower** (t-test, p<0.05) than **15 to 24 years** category<sup>2</sup>: means statistically significantly **lower** (t-test, p<0.05) than **25 to 34 years** category<sup>3</sup>: means statistically significantly **lower** (t-test, p<0.05) than **35 to 44 years** category<sup>4</sup>: means statistically significantly **lower** (t-test, p<0.05) than **45 to 54 years** category<sup>5</sup>: means statistically significantly **lower** (t-test, p<0.05) than **55 to 64 years** category<sup>6</sup>: means statistically significantly **lower** (t-test, p<0.05) than **65 to 74 years** category<sup>7</sup>: means statistically significantly **lower** (t-test, p<0.05) than **75 years and over** category

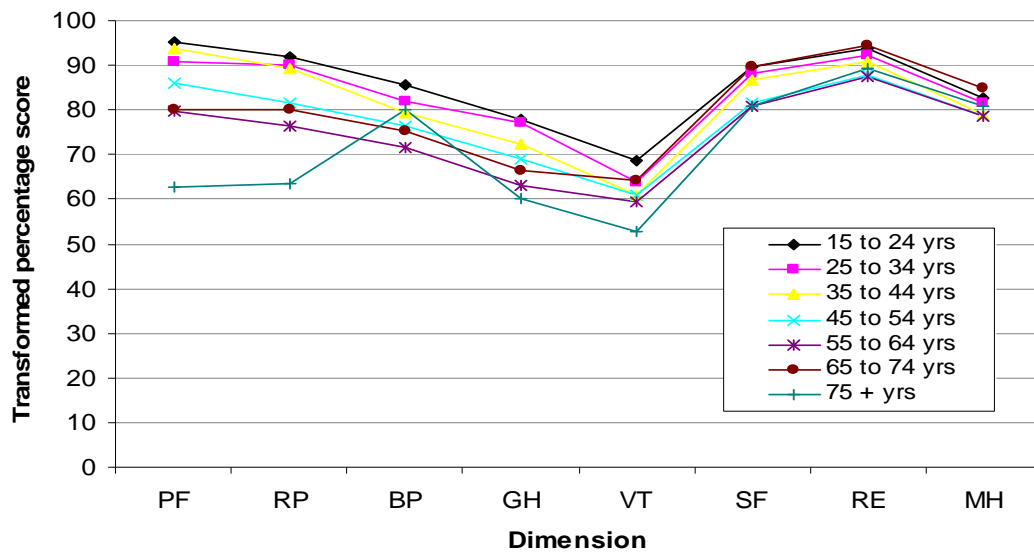


Figure 2.5: 2008 SF-36V2 scores, SA males aged 15 years and over, by age group

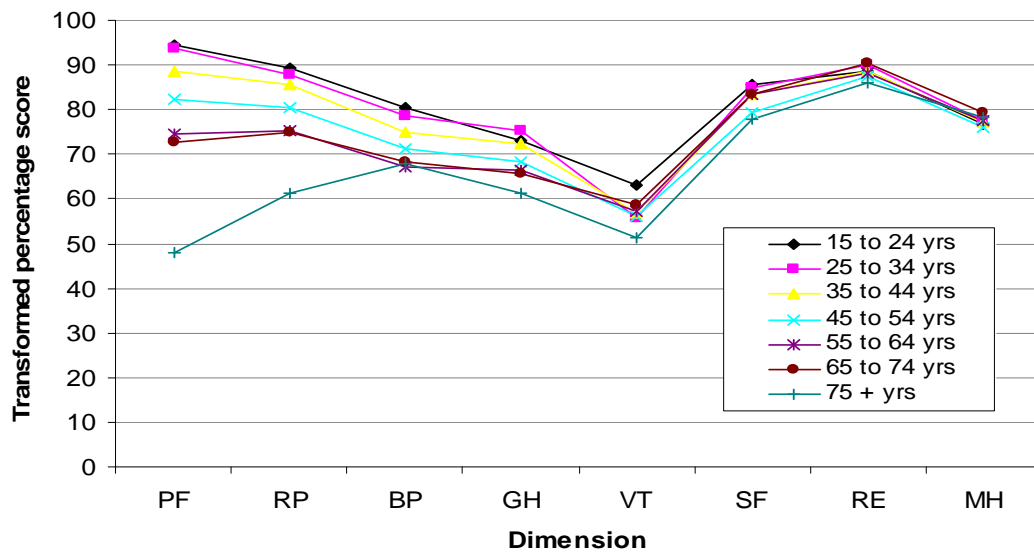


Figure 2.6: 2008 SF-36V2 scores, SA females aged 15 years and over, by age group

## 2.5 Population Trend

The SF-36 instrument has been used in four previous years in the South Australian HOS: 1994; 1995; 1998; and 2002, with SF-36V2 being used for first time in 2002. As the SF-36V2 includes different categories and question wording to the original SF-36, it is not possible to directly compare the results in 2004 and 2008 to those in previous years. However, general comparisons have been made below in Table 2.9 for the purposes of this report.

**Table 2.9: SF-36 mean scores (95% confidence interval of the mean) for the general South Australian population, aged 15 years and over, by year**

	<b>PF</b> Physical Functioning	<b>RP</b> Role Physical	<b>BP</b> Bodily Pain	<b>GH</b> General Health	<b>VT</b> Vitality	<b>SF</b> Social Functioning	<b>RE</b> Role Emotional	<b>MH</b> Mental Health
<b>1994</b>	<b>85.4</b> (84.7-86.2)	<b>80.2</b> (79.0-81.5)	<b>77.2</b> (76.3-78.1)	<b>73.2</b> (72.4-74.0)	<b>64.0</b> (63.2-64.8)	<b>88.2</b> (87.5-89.0)	<b>87.5</b> (86.4-88.5)	<b>78.7</b> (78.1-79.3)
<b>1995</b>	<b>86.4</b> (85.7-87.2)	<b>80.3</b> (79.0-81.6)	<b>77.1</b> (76.2-78.1)	<b>73.9</b> (73.1-74.7)	<b>63.9</b> (63.2-64.6)	<b>88.5</b> (87.7-89.3)	<b>88.9</b> (87.9-89.9)	<b>80.0</b> (79.4-80.6)
<b>1998</b>	<b>83.0</b> (82.2-83.7)	<b>79.8</b> (78.5-81.1)	<b>76.5</b> (75.6-77.4)	<b>73.9</b> (73.2-74.7)	<b>64.3</b> (63.6-65.1)	<b>87.9</b> (87.1-88.7)	<b>87.8</b> (86.8-88.9)	<b>80.0</b> (79.4-80.6)
<b>2002</b>	<b>84.7</b> (83.9-85.4)	<b>76.8</b> (75.5-78.1)	<b>75.9</b> (75.0-76.8)	<b>72.4</b> (71.6-73.2)	<b>63.3</b> (62.5-64.1)	<b>87.1</b> (86.3-87.9)	<b>86.8</b> (85.7-87.8)	<b>80.0</b> (79.4-80.6)
<b>2008</b>	<b>84.4</b> (83.6-85.2)	<b>82.2</b> (81.3-83.2)	<b>75.6</b> (74.8-76.4)	<b>70.1</b> (69.3-70.9)	<b>59.6</b> (58.9-60.4)	<b>84.2</b> (83.3-85.1)	<b>89.6</b> (88.9-90.3)	<b>78.9</b> (78.3-79.6)



## **CHAPTER 3: SF-36 VERSION 2 PERCENTAGE SCORES BY DEMOGRAPHIC GROUP**

### 3.1 Demographics

This section presents the South Australian SF-36V2 mean transformed percentage scores by the various demographic groups:

- > Area of residence;
- > Aboriginal or Torres Strait Islander status;
- > Highest education attainment;
- > Australian Bureau of Statistics SEIFA – Index of Relative Socio-economic Disadvantage (IRSD);
- > Employment status;
- > Marital status; and
- > Gross annual household income.

### 3.1.1 Area of residence

Overall, 26.3% (n=799) of people aged 15 years and over in South Australia lived in rural or remote parts of the state, and 73.7% (n=2235) lived in metropolitan areas.

Table 3.1 and Figure 3.1 show the SF-36 transformed percentage scores, and 95% confidence intervals, for the area of residence. Those living in rural and remote South Australia had statistically significantly lower scores for the Physical Functioning, Bodily Pain, General Health, and Social Functioning dimensions when compared to those living in Metropolitan areas. For the four other dimensions (Role Physical, Vitality, Role Emotional, and Mental Health) there were no significant differences between the two groups.

**Table 3.1: SF-36V2 mean scores, SA, 15 years and over, by area of residence**

	n	Mean	95% CI	Median	SD	Variance
<b>Metropolitan (n=2235)</b>						
<b>PF</b> Physical Functioning	2214	<b>85.2</b>	(84.3 – 86.1)	95.00	22.25	495.29
<b>RP</b> Role Physical	2222	<b>82.5</b>	(81.3 – 83.6)	100.00	26.96	727.04
<b>BP</b> Bodily Pain	2230	<b>76.3</b>	(75.4 – 77.1)	80.28	21.44	459.64
<b>GH</b> General health	2224	<b>70.7</b>	(69.8 – 71.6)	77.00	22.31	497.81
<b>VT</b> Vitality	2221	<b>59.7</b>	(58.8 – 60.5)	62.50	21.25	451.61
<b>SF</b> Social Functioning	2227	<b>84.8</b>	(83.8 – 85.8)	100.00	24.42	596.29
<b>RE</b> Role Emotional	2226	<b>89.9</b>	(89.1 – 90.8)	100.00	20.15	406.13
<b>MH</b> Mental Health	2219	<b>78.8</b>	(78.1 – 79.6)	85.00	17.79	316.63
<b>Rural and Remote South Australia (n=799)</b>						
<b>PF</b> Physical Functioning	786	<b>82.1</b> <sup>1</sup>	(80.3 – 83.8)	95.00	24.42	496.36
<b>RP</b> Role Physical	797	<b>81.5</b>	(79.6 – 83.4)	100.00	27.41	751.59
<b>BP</b> Bodily Pain	799	<b>73.8</b> <sup>1</sup>	(72.2 – 75.3)	74.00	22.57	509.44
<b>GH</b> General health	797	<b>68.4</b> <sup>1</sup>	(66.8 – 70.0)	72.00	22.64	512.55
<b>VT</b> Vitality	797	<b>59.6</b>	(58.0 – 61.1)	62.50	21.93	481.07
<b>SF</b> Social Functioning	793	<b>82.6</b> <sup>1</sup>	(80.9 – 84.3)	100.00	24.33	592.18
<b>RE</b> Role Emotional	796	<b>88.7</b>	(87.3 – 90.1)	100.00	19.82	392.80
<b>MH</b> Mental Health	797	<b>79.2</b>	(78.0 – 80.5)	85.00	17.61	310.28

Data source: 2008 Autumn HOS, aged 15 years and over

<sup>1</sup>: means statistically significantly **lower** (t-test, p<0.05) than **metropolitan South Australia** category.

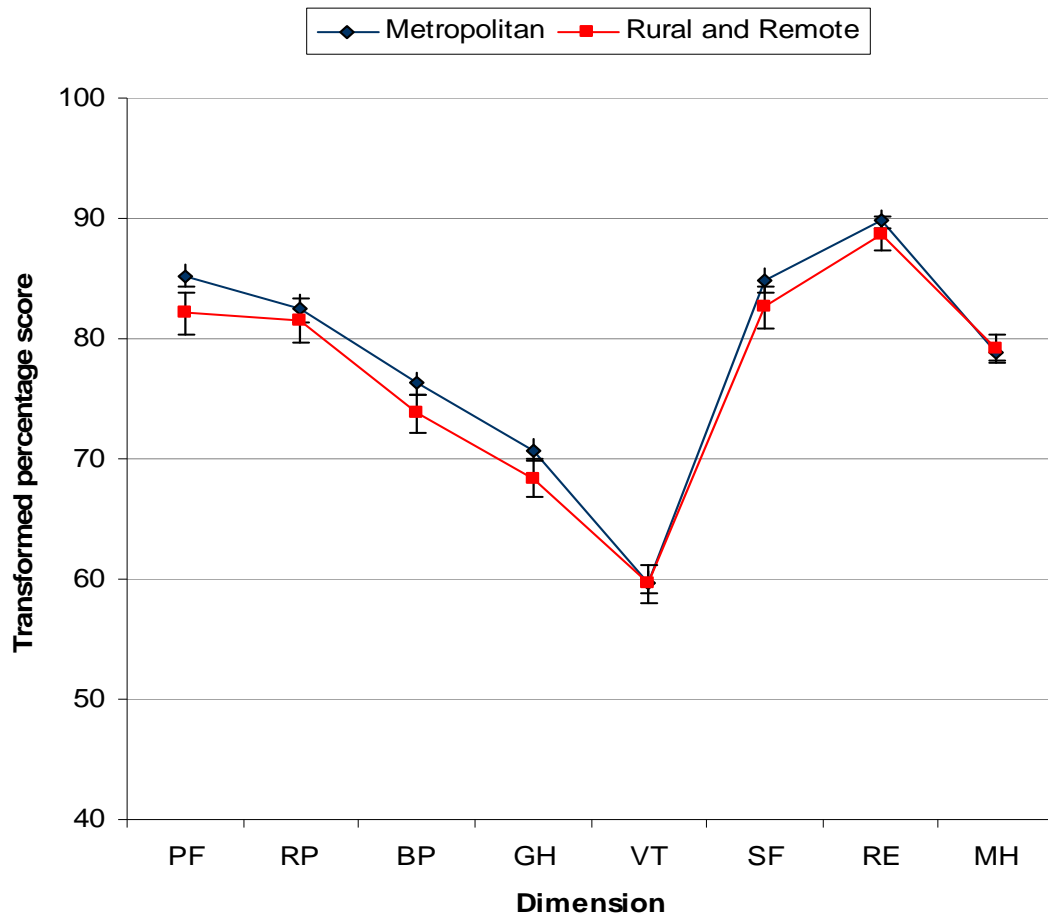


Figure 3.1: SF-36V2 mean scores, SA, 15 years and over, by area of residence

### 3.1.2 Aboriginal or Torres Strait Islander status

Overall, 3.1% (n=70) of people aged 15 years and over in South Australia identified themselves as Aboriginal or Torres Strait Islander (ATSI).

Table 3.2 and Figure 3.2 show the SF-36 transformed percentage scores, and 95% confidence intervals, for ATSI origin. It was shown that those people of ATSI origin had statistically significantly lower scores for the Role Emotional and Mental Health dimensions when compared to those of non ATSI origin.

**Table 3.2: SF-36V2 mean scores, SA, by ATSI status, 15 years and over**

	n	Mean	95% CI	Median	SD	Variance
<b>ATSI (n=70)</b>						
<b>PF</b> Physical Functioning	68	<b>87.5</b>	(82.2 – 92.8)	95.00	21.81	475.96
<b>RP</b> Role Physical	69	<b>81.2</b>	(74.8 – 87.6)	93.75	26.62	708.63
<b>BP</b> Bodily Pain	69	<b>75.2</b>	(69.9 – 80.5)	74.00	21.87	478.41
<b>GH</b> General health	66	<b>66.9</b>	(61.4 – 72.4)	72.00	22.31	497.68
<b>VT</b> Vitality	69	<b>57.4</b>	(52.1 – 62.7)	62.50	21.93	480.98
<b>SF</b> Social Functioning	68	<b>81.6</b>	(74.9 – 88.3)	100.00	27.76	770.56
<b>RE</b> Role Emotional	69	<b>81.7</b> <sup>1</sup>	(75.2 – 88.2)	100.00	27.09	734.07
<b>MH</b> Mental Health	68	<b>74.5</b> <sup>1</sup>	(69.4 – 79.7)	85.00	21.44	459.71
<b>Non ATSI (n=2207)</b>						
<b>PF</b> Physical Functioning	2188	<b>85.3</b>	(84.3 – 86.2)	95.00	21.98	483.03
<b>RP</b> Role Physical	2201	<b>83.4</b>	(82.3 – 84.5)	100.00	25.81	666.32
<b>BP</b> Bodily Pain	2207	<b>75.5</b>	(74.6 – 76.4)	74.00	21.41	458.52
<b>GH</b> General health	2201	<b>70.5</b>	(69.6 – 71.9)	77.00	21.78	474.58
<b>VT</b> Vitality	2198	<b>59.5</b>	(58.6 – 60.2)	62.50	21.20	449.48
<b>SF</b> Social Functioning	2197	<b>84.8</b>	(83.8 – 85.8)	100.00	23.66	559.81
<b>RE</b> Role Emotional	2202	<b>90.0</b>	(89.2 – 90.8)	100.00	19.60	384.13
<b>MH</b> Mental Health	2196	<b>79.2</b>	(78.4 – 79.9)	85.00	17.43	303.71

Data source: 2008 Autumn HOS, aged 15 years and over

Don't know/refused category (n=8) not reported.

<sup>1</sup> : means statistically significantly **lower** (t-test, p<0.05) than **non ATSI** category.

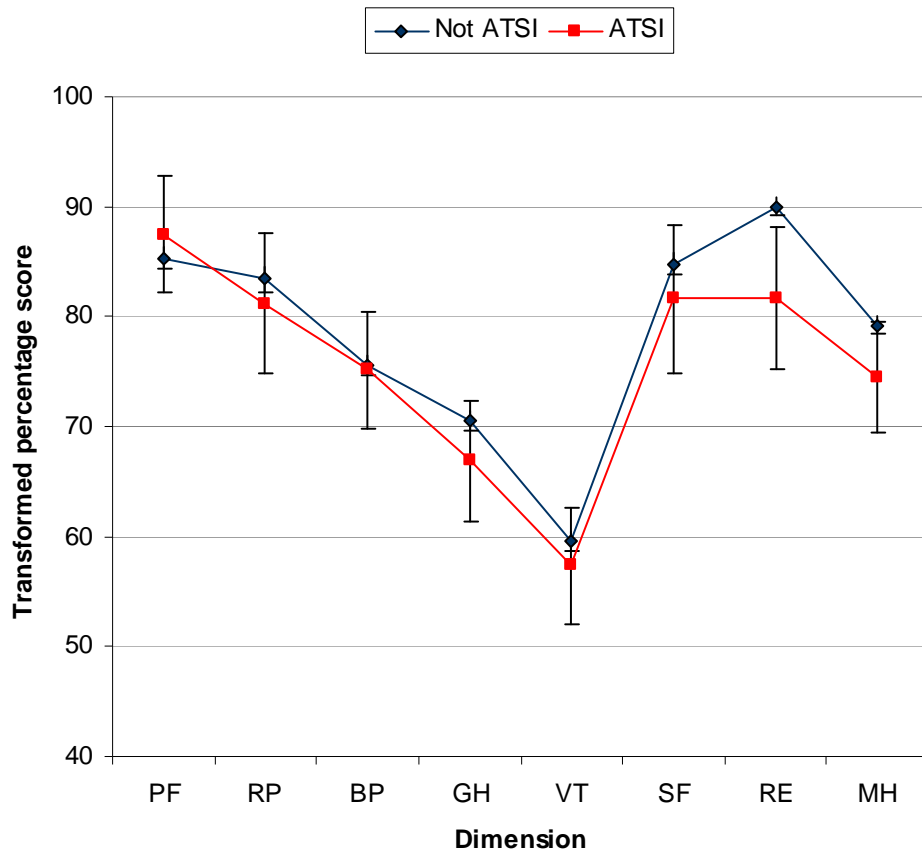


Figure 3.2: SF-36V2 mean scores, SA, by ATSI status, 15 years and over

### 3.1.3 Highest educational attainment

Overall, 60.5% (n=1836) of people aged 15 years and over in South Australia had completed secondary schooling as their highest educational attainment, or were still studying; 21.2% (n=645) have completed a trade, certificate, or diploma; and 18.2% (n=552) had completed a degree or higher.

Table 3.3 and Figure 3.3 show the SF-36 transformed percentage scores, and 95% confidence intervals, for highest educational attainment of respondent. People who had completed secondary school as their highest educational attainment, or who were still studying, had statistically significantly lower scores for all the eight dimensions when compared to those who had completed a Degree or higher; and statistically significantly lower scores for four of the dimensions (Physical Functioning, Role Physical, General Health, and Role Emotional) when compared to those having a trade, certificate or diploma as their highest educational attainment.

**Table 3.3: SF-36V2 norms, SA, 15 years and over, by highest educational attainment**

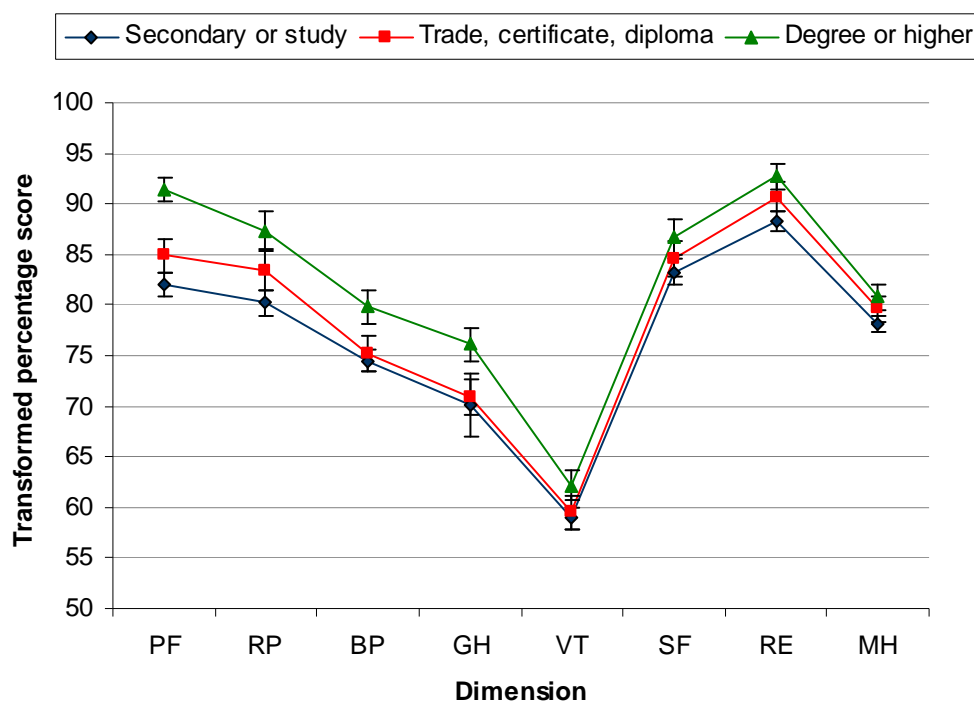
	<b>PF</b> Physical Functioning	<b>RP</b> Role Physical	<b>BP</b> Bodily Pain	<b>GH</b> General Health	<b>VT</b> Vitality	<b>SF</b> Social Functioning	<b>RE</b> Role Emotional	<b>MH</b> Mental Health
<b>Bachelor degree or higher (n=552)</b>								
<b>n</b>	549	552	552	551	552	550	550	551
<b>Mean</b>	<b>91.4</b>	<b>87.4</b>	<b>79.8</b>	<b>76.1</b>	<b>62.2</b>	<b>86.7</b>	<b>92.7</b>	<b>80.8</b>
<b>95% CI</b>	(90.2 - 92.7)	(85.6 - 89.2)	(78.2 - 81.4)	(74.5 - 77.6)	(60.7 - 63.7)	(85.0 - 88.5)	(91.4 - 94.0)	(79.5 - 82.0)
<b>Trade, certificate or diploma (n=645)</b>								
<b>n</b>	637	644	644	644	644	644	643	644
<b>Mean</b>	<b>84.9<sup>2</sup></b>	<b>83.4<sup>2</sup></b>	<b>75.2<sup>2</sup></b>	<b>70.9<sup>2</sup></b>	<b>59.5<sup>2</sup></b>	<b>84.6</b>	<b>90.7</b>	<b>79.6</b>
<b>95% CI</b>	(83.2 - 86.4)	(81.4 - 85.3)	(73.5 - 76.8)	(69.2 - 72.6)	(57.9 - 61.0)	(82.8 - 86.5)	89.3 - 92.1)	(78.4 - 80.8)
<b>Secondary or still studying (n=1836)</b>								
<b>n</b>	1813	1822	1833	1825	1821	1825	1828	1821
<b>Mean</b>	<b>82.1<sup>1,2</sup></b>	<b>80.2<sup>1,2</sup></b>	<b>74.5<sup>2</sup></b>	<b>70.1<sup>1,2</sup></b>	<b>58.9<sup>2</sup></b>	<b>83.3<sup>2</sup></b>	<b>88.3<sup>1,2</sup></b>	<b>78.1<sup>2</sup></b>
<b>95% CI</b>	(80.9 - 83.2)	(78.9 - 81.6)	(73.4 - 75.5)	(66.9 - 69.0)	(57.9 - 59.9)	(82.1 - 84.5)	(87.3 - 89.3)	(77.3 - 79.0)

Data source: 2008 Autumn HOS, aged 15 years and over

Don't know/refused category (n=1) not reported.

<sup>1</sup>: means statistically significantly **lower** (t-test, p<0.05) than **Trade/certificate/diploma** category.

<sup>2</sup>: means statistically significantly **lower** (t-test, p<0.05) than **Bachelor degree or higher** category.



**Figure 3.3: SF-36V2 mean scores, SA, by highest educational attainment, 15 years and over**

### 3.1.4 Socio-economic status

Socio-economic status is measured by the Australian Bureau of Statistics Socio-Economic Index for Areas (SEIFA) Index of Relative Socio-economic Disadvantage (IRSD).<sup>8</sup> IRSD is a score given to a locality and is a composite measure based on income, educational attainment, employment status, occupation type, family structure, dwellings, house ownership marital status, and ethnicity. The IRSD scores were applied at postcode level to the Autumn 2008 HOS data, and grouped into quintiles for analysis. Based on locality, the quintiles are based on equal populations using the 2001 census data, where the highest quintile comprises of postcodes with the highest IRSD scores (most advantaged areas).

Table 3.4 and Figure 3.4 show the SF-36 transformed percentage scores, and 95% confidence intervals, for the socioeconomic status of the respondent. Those respondents who were in the lowest SEIFA quintile had statistically significantly lower scores for all the eight dimensions when compared to those in the highest SEIFA quintile, and statistically significantly lower scores for three of the dimensions (Physical Functioning, General Health, and Mental Health) when compared to those in the High quintile. Respondents in the lowest quintile also had statistically significantly lower scores for General Health when compared to respondents in all other quintiles.



**Table 3.4: SF-36V2 mean scores for South Australians by SEIFA Index of Relative Socio-economic Disadvantage (IRSD), aged 15 years and over**

	PF Physical Functioning	RP Role Physical	BP Bodily Pain	GH General Health	VT Vitality	SF Social Functioning	RE Role Emotional	MH Mental Health
<b>Lowest Quintile (n=641)</b>								
<b>n</b>	633	632	638	632	634	632	637	636
<b>Mean</b>	<b>81.0</b> <sup>4,5</sup>	<b>79.5</b> <sup>5</sup>	<b>73.9</b> <sup>5</sup>	<b>64.9</b> <sup>2,3,4,5</sup>	<b>57.5</b> <sup>5</sup>	<b>82.4</b> <sup>5</sup>	<b>86.8</b> <sup>3,5</sup>	<b>75.7</b> <sup>2,3,4,5</sup>
<b>95% CI</b>	(79.0 - 83.0)	(77.2 - 81.8)	(72.1 - 75.7)	(63.0 - 66.8)	(55.7 - 59.4)	(80.4 - 84.4)	(85.0 - 88.6)	(74.2 - 77.3)
<b>Low Quintile (n=659)</b>								
<b>n</b>	648	658	659	658	656	658	656	655
<b>Mean</b>	<b>84.0</b> <sup>5</sup>	<b>81.9</b>	<b>74.1</b> <sup>5</sup>	<b>70.7</b>	<b>59.1</b>	<b>82.4</b> <sup>5</sup>	<b>88.5</b> <sup>5</sup>	<b>78.5</b>
<b>95% CI</b>	(82.3 - 85.8)	(79.7 - 84.0)	(72.3 - 75.8)	(69.0 - 72.5)	(57.4 - 60.9)	(80.5 - 84.4)	(86.9 - 90.1)	(77.1 - 79.9)
<b>Middle Quintile (n=581)</b>								
<b>n</b>	575	579	581	581	579	581	581	578
<b>Mean</b>	<b>84.0</b> <sup>5</sup>	<b>82.6</b>	<b>75.5</b>	<b>70.7</b>	<b>60.0</b>	<b>85.1</b>	<b>91.1</b>	<b>80.7</b>
<b>95% CI</b>	(82.1 - 86.0)	(80.5 - 84.8)	(73.7 - 77.2)	(68.9 - 72.5)	(58.3 - 61.7)	(83.2 - 86.9)	(89.5 - 92.6)	(79.3 - 82.0)
<b>High Quintile (n=525)</b>								
<b>n</b>	522	523	524	523	523	524	521	522
<b>Mean</b>	<b>85.1</b>	<b>83.1</b>	<b>76.1</b>	<b>70.9</b>	<b>60.8</b>	<b>84.7</b>	<b>89.7</b>	<b>80.2</b>
<b>95% CI</b>	(83.2 - 87.0)	(80.8 - 85.4)	(74.4 - 77.8)	(69.0 - 72.7)	(59.1 - 62.6)	(82.7 - 86.7)	(88.0 - 91.4)	(78.8 - 81.7)
<b>Highest Quintile (n=628)</b>								
<b>n</b>	621	627	627	627	627	625	627	625
<b>Mean</b>	<b>87.9</b>	<b>84.2</b>	<b>78.6</b>	<b>73.4</b>	<b>60.9</b>	<b>86.7</b>	<b>92.1</b>	<b>79.9</b>
<b>95% CI</b>	(86.4 - 89.5)	(82.3 - 86.1)	(77.0 - 80.2)	(71.7 - 75.0)	(59.4 - 62.4)	(84.9 - 88.6)	(90.8 - 93.5)	(78.6 - 81.2)

Data source: 2008 Autumn HOS, aged 15 years and over

<sup>3</sup>: means statistically significantly **lower** (t-test, p<0.05) than **middle quintile** category.<sup>4</sup>: means statistically significantly **lower** (t-test, p<0.05) than **high quintile** category.<sup>5</sup>: means statistically significantly **lower** (t-test, p<0.05) than **highest quintile** category.

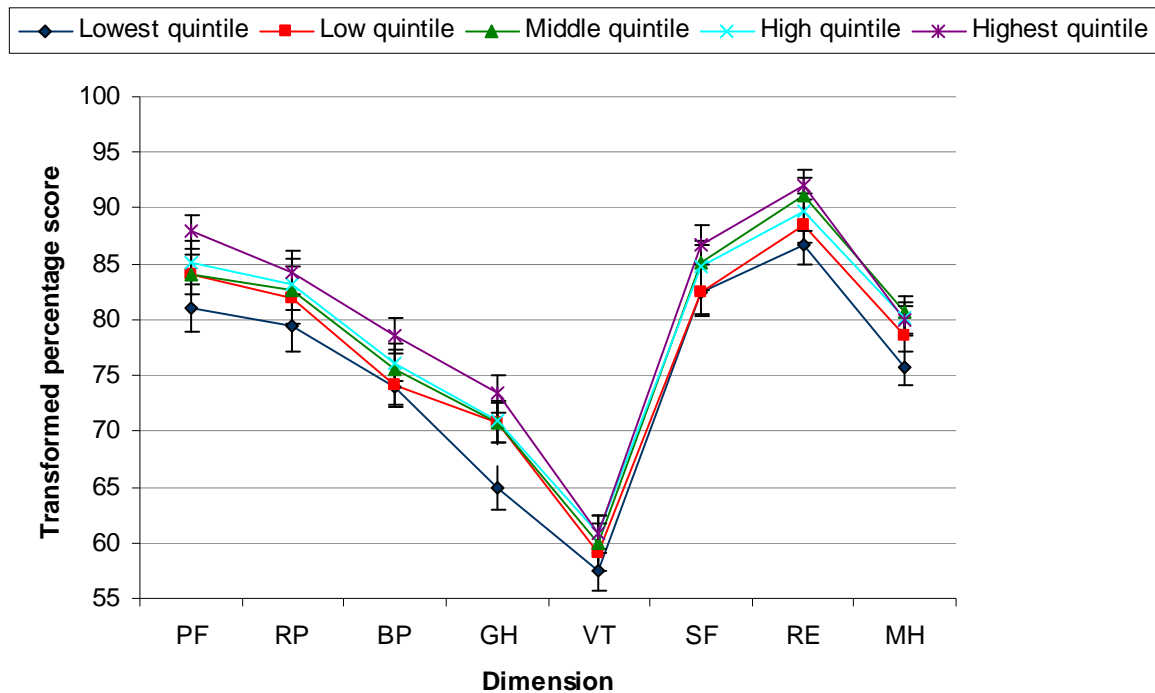


Figure 3.4: SF-36V2 mean scores, SA, by socioeconomic status, 15 years and over

### 3.1.5 Employment Status

Overall, 54.9% (n=1665) of people aged 15 years and over in South Australia were employed and 17.3% (n=526) were students or undertaking home duties.

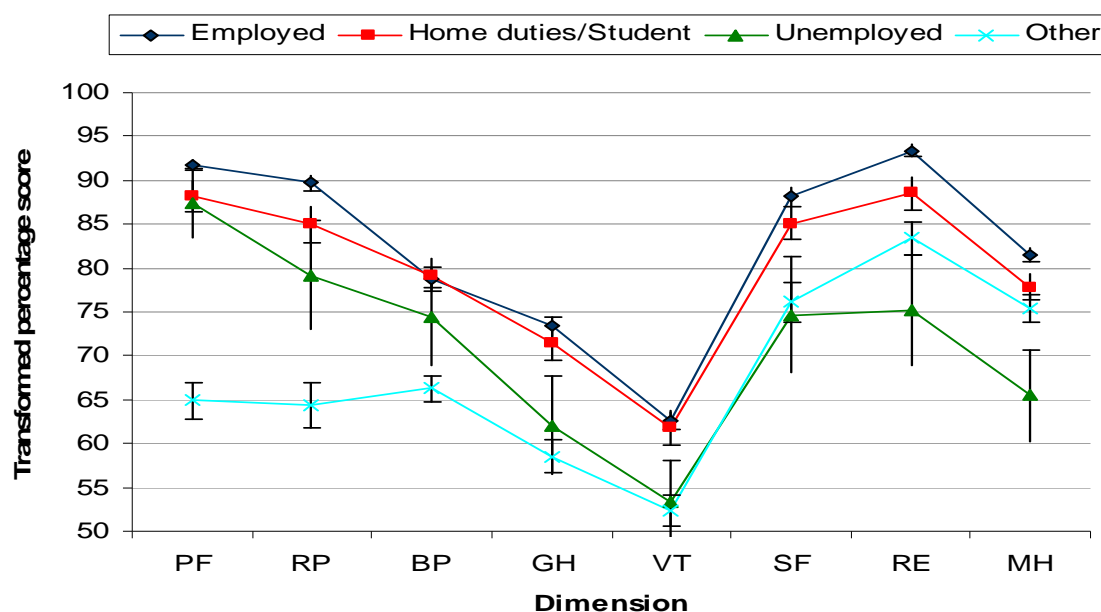
Table 3.5 and Figure 3.5 show the SF-36 transformed percentage scores, and 95% confidence intervals, for the employment status of the respondent. Those respondents who were retired, not working because of a work related injury, or stated 'other' for their employment status, had statistically significantly lower scores for all the eight dimensions when compared to those who were employed, and statistically significantly lower scores for seven of the eight dimensions (excluding Mental Health) when compared to all other respondents.

Those respondents who were unemployed showed statistically significantly lower scores for six of the eight dimensions (Physical Functioning and Bodily Pain were the exceptions) when compared to those who were employed, and fared worse in five dimensions when compared to those were employed, students, or undertaking home duties. In the latter case, the exceptions were Physical Functioning, Role Physical and Bodily Pain.

**Table 3.5: SF-36V2 mean scores for South Australians by employment status, aged 15 years and over**

	PF Physical Functioning	RP Role Physical	BP Bodily Pain	GH General Health	VT Vitality	SF Social Functioning	RE Role Emotional	MH Mental Health
<b>Employed (n=1665)</b>								
<b>n</b>	1656	1663	1663	1660	1661	1663	1664	1659
<b>Mean</b>	<b>91.8</b>	<b>89.7</b>	<b>78.8</b>	<b>73.4</b>	<b>62.6</b>	<b>88.1</b>	<b>93.4</b>	<b>81.5</b>
<b>95% CI</b>	(91.2 - 92.5)	(88.8 - 90.6)	(77.8 - 79.8)	(74.5 - 76.2)	(61.7 - 63.5)	(87.1 - 89.0)	(92.7 - 94.1)	(80.8 - 82.3)
<b>Home duties / Student (n=526)</b>								
<b>n</b>	521	517	524	523	518	522	522	521
<b>Mean</b>	<b>88.2<sup>1</sup></b>	<b>85.0<sup>1</sup></b>	<b>79.2</b>	<b>71.4<sup>1</sup></b>	<b>61.8</b>	<b>85.1</b>	<b>88.5<sup>1</sup></b>	<b>77.8<sup>1</sup></b>
<b>95% CI</b>	(86.5 - 89.9)	(82.9 - 87.1)	77.3 - 81.1)	(69.5 - 73.4)	(59.9 - 63.6)	(83.2 - 87.1)	(86.7 - 90.2)	(76.3 - 79.3)
<b>Unemployed (n=76)</b>								
<b>n</b>	75	76	76	76	76	73	76	76
<b>Mean</b>	<b>87.4</b>	<b>79.2<sup>1</sup></b>	<b>74.5</b>	<b>62.1<sup>1,2</sup></b>	<b>53.3<sup>1,2</sup></b>	<b>74.7<sup>1,2</sup></b>	<b>75.1<sup>1,2</sup></b>	<b>65.5<sup>1,2</sup></b>
<b>95% CI</b>	(83.4 - 91.5)	(73.0 - 85.4)	(68.8 - 80.1)	(56.5 - 67.6)	(48.5 - 58.2)	(68.1 - 81.3)	(68.8 - 81.4)	(60.3 - 70.6)
<b>Retired / Not working because of work related injury / Other (n=767)</b>								
<b>n</b>	748	763	766	762	763	762	760	760
<b>Mean</b>	<b>64.9<sup>1,2,3</sup></b>	<b>64.4<sup>1,2,3</sup></b>	<b>66.3<sup>1,2,3</sup></b>	<b>58.5<sup>1,2</sup></b>	<b>52.4<sup>1,2</sup></b>	<b>76.1<sup>1,2</sup></b>	<b>83.4<sup>1,2,3</sup></b>	<b>75.4<sup>1,3</sup></b>
<b>95% CI</b>	(62.8 - 67.0)	(61.9 - 66.8)	(64.8 - 67.9)	(56.6 - 60.3)	(50.6 - 54.1)	73.9 - 78.3)	(81.5 - 82.3)	(73.8 - 76.9)

Data source: 2008 Autumn HOS, aged 15 years and over

<sup>1</sup>: means statistically significantly **lower** (t-test, p<0.05) than **employed** category.<sup>2</sup>: means statistically significantly **lower** (t-test, p<0.05) than **unemployed** category.<sup>3</sup>: means statistically significantly **lower** (t-test, p<0.05) than **home duties/student** category.**Figure 3.5: SF-36V2 mean scores, SA, by employment status, 15 years and over**

### 3.1.6 Marital Status

Overall, 62.7% (n=1902) of people aged 15 years and over in South Australia were married and 23.0% (n=697) had never been married.

Table 3.6 and Figure 3.6 show the SF-36 transformed percentage scores, and 95% confidence intervals, for the marital status of the respondent. Those respondents who had never been married had statistically significantly higher scores for all the eight dimensions when compared to those who were separated or divorced, and statistically significantly higher scores for seven of the eight dimensions (the exception being Mental Health) when compared to those who had been widowed.

**Table 3.6: SF-36V2 mean scores for South Australians by SEIFA Index of Relative Socio-economic Disadvantage (IRSD), aged 15 years and over**

	PF Physical Functioning	RP Role Physical	BP Bodily Pain	GH General Health	VT Vitality	SF Social Functioning	RE Role Emotional	MH Mental Health
<b>Never married (n=641)</b>								
<b>n</b>	693	695	695	692	690	691	694	692
<b>Mean</b>	<b>92.7</b>	<b>88.1</b>	<b>81.1</b>	<b>73.2</b>	<b>63.4</b>	<b>86.5</b>	<b>89.5</b>	<b>78.6</b>
<b>95% CI</b>	(91.6 - 93.8)	(86.5 - 89.7)	(79.6 - 82.5)	(71.6 - 74.7)	(61.9 - 64.9)	(84.8 - 88.1)	(88.1 - 90.9)	(77.3 - 79.9)
<b>Married / de facto (n=1902)</b>								
<b>n</b>	1882	1895	1901	1895	1898	1897	1895	1894
<b>Mean</b>	<b>84.4<sup>1</sup></b>	<b>82.8<sup>1</sup></b>	<b>74.7<sup>1</sup></b>	<b>70.6<sup>1</sup></b>	<b>59.9<sup>1</sup></b>	<b>85.3</b>	<b>91.1</b>	<b>80.1</b>
<b>95% CI</b>	(83.5 - 85.4)	(81.6 - 84.0)	(73.8 - 75.7)	(69.6 - 71.6)	(59.0 - 60.8)	(84.2 - 86.3)	(90.2 - 91.9)	(79.4 - 80.9)
<b>Separated / divorced (n=267)</b>								
<b>n</b>	262	265	266	266	264	265	266	265
<b>Mean</b>	<b>79.0<sup>1,2</sup></b>	<b>74.6<sup>1,2</sup></b>	<b>72.6<sup>1</sup></b>	<b>64.9<sup>1,2</sup></b>	<b>52.8<sup>1,2</sup></b>	<b>74.0<sup>1,2</sup></b>	<b>82.3<sup>1,2</sup></b>	<b>72.1<sup>1,2,4</sup></b>
<b>95% CI</b>	(75.9 - 82.2)	(70.7 - 78.5)	(69.7 - 75.5)	(61.3 - 68.1)	(49.9 - 55.8)	(70.2 - 77.8)	(79.1 - 85.5)	(69.3 - 74.8)
<b>Widowed (n=168)</b>								
<b>n</b>	163	166	167	167	166	167	167	165
<b>Mean</b>	<b>56.9<sup>1,2,3</sup></b>	<b>63.5<sup>1,2,3</sup></b>	<b>67.4<sup>1,2</sup></b>	<b>59.9<sup>1,2</sup></b>	<b>51.9<sup>1,2</sup></b>	<b>78.9<sup>1,2</sup></b>	<b>84.8<sup>1,2</sup></b>	<b>77.3</b>
<b>95% CI</b>	(51.9 - 61.9)	(58.1 - 68.6)	(63.9 - 70.9)	(56.1 - 63.7)	(48.2 - 55.5)	(74.6 - 83.3)	(81.2 - 88.5)	(74.6 - 80.0)

Data source: 2008 Autumn HOS, aged 15 years and over

<sup>1</sup>: means statistically significantly **lower** (t-test, p<0.05) than **never married** category.

<sup>2</sup>: means statistically significantly **lower** (t-test, p<0.05) than **married / de facto** category.

<sup>3</sup>: means statistically significantly **lower** (t-test, p<0.05) than **separated / divorced** category.

<sup>4</sup>: means statistically significantly **lower** (t-test, p<0.05) than **widowed** category.

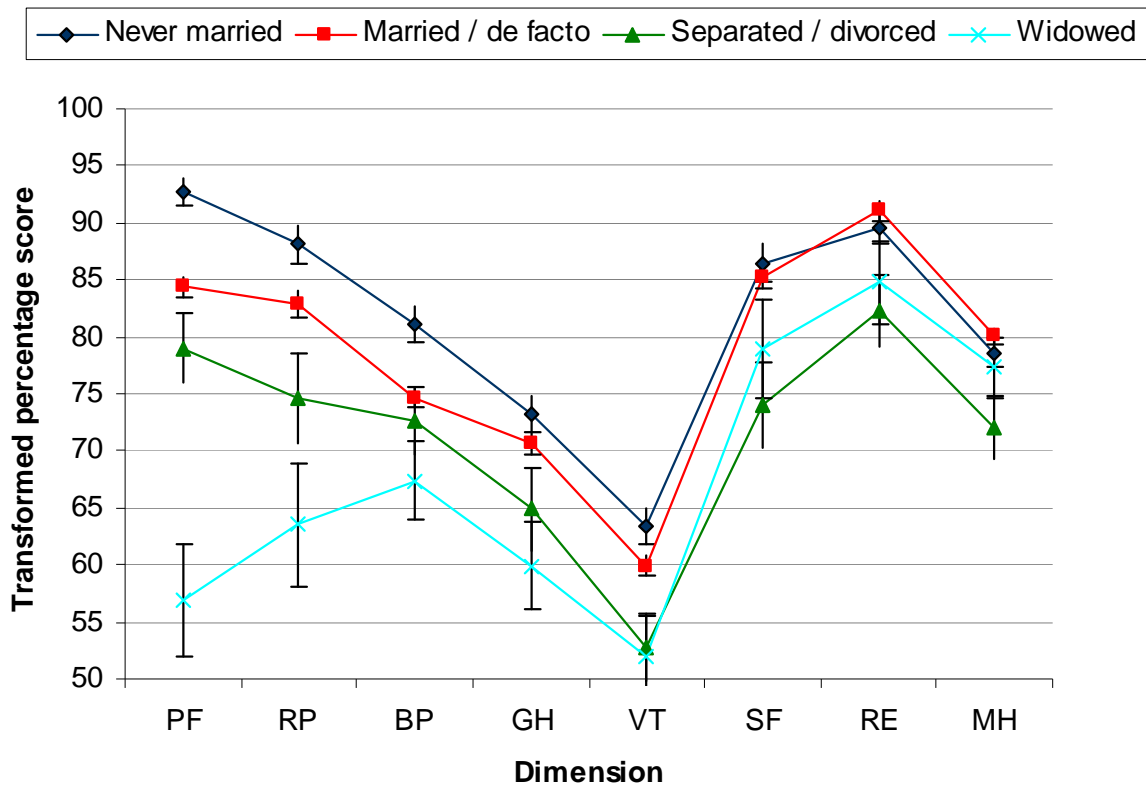


Figure 3.6: SF-36V2 mean scores, SA, by socioeconomic status, 15 years and over

### 3.1.7 Gross Annual Household Income

Table 3.7 and Figure 3.7 show the SF-36 transformed percentage scores, and 95% confidence intervals, for the gross annual household income of the respondent. The Physical Functioning dimension statistically significantly increases with gross annual household income.

**Table 3.7: SF-36V2 mean scores for South Australians by gross annual household income, aged 15 years and over**

	PF Physical Functioning	RP Role Physical	BP Bodily Pain	GH General Health	VT Vitality	SF Social Functioning	RE Role Emotional	MH Mental Health
<b>Up to \$20 000 (n=385)</b>								
<b>n</b>	375	383	384	383	380	381	382	380
<b>Mean</b>	<b>64.8</b> <sup>2,3,4,5</sup>	<b>65.7</b>	<b>66.7</b>	<b>58.0</b>	<b>51.0</b>	<b>74.4</b>	<b>81.2</b>	<b>72.1</b>
<b>95% CI</b>	(61.7 - 68.0)	(62.3 - 69.0)	(64.3 - 60.1)	(55.4 - 60.6)	(48.6 - 53.4)	(71.4 - 77.4)	(78.6 - 83.9)	(70.0 - 74.3)
<b>\$20 001 to \$40 000 (n=457)</b>								
<b>n</b>	452	454	455	454	456	452	454	453
<b>Mean</b>	<b>79.6</b> <sup>3,4,5</sup>	<b>77.9</b>	<b>72.5</b>	<b>65.3</b>	<b>54.7</b>	<b>80.4</b>	<b>85.8</b>	<b>76.1</b>
<b>95% CI</b>	(77.3 - 81.9)	(75.1 - 80.8)	(70.5 - 74.6)	(63.1 - 67.6)	(52.5 - 56.9)	(77.8 - 82.9)	(83.7 - 87.9)	(74.1 - 78.0)
<b>\$40 001 to \$60 000 (n=412)</b>								
<b>n</b>	407	412	411	412	412	412	410	411
<b>Mean</b>	<b>87.5</b> <sup>5</sup>	<b>86.1</b>	<b>76.1</b>	<b>71.9</b>	<b>62.8</b>	<b>85.2</b>	<b>91.4</b>	<b>79.6</b>
<b>95% CI</b>	(85.7 - 89.3)	(83.8 - 88.4)	(74.0 - 78.2)	(69.8 - 74.0)	(58.5 - 62.6)	(82.9 - 87.5)	(89.6 - 93.2)	(78.0 - 81.2)
<b>\$60 001 or more (n=1159)</b>								
<b>n</b>	1154	1158	1159	1158	1158	1157	1159	1157
<b>Mean</b>	<b>91.1</b>	<b>87.8</b>	<b>78.1</b>	<b>74.6</b>	<b>62.1</b>	<b>87.7</b>	<b>93.3</b>	<b>81.7</b>
<b>95% CI</b>	(90.2 - 92.0)	(86.6 - 89.1)	(76.9 - 79.2)	(73.5 - 75.7)	(61.0 - 63.2)	(86.5 - 88.9)	(92.4 - 94.1)	(80.8 - 82.5)
<b>Not stated (n=622)</b>								
<b>n</b>	612	613	620	614	614	619	618	615
<b>Mean</b>	<b>85.2</b>	<b>82.4</b>	<b>78.4</b>	<b>71.5</b>	<b>63.3</b>	<b>85.8</b>	<b>89.5</b>	<b>79.6</b>
<b>95% CI</b>	(83.4 - 87.0)	(80.3 - 84.6)	(76.7 - 80.1)	(69.7 - 73.2)	(61.6 - 65.0)	(84.0 - 87.6)	(87.9 - 91.1)	(78.3 - 81.0)

Data source: 2008 Autumn HOS, aged 15 years and over

<sup>2</sup>: means statistically significantly **lower** (t-test, p<0.05) than **\$20 001 - \$40 000** category.<sup>3</sup>: means statistically significantly **lower** (t-test, p<0.05) than **\$40 001 - \$60 000** category.<sup>4</sup>: means statistically significantly **lower** (t-test, p<0.05) than **\$60 001 or more** category.<sup>5</sup>: means statistically significantly **lower** (t-test, p<0.05) than **not stated** category.

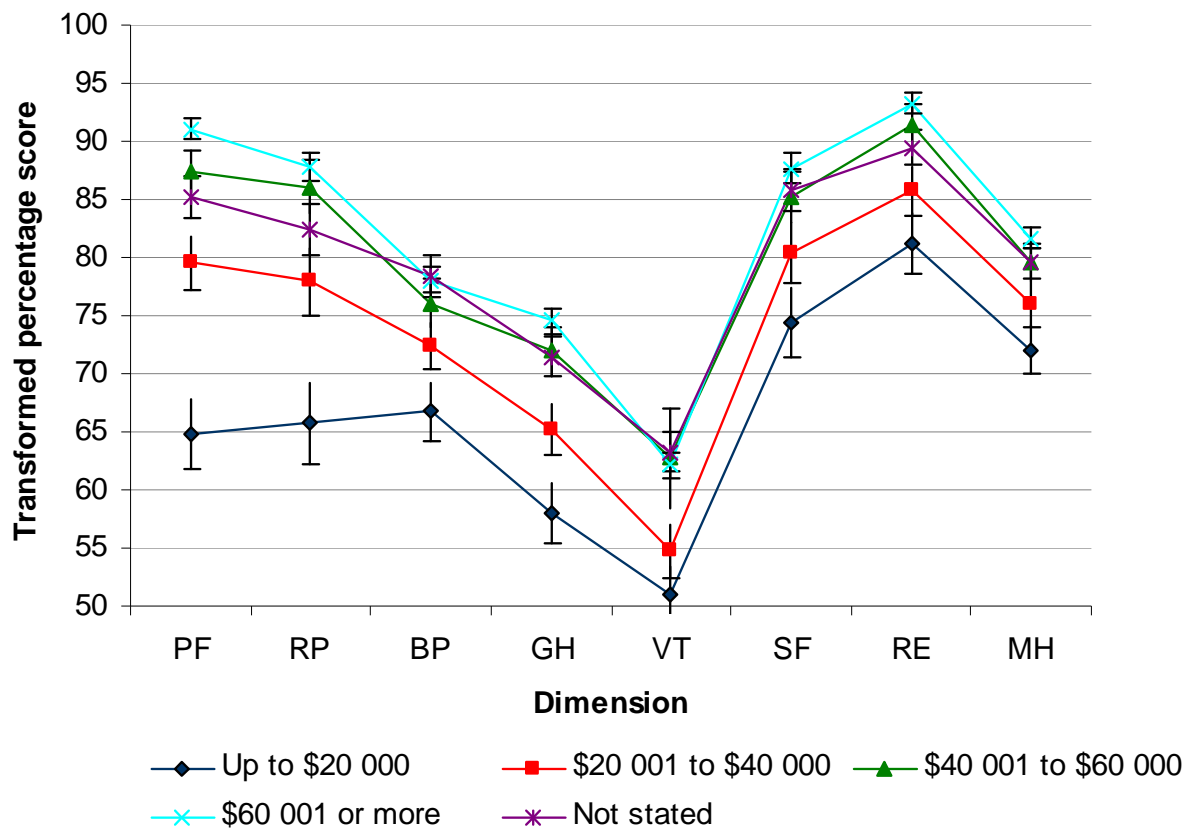


Figure 3.7: SF-36V2 mean scores, SA, by gross annual household income, 15 years and over

## **CHAPTER 4: SF-36 VERSION 2 PERCENTAGE SCORES FOR CHRONIC CONDITIONS**



## 4.1 Chronic Conditions

This section presents the 2008 South Australian SF-36V2 mean transformed percentage scores for selected chronic conditions for people aged 15 years and over. The chronic conditions examined are:

- > Arthritis;
- > Osteoporosis;
- > Diabetes; and
- > Asthma.

SF-36V2 scores are also presented by the combined number of these chronic conditions. Age and sex adjusted scores (to account for differences in these factors between groups) were presented to test for significance differences between people with and without each chronic health condition.

### 4.1.1 Arthritis

Overall, 22.9% (n=756) of people aged 15 years and over in South Australia had been diagnosed with either osteoarthritis, rheumatoid arthritis, or other type of arthritis.

**Table 4.1: SF-36V2 norms, SA, 15 years and over, by arthritis**

	n	Mean	95% CI	Median	SD	Variance
<b>Arthritis (n=756)</b>						
<b>PF</b> Physical Functioning	740	<b>67.8</b>	(65.7 – 69.9)	75.00	28.51	812.78
<b>RP</b> Role Physical	751	<b>67.0</b>	(64.7 – 69.4)	75.00	32.91	1083.00
<b>BP</b> Bodily Pain	756	<b>62.7</b>	(61.2 – 62.4)	61.00	20.39	415.72
<b>GH</b> General health	756	<b>59.4</b>	(57.5 – 61.2)	62.00	25.34	641.94
<b>VT</b> Vitality	750	<b>51.8</b>	(50.1 – 53.4)	56.25	23.18	537.45
<b>SF</b> Social Functioning	752	<b>77.6</b>	(75.6 – 79.7)	87.50	28.32	802.16
<b>RE</b> Role Emotional	750	<b>85.1</b>	(83.4 – 86.8)	100.00	24.00	576.04
<b>MH</b> Mental Health	750	<b>75.6</b>	(74.2 – 77.0)	80.00	19.83	393.35
<b>No arthritis (n=2278)</b>						
<b>PF</b> Physical Functioning	2241	<b>90.0</b>	(89.3 – 90.7)	95.00	17.28	298.62
<b>RP</b> Role Physical	2249	<b>87.4</b>	(86.5 – 88.4)	100.00	22.52	507.03
<b>BP</b> Bodily Pain	2255	<b>80.1</b>	(79.2 – 80.9)	84.00	20.38	415.25
<b>GH</b> General health	2247	<b>73.8</b>	(73.0 – 74.6)	77.00	20.03	401.22
<b>VT</b> Vitality	2249	<b>62.3</b>	(61.5 – 63.2)	62.50	20.14	405.46
<b>SF</b> Social Functioning	2250	<b>86.5</b>	(85.6 – 87.5)	100.00	22.40	501.81
<b>RE</b> Role Emotional	2255	<b>91.2</b>	(90.4 – 92.0)	100.00	18.330	334.93
<b>MH</b> Mental Health	2247	<b>80.1</b>	(79.5 – 80.8)	85.00	16.78	281.60

Data source: 2008 Autumn HOS, aged 15 years and over

<sup>1</sup>: means **arthritis** scored statistically significantly **lower** (t-test,  $p < 0.05$ ) than **no arthritis**.

Note: Refused category (n=21) not reported

Table 4.2 and Figure 4.1 show the age-sex adjusted mean scores, and 95% confidence intervals of the mean, for South Australians diagnosed/non-diagnosed with some form of arthritis. Those who had arthritis had statistically significantly lower scores on all eight of the SF-36V2 dimensions than those without diagnosed arthritis, when the means were adjusted for both age and sex.

Table 4.2: Age-sex adjusted mean SF-36V2 scores, SA, 15 years and over, by arthritis

	PF	RP	BP	GH	VT	SF	RE	MH
<b>Arthritis (n=756)</b>								
<b>n</b>	742	750	755	756	749	751	750	749
<b>Mean</b>	<b>73.7<sup>1</sup></b>	<b>70.5<sup>1</sup></b>	<b>64.5<sup>1</sup></b>	<b>61.2<sup>1</sup></b>	<b>52.8<sup>1</sup></b>	<b>78.2<sup>1</sup></b>	<b>85.1<sup>1</sup></b>	<b>75.1<sup>1</sup></b>
<b>95% CI</b>	(72.3 – 75.2)	(68.6 – 72.4)	(62.9 – 66.0)	(59.6 – 62.9)	51.2 – 54.4)	(76.4 – 80.1)	(83.5 – 86.6)	(73.8 – 76.5)
<b>No arthritis (n=2258)</b>								
<b>n</b>	2241	2250	2254	2245	2248	2249	2256	2246
<b>Mean</b>	<b>87.2</b>	<b>86.3</b>	<b>79.5</b>	<b>73.2</b>	<b>62.0</b>	<b>86.3</b>	<b>91.2</b>	<b>80.3</b>
<b>95% CI</b>	(87.2 – 88.9)	(85.2 – 87.3)	(78.6 – 80.3)	(72.3 – 74.1)	(61.1 – 62.9)	(85.3 – 87.8)	(90.3 – 92.0)	(79.6 – 81.0)

Data source: 2008 Autumn HOS, aged 15 years and over

<sup>1</sup> : means statistically significantly **lower** (t-test, p<0.05) than **no arthritis**

Note: Refused category (n=21) not reported

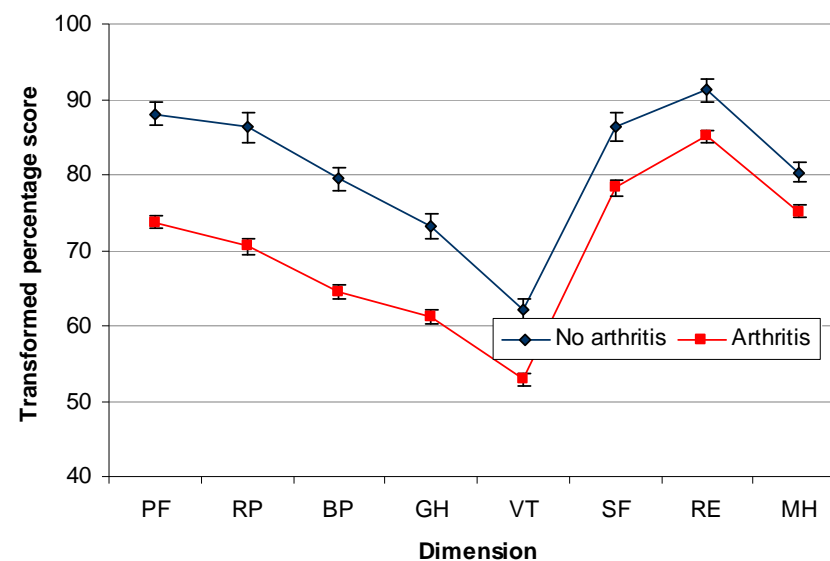


Figure 4.1: Age-sex adjusted mean SF-36V2 scores, SA, aged 15 years and over, by arthritis

### 4.1.2 Osteoporosis

Overall, 5.4% (n=164) of people aged 15 years and over in South Australia had been told by a doctor that they had osteoporosis.

**Table 4.3: SF-36V2 norms, SA, 15 years and over, by osteoporosis**

	n	Mean	95% CI	Median	SD	Variance
<b>Osteoporosis (n=164)</b>						
<b>PF</b> Physical Functioning	161	<b>57.5</b>	(52.7 – 62.3)	65.00	30.61	937.14
<b>RP</b> Role Physical	163	<b>61.7</b>	(56.3 – 67.2)	68.75	35.41	1253.90
<b>BP</b> Bodily Pain	163	<b>60.6</b>	(57.2 – 64.0)	52.00	21.98	483.28
<b>GH</b> General health	164	<b>55.2</b>	(51.2 – 59.3)	57.00	26.28	690.48
<b>VT</b> Vitality	163	<b>47.8</b>	(44.0 – 51.6)	50.00	24.63	606.56
<b>SF</b> Social Functioning	162	<b>75.7</b>	(71.1 – 80.2)	87.50	29.44	866.82
<b>RE</b> Role Emotional	161	<b>83.1</b>	(78.9 – 87.2)	100.00	26.51	702.63
<b>MH</b> Mental Health	161	<b>74.6</b>	(71.0 – 78.1)	85.00	22.78	518.88
<b>No osteoporosis (n=2842)</b>						
<b>PF</b> Physical Functioning	2814	<b>86.0</b>	(85.2 – 86.8)	95.00	21.24	451.29
<b>RP</b> Role Physical	2831	<b>83.5</b>	(82.6 – 84.5)	100.00	25.92	671.78
<b>BP</b> Bodily Pain	2841	<b>76.5</b>	(75.8 – 77.3)	84.00	21.39	457.84
<b>GH</b> General health	2831	<b>71.0</b>	(70.2 – 71.8)	77.00	21.84	476.87
<b>VT</b> Vitality	2830	<b>60.4</b>	(59.6 – 61.2)	62.50	21.00	441.09
<b>SF</b> Social Functioning	2833	<b>84.8</b>	(83.9 – 85.7)	100.00	23.86	569.25
<b>RE</b> Role Emotional	2837	<b>90.0</b>	(89.3 – 90.7)	100.00	19.51	380.76
<b>MH</b> Mental Health	2831	<b>79.2</b>	(78.6 – 79.9)	85.00	17.32	300.09

Data source: 2008 Autumn HOS, aged 15 years and over

<sup>1</sup> : means **osteoporosis** scored statistically significantly **lower** (t-test, p<0.05) than **no osteoporosis**

Note: Don't know/not stated categories (n=28) not reported

Table 4.4 and Figure 4.2 show the age-sex adjusted mean scores, and 95% confidence intervals of the mean, for South Australian's with/without osteoporosis. When the mean scores were adjusted to take into account age and sex, those who had osteoporosis had statistically significantly lower scores on five of the eight SF-36V2 dimensions than those without osteoporosis. For the three other dimensions (Social Functioning, Role Emotional, and Mental Health) there were no significant differences between the two groups.

Table 4.4: Age-sex adjusted mean SF-36V2 scores, SA, 15 years and over, by osteoporosis

	PF	RP	BP	GH	VT	SF	RE	MH
<b>Osteoporosis (n=164)</b>								
<b>n</b>	160	164	163	166	163	162	162	160
<b>Mean</b>	<b>68.8<sup>1</sup></b>	<b>69.6<sup>1</sup></b>	<b>66.0<sup>1</sup></b>	<b>59.7<sup>1</sup></b>	<b>51.1<sup>1</sup></b>	<b>78.1</b>	<b>84.1</b>	<b>75.0</b>
<b>95% CI</b>	(65.7 – 72.0)	(65.5 – 73.7)	(62.7 – 69.4)	(56.3 – 63.2)	(47.8 – 54.5)	(74.2 – 81.9)	(80.9 – 87.3)	(72.2 – 77.8)
<b>No osteoporosis (n=2842)</b>								
<b>n</b>	2813	2830	2843	2832	2830	2832	2835	2832
<b>Mean</b>	<b>85.4</b>	<b>83.1</b>	<b>76.2</b>	<b>70.8</b>	<b>60.2</b>	<b>84.7</b>	<b>90.0</b>	<b>79.2</b>
<b>95% CI</b>	(84.7 – 86.1)	(82.1 – 84.0)	(75.5 – 76.2)	(70.0 – 71.6)	(59.4 – 61.0)	(83.8 – 85.5)	(89.2 – 90.7)	(78.6 – 79.9)

Data source: 2008 Autumn HOS, aged 15 years and over

<sup>1</sup> : means statistically significantly *lower* (t-test, p<0.05) than *no osteoporosis*

Note: Don't know/not stated categories (n=28) not reported

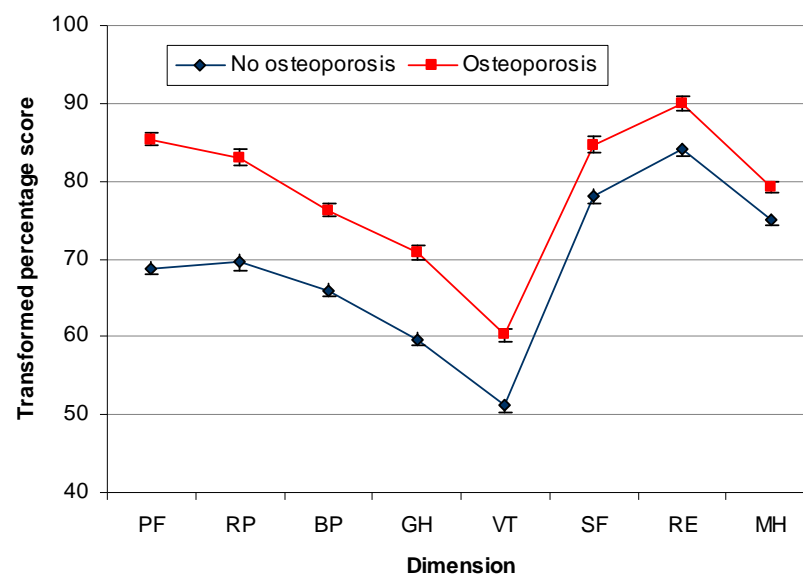


Figure 4.2: Age-sex adjusted mean SF-36V2 scores, SA, aged 15 years and over, by osteoporosis

### 4.1.3 Diabetes

Overall, 8.4% (n=255) of people aged 15 years and over in South Australia had been diagnosed with diabetes.

**Table 4.5: SF-36V2 norms, SA, 15 years and over, by diabetes**

	n	Mean	95% CI	Median	SD	Variance
<b>Diabetes (n=255)</b>						
<b>PF</b> Physical Functioning	252	<b>71.4</b>	(68.0 – 74.3)	80.00	27.60	761.76
<b>RP</b> Role Physical	253	<b>70.0</b>	66.1 – 73.9	81.25	31.64	1000.90
<b>BP</b> Bodily Pain	255	<b>67.4</b>	64.7 – 70.1	64.00	21.93	481.13
<b>GH</b> General health	255	<b>55.8</b>	52.8 – 58.7	60.00	23.96	573.98
<b>VT</b> Vitality	254	<b>52.4</b>	49.6 – 55.1	54.23	22.38	500.98
<b>SF</b> Social Functioning	253	<b>80.0</b>	76.6 – 83.4	100.00	27.31	746.11
<b>RE</b> Role Emotional	254	<b>84.5</b>	81.5 – 87.4	100.00	24.03	577.52
<b>MH</b> Mental Health	255	<b>75.8</b>	73.1 – 78.4	80.00	21.23	450.85
<b>No diabetes (n=2779)</b>						
<b>PF</b> Physical Functioning	2748	<b>85.6</b>	84.7 – 86.4	95.00	22.02	485.08
<b>RP</b> Role Physical	2766	<b>83.3</b>	82.3 – 84.3	100.00	26.35	694.45
<b>BP</b> Bodily Pain	2774	<b>76.4</b>	75.5 – 77.2	84.00	21.60	466.55
<b>GH</b> General health	2766	<b>71.4</b>	70.6 – 72.2	77.00	21.81	475.64
<b>VT</b> Vitality	2764	<b>60.3</b>	59.5 – 61.1	62.50	21.22	450.25
<b>SF</b> Social Functioning	2767	<b>84.6</b>	83.7 – 85.5	100.00	24.10	580.64
<b>RE</b> Role Emotional	2768	<b>90.1</b>	89.3 – 90.8	100.00	19.60	384.32
<b>MH</b> Mental Health	2761	<b>79.2</b>	78.6 – 79.9	85.00	17.36	301.45

Data source: 2008 Autumn HOS, aged 15 years and over

<sup>1</sup>: means **diabetes** scored statistically significantly **lower** (t-test,  $p < 0.05$ ) than **no diabetes**.

Table 4.4 and Figure 4.2 show the age-sex adjusted mean scores, and 95% confidence intervals of the mean, for South Australian's with/without osteoporosis. Those who had osteoporosis had statistically significantly lower scores on five of the eight SF-36V2 dimensions than those without. There were no significant differences found for the dimensions Bodily Pain, Social Functioning, and Mental Health between the two groups.

Table 4.6: Age-sex adjusted mean SF-36V2 scores, SA, 15 years and over, by diabetes

	PF	RP	BP	GH	VT	SF	RE	MH
<b>Diabetes (n=255)</b>								
<b>n</b>	252	253	255	255	254	253	254	255
<b>Mean</b>	<b>79.3<sup>1</sup></b>	<b>75.4<sup>1</sup></b>	<b>70.9</b>	<b>58.8<sup>1</sup></b>	<b>54.3<sup>1</sup></b>	<b>81.5</b>	<b>85.0<sup>1</sup></b>	<b>75.7</b>
<b>95% CI</b>	(76.8 – 81.8)	(72.1 – 78.7)	(68.3 – 73.5)	(56.1 – 61.5)	(51.6 – 56.9)	(78.5 – 84.6)	(82.5 – 87.5)	(73.5 – 77.9)
<b>No diabetes (n=2779)</b>								
<b>n</b>	2748	2766	2774	2766	2764	2767	2768	2761
<b>Mean</b>	<b>84.9</b>	<b>82.8</b>	<b>76.0</b>	<b>71.1</b>	<b>60.1</b>	<b>84.5</b>	<b>90.0</b>	<b>79.2</b>
<b>95% CI</b>	(84.1 – 85.6)	(81.9 – 83.8)	(75.3 – 76.8)	(70.3 – 71.9)	(59.3 – 60.9)	(83.6 – 85.4)	(89.3 – 90.8)	(78.6 – 79.9)

Data source: 2008 Autumn HOS, aged 15 years and over

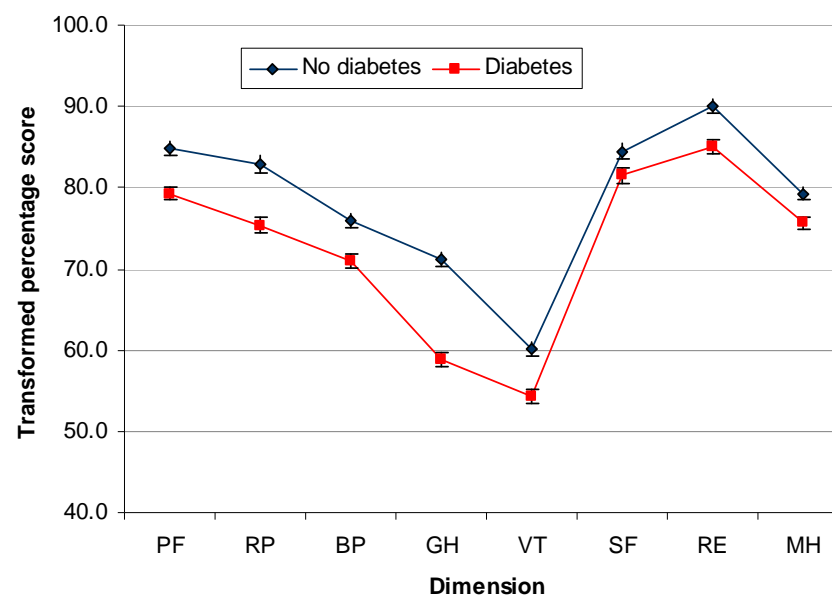
<sup>1</sup> : means statistically significantly *lower* (t-test, p<0.05) than *no diabetes*

Figure 4.3: Age-sex adjusted mean SF-36V2 scores, SA, aged 15 years and over, by diabetes

### 4.1.4 Asthma

Overall, 24.8% (n=753) of people aged 15 years and over in South Australia had been told by a doctor that they had asthma.

**Table 4.7: SF-36V2 norms, SA, 15 years and over, by asthma**

	n	Mean	95% CI	Median	SD	Variance
<b>Asthma (n=753)</b>						
<b>PF</b> Physical Functioning	745	<b>83.7</b>	82.0 – 85.3	95.00	22.58	510.04
<b>RP</b> Role Physical	749	<b>79.9</b>	77.9 – 81.9	83.75	27.96	781.92
<b>BP</b> Bodily Pain	753	<b>71.8</b>	70.2 – 73.3	72.00	21.85	477.55
<b>GH</b> General health	751	<b>66.6</b>	65.0 – 68.3	72.00	23.02	529.89
<b>VT</b> Vitality	749	<b>55.7</b>	54.1 – 57.3	62.50	22.35	499.47
<b>SF</b> Social Functioning	750	<b>81.7</b>	79.8 – 83.6	100.00	26.32	692.63
<b>RE</b> Role Emotional	749	<b>87.1</b>	85.5 – 88.6	100.00	22.11	488.79
<b>MH</b> Mental Health	750	<b>76.5</b>	75.2 – 77.9	80.00	18.48	341.41
<b>No asthma (n=2268)</b>						
<b>PF</b> Physical Functioning	2242	<b>84.7</b>	83.7 – 85.6	95.00	22.89	523.79
<b>RP</b> Role Physical	2257	<b>83.0</b>	81.9 – 84.1	100.00	26.71	713.75
<b>BP</b> Bodily Pain	2263	<b>76.9</b>	76.0 – 77.7	84.00	21.61	466.89
<b>GH</b> General health	2257	<b>71.2</b>	70.3 – 72.1	77.00	22.09	487.97
<b>VT</b> Vitality	2256	<b>61.0</b>	60.1 – 61.8	62.50	20.96	439.14
<b>SF</b> Social Functioning	2258	<b>85.1</b>	84.1 – 86.0	100.00	22.65	559.37
<b>RE</b> Role Emotional	2260	<b>90.5</b>	89.7 – 91.3	100.00	19.14	366.53
<b>MH</b> Mental Health	2254	<b>79.8</b>	79.0 – 80.1	85.00	17.41	303.15

Data source: 2008 Autumn HOS, aged 15 years and over

<sup>1</sup>: means **asthma** scored statistically significantly **lower** (t-test, p<0.05) than **no asthma**

Note: Don't know category (n=13) not reported

Table 4.8 and Figure 4.4 show the age-sex adjusted mean scores, and 95% confidence intervals of the mean, for South Australian's with/without asthma. Those who had asthma had statistically significantly lower scores on all of the eight SF-36V2 dimensions.



Table 4.8: Age-sex adjusted mean SF-36V2 scores, SA, 15 years and over, by asthma

	PF	RP	BP	GH	VT	SF	RE	MH
<b>Asthma (n=753)</b>								
<b>n</b>	745	749	753	751	749	750	749	750
<b>Mean</b>	<b>81.1<sup>1</sup></b>	<b>78.0<sup>1</sup></b>	<b>70.6<sup>1</sup></b>	<b>65.5<sup>1</sup></b>	<b>55.0<sup>1</sup></b>	<b>81.2<sup>1</sup></b>	<b>86.8<sup>1</sup></b>	<b>76.6<sup>1</sup></b>
<b>95% CI</b>	(79.7 – 82.5)	(76.2 – 79.9)	(69.1 – 72.1)	(63.9 – 67.0)	(53.5 – 56.5)	(79.5 – 83.0)	(85.4 – 88.3)	(75.3 – 77.8)
<b>No asthma (n=2268)</b>								
<b>n</b>	2242	2257	2263	2257	2256	2258	2260	2254
<b>Mean</b>	<b>85.5</b>	<b>83.6</b>	<b>77.2</b>	<b>71.6</b>	<b>61.2</b>	<b>85.2</b>	<b>90.6</b>	<b>79.8</b>
<b>95% CI</b>	(84.7 – 86.3)	(82.6 – 84.7)	(76.4 – 78.1)	(70.7 – 72.5)	(60.3 – 62.0)	(84.2 – 86.2)	(89.8 – 91.4)	(79.0 – 80.5)

Data source: 2008 Autumn HOS, aged 15 years and over

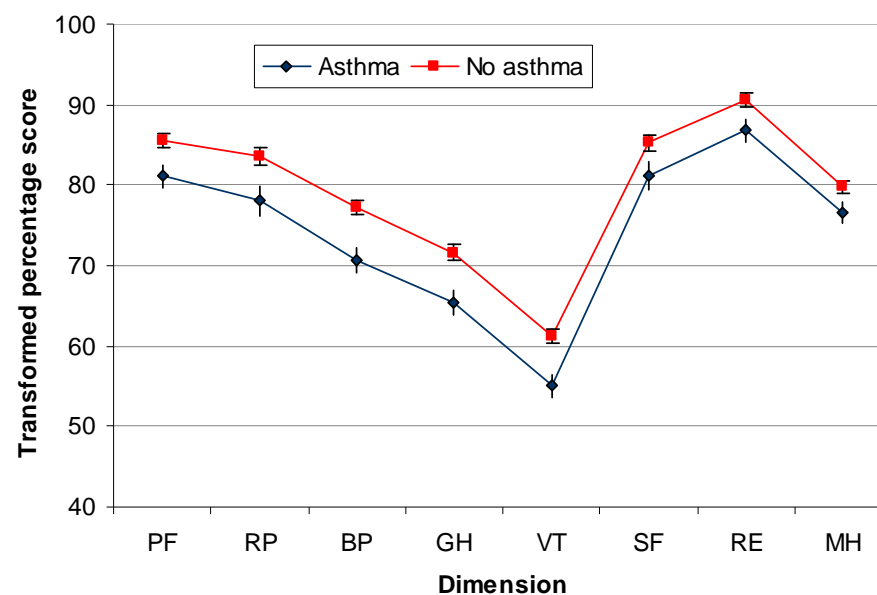
<sup>1</sup>: means statistically significantly *lower* (t-test, p<0.05) than *no asthma*

Figure 4.4: Age-sex adjusted mean SF-36V2 scores, SA, aged 15 years and over, by asthma

### 4.1.5 Multiple health conditions

It was determined whether a participant had multiple health conditions by accumulating the previously described four chronic conditions (arthritis, osteoporosis, diabetes, and asthma). Overall, 51.3% (n=1557) of people aged 15 years and over in South Australia had none of the health conditions listed, 36.2% (n=1099) had one of the four health conditions, 10.2% (n=309) had two health conditions, and 2.3% (n=70) had three or four of the health conditions.

Figure 4.5 shows that South Australian's with three or four chronic conditions had statistically significantly lower scores on six of the eight SF-36V2 dimensions than those with two of the four chronic conditions. The exceptions were Social Functioning and Mental Health where it was shown that they had statistically significantly lower scores than those with one chronic condition.

Those with two of the four chronic conditions were found to have statistically significantly lower scores on seven of the eight SF-36V2 dimensions than those with only one chronic condition. In this case the exception was Mental Health where it was shown that they had statistically significantly lower scores than those with no chronic conditions.

Finally, those with one chronic condition had statistically significantly lower scores on all of the eight SF-36V2 dimensions when compared to those with no chronic conditions.

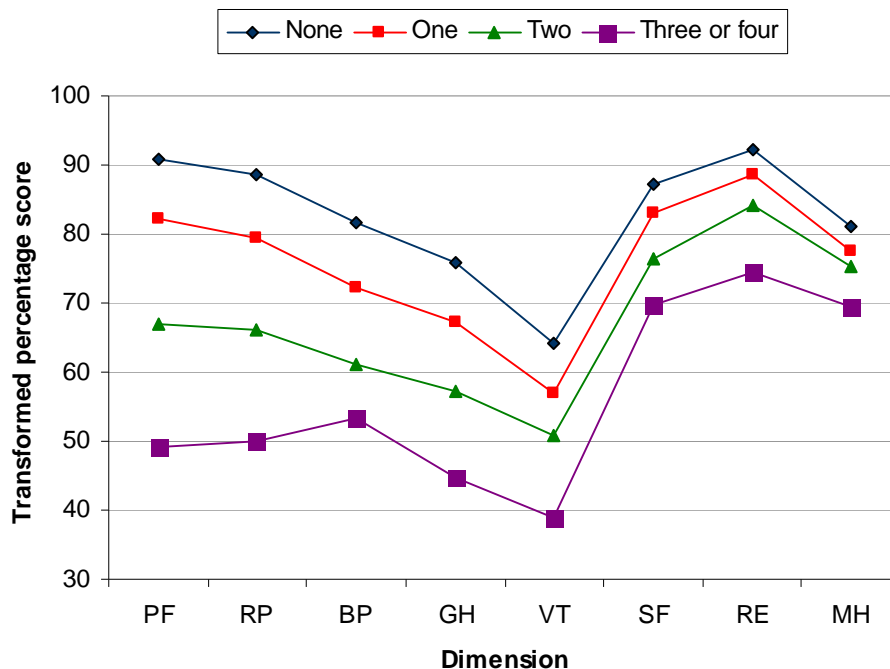


Figure 4.5: 2008 SF-36V2 scores, SA, aged 15 years and over, by multiple chronic conditions

Table 4.9: SF-36V2 norms, SA, 15 years and over, by multiple chronic conditions

	PF	RP	BP	GH	VT	S
	Physical Functioning	Role Physical	Bodily Pain	General Health	Vitality	Fun
<b>None of the four chronic conditions (n=1557)</b>						
<b>n</b>	1545	1549	1553	1547	1549	1
<b>Mean</b>	<b>90.9</b>	<b>88.7</b>	<b>81.8</b>	<b>75.9</b>	<b>64.1</b>	
<b>95% CI</b>	(90.0 – 91.7)	(87.6 – 89.8)	(80.8 – 82.7)	(75.0 – 76.9)	(63.2 – 65.1)	(86.1
<b>Median</b>	100.00	100.00	84.00	80.00	68.75	1
<b>SD</b>	16.99	21.45	19.90	19.11	19.36	
<b>Variance</b>	288.57	460.11	395.91	365.29	375.00	4
<b>One of the four chronic conditions (n=1099)</b>						
<b>n</b>	1084	1096	1098	1095	1094	1
<b>Mean</b>	<b>82.2<sup>1</sup></b>	<b>79.5<sup>1</sup></b>	<b>72.3<sup>1</sup></b>	<b>67.1<sup>1</sup></b>	<b>57.0<sup>1</sup></b>	
<b>95% CI</b>	(80.8 – 83.6)	(77.9 – 81.2)	(71.1 – 73.6)	(65.7 – 68.4)	(55.7 – 58.3)	(81.6
<b>Median</b>	90.00	93.75	72.00	72.00	62.50	1
<b>SD</b>	23.11	28.46	21.41	22.59	21.72	
<b>Variance</b>	534.15	809.92	458.37	510.12	471.90	6
<b>Two of the four chronic conditions (n=309)</b>						
<b>n</b>	302	306	309	309	306	
<b>Mean</b>	<b>66.9<sup>1,2</sup></b>	<b>66.1<sup>1,2</sup></b>	<b>61.2<sup>1,2</sup></b>	<b>57.1<sup>1,2</sup></b>	<b>50.9<sup>1,2</sup></b>	
<b>95% CI</b>	(63.6 – 70.1)	(62.5 – 67.9)	(58.9 – 63.5)	(54.3 – 59.9)	(48.3 – 53.4)	(73.0
<b>Median</b>	75.00	75.00	61.00	62.00	56.25	
<b>SD</b>	28.42	32.23	20.75	25.59	22.92	
<b>Variance</b>	807.91	1038.80	423.32	639.53	525.24	8
<b>Three or four of the four chronic conditions (n=70)</b>						
<b>n</b>	69	68	70	70	69	
<b>Mean</b>	<b>49.2<sup>1,2,3</sup></b>	<b>49.9<sup>1,2,3</sup></b>	<b>53.3<sup>1,2,3</sup></b>	<b>44.8<sup>1,2,3</sup></b>	<b>39.0<sup>1,2,3</sup></b>	
<b>95% CI</b>	(42.4 – 55.9)	(41.9 – 57.9)	(49.4 – 57.2)	(39.2 – 50.5)	(33.4 – 44.5)	(62.3
<b>Median</b>	50.00	43.75	51.00	44.50	43.75	
<b>SD</b>	28.16	33.15	16.39	23.59	22.25	
<b>Variance</b>	793.28	1099.00	268.73	555.92	540.47	9

Data source: 2008 Autumn HOS, aged 15 years and over

<sup>1</sup>: means statistically significantly **lower** (t-test, p<0.05) than **none of the four health conditions**<sup>2</sup>: means statistically significantly **lower** (t-test, p<0.05) than **one of the four health conditions**<sup>3</sup>: means statistically significantly **lower** (t-test, p<0.05) than **two of the four health conditions**

## **CHAPTER 5: REFERENCES**

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