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Transformations between the Assessment of Quality of Life AQoL Instruments and Test-Retest Reliability

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ABSTRACT

Multi attribute utility (MAU) utility instruments purport to measure utility scores which may be used in economic evaluation studies. However different instruments predict different values and the result of an economic evaluation may therefore depend upon the choice of instrument. The present study describes the creation of econometric transformations between three of the Assessment of Quality of Life (AQoL) instruments. The result may be used to mitigate (but not eliminate) the problem of non-comparability of the instruments. Evidence relating to the reliability of the instruments and their sub-dimensions is also presented.

TABLE OF CONTENTS

List of Figures

List of Tables

Transformations between the Assessment of Quality of Life Instruments

1 Introduction

Four Assessment of Quality of Life (AQoL) instruments have been created with variable dimension and item structures. The reason for this is that a single instrument is not equally sensitive to all health states and more recent AQoL instruments have increased the number of items in particular domains in order to increase content validity in these domains. AQoL-6D sought to increase sensitivity close to full health. AQoL-7D increased sensitivity for health states involving the loss of visual acuity and AQoL-8D increased the content for health states involving social and psychological problems.

This proliferation of instruments raises three questions. First, which instrument should be used? Secondly, how can scores be compared? Thirdly, and most fundamentally, is it necessary to have additional dimensions and items to achieve sensitivity when generic multi attribute instruments purport to pick up all of the utility relevant information with 'generic statements', which are sensitive to any change in any health state?

The present paper is primarily concerned with the second question relating to the comparability of scores and in the derivation of transformations which would increase their comparability. We return to the first and third questions briefly in the discussion section.

None of these questions is unique to the AQoL instruments. Six other instruments are in common use – the QWB, 15D, EQ-5D, HUI 2, HUI 3, SF-6D. (For a review see Richardson, McKie and Bariola (2011)). This raises the same three questions in relation to these instruments. Without answering them, it is important to note that there is no agreement about which of the instruments should be used. The scores obtained from them are different and the correlation between them surprisingly low. Irrespective of claims made, the different instruments do not, as an empirical fact, have the same capacity to measure utility. The larger question of why this is so is not addressed here. Rather the paper is concerned with the smaller question of minimising some of the measurement differences from existing instruments and specifically from the four AQoL instruments.

The instruments and the methods used to obtain transformations are described in section 2 below. Section 3 describes the data used for the analysis. Section 4 presents the transformations and in section 5 we briefly reconsider the broader questions above. The conclusion in section 6 is that the transformations increase the comparability of scales but do not imply that one of the instruments is 'correct' or that the transformations mean that any one of the instruments is redundant. These are much larger questions.

2 Instruments

Instruments: The four AQoL instruments are described in Box 1 and their content in Table 1. Frequency distributions for the AQoL-4D, 6D and 8D are reproduced in Figure 1 using 547 responses from members of the public selected to represent the age-gender-economic profile of the Australian population. Table 2 reports summary statistics for the same group. The reliability of the instruments and their dimensions are reported in Appendix B.

Differences between the instruments are also obvious in the pairwise comparison of scores shown in Figure 2.1-2.4. These draw upon the larger data sets used for the transformations which include patient responses in order to expand the range of observations that are compared. Significant and non-random discrepancies between instruments are evident. They are much smaller than the discrepancies between EQ-5D, SF36, 15D, HUI 3 and AQoL identified elsewhere (Hawthorne, Richardson et al. 2001; Fryback, Palta et al. 2010; Khan and Richardson 2011). Nevertheless they are sufficient to distort comparisons which use different instruments.

Box 1 AQoL Instruments

AQoL-4D Originally called ‘AQoL’ (Hawthorne, Richardson et al. 1999)**:** Initially a 5 dimension 15 item instrument. Dimensions were illness, independent living, social relationships, physical senses, psychological wellbeing. Illness was subsequently deleted from the utility algorithm. Utilities were created from a multi level model using multiplicative models to combine items into dimensions and an overall multiplicative model to combine dimension scores into a single AQoL utility score.

AQoL 8 (Hawthorne 2009): An 8 item ‘Brief’ instrument observed by removing one item from each AQoL-4D dimension.

AQoL-6D (Richardson, Day et al. 2004): A 6 dimensional 20 item instrument. Pain and coping were added to AQoL-4D as separate dimensions. Mental health and Independent Living items were increased from 3 to 4 items. Utility weights were constructed as for AQoL-4D but with an econometric adjustment to the final algorithm.

AQoL-7D (Misajon, Hawthorne et al. 2005): A 7 dimension 26 item instrument which adds an explicit dimension for vision (VisQoL) to the AQoL-6D. Scaling was carried out as for AQoL-6D. (Richardson, Iezzi et al. 2011)

AQoL-8D (Richardson, Elsworth et al. 2011; Richardson, Sinha et al. 2011): An 8 dimensional 35 item instrument which adds explicit dimensions for self worth and happiness and expands the items in mental health. Utility weights were constructed as for AQoL-6D but with an econometric correction to each dimension before their combination to create AQoL-8D.

Table 1 Description and characteristics of the AQoL instruments

	AQoL-4D	AQoL 8	AQoL-6D	AQoL-7D	AQoL-8D
Dimensions	4	4	6	7	8
Items	12	8	20	26	35
Dimensions/items (number of items)					
Independent living					
Household activities	2	1	2	2	2
Mobility	1	1	2	2	2
Pain	1	1	3	3	3
Senses	3	2	3	9	3
Happiness					
Mental Health					
Depression/sadness	1		1	1	2
Despair/worry/agitation/sleep	1	1	3	3	6
Coping					
Energy/control			3	3	3
Relationships					
Family	2	1	2	2	3
Society	1	1	1	1	3
Intimacy			1	1	1
Self worth					3
Cronbach's alpha (1)	0.47	0.33	0.94		0.96
Test Retest (1)(2)	0.83 0.85	na	0.88 0.85	0.81 0.83	0.91 0.89

Notes

(1) The general sample is representative of the age/gender profile of the Australian population

(2) Two week and one month intra-class correlation coefficients. Details are in Appendix 3

Table 2 Summary statistics, AQoL-4D, 6D, 8D

Characteristics	**AQoL-4D**	**e**	**AQoL-6D**	**e**	**AQoL-7D**	**e**	**AQoL-8D**	**e**
Population Sample	n=420*		n=1149**		n=224		n=1149**	
Male	n=182		n=542		n=112		n=542	
Female	n= 238		n=607		n=112		n=607	
Mean (SE)	.70	.011	.84	(.004)			.82	(.004)
Male	.71	.017	.84	(.006)			.82	(.007)
Female	.69	.015	.84	(.005)			.81	(.006)
Age <25 years	.75	.046	.86	.012			.83	(.015)
Male	.73	.086	..87	.014			.85	(.019)
Female	.76	.054	.85	.021			.81	(.022)
Age >60 years	.70	.026	.87	.012			.87	(.012)
Male	.72	.032	.84	.024			.85	(.021)
Female	.67	.042	.89	.010			.88	(.013)
Percent AQoL=1.00	4.76%		.87%				1.48%	
Percent AQoL .95-1.00	10.95%		11.56%				17.81%	
Percent AQoL= <.25	6.00%		.52%				0.52%	

*Database -Test Retest (224) and Construction (197) – [Missing case =1]

** Database – Test Retest (495), BD Migrants (158), AQoL-8D Construction (197) and Scaling (302) [Missing cases = 3]

Figure 1 Frequency distributions for the 3 instruments

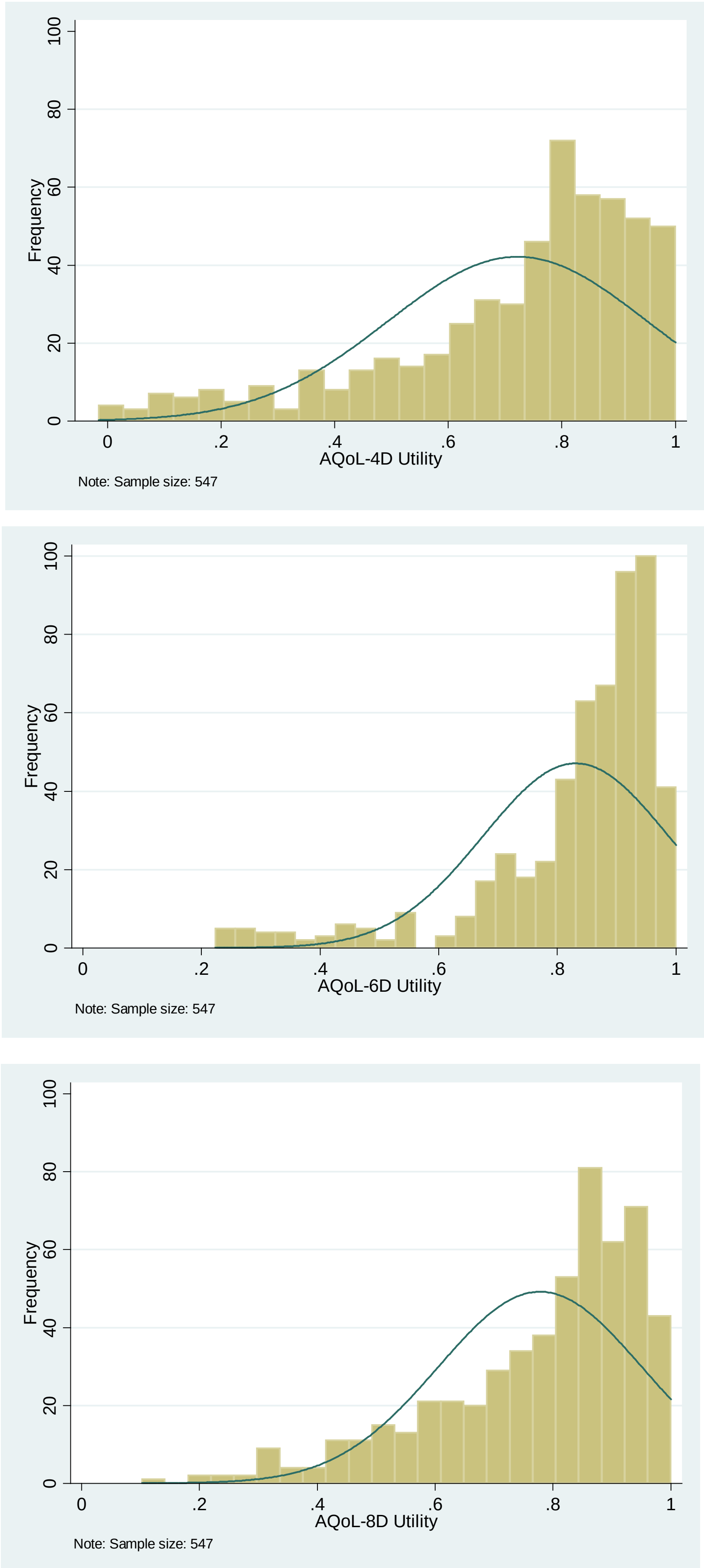
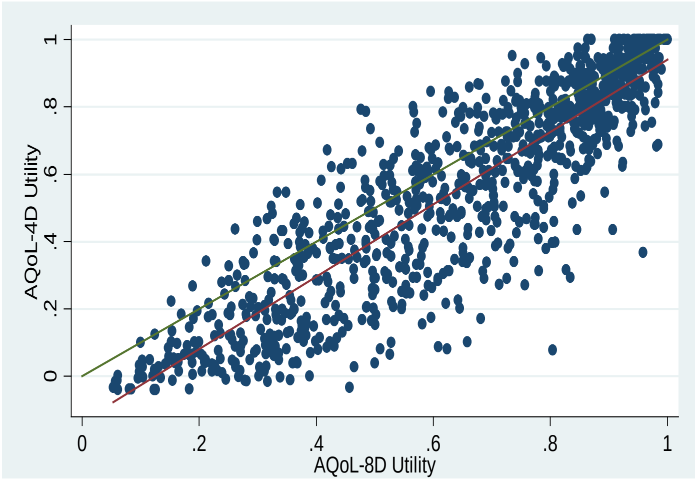


Figure 2 Pairwise scattergrams between the 3 AQoL instruments (public plus patients)

Figure 2.1 AQoL-4D and AQoL-6D

____ Fitted values ____ 45 degree line
Fitted line AQoL-4D = 0.245 + 1.158*AQoL-6D

Figure 2.2 AQoL-4D and AQoL-8D

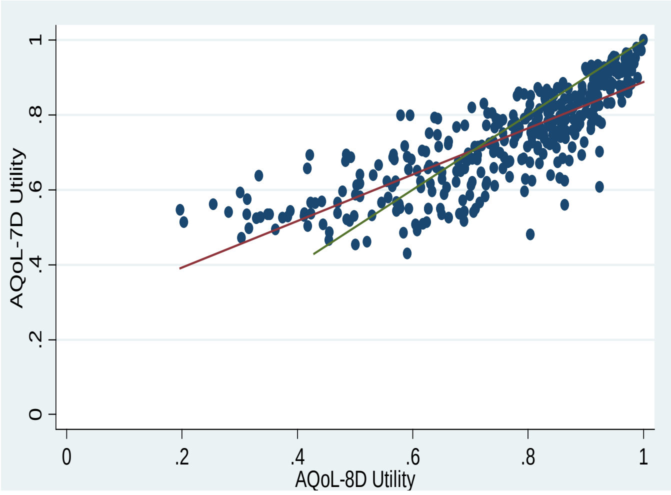


____ Fitted values ____ 45 degree line
Fitted line AQoL-4D = 0.136 + 1.077*AQoL-8D

Figure 2.3 AQoL-6D and AQoL-8D

____ Fitted values ____ 45 degree line
Fitted line AQoL-6D = 0.138 + 0.887*AQoL-8D

Figure 2.4 AQoL-7D and AQoL-8D



____ Fitted values ____ 45 degree line
Fitted line AQoL-7D = 0.270 + 0.618*AQoL-8D

3 Methods

Numerous studies have transformed scores from generic or disease specific instruments to obtain the equivalent score which would be obtained from another instrument. (For reviews, see Mortimer and Segal (2008) and Brazier, Yaling et al. (2010)). In the present project two variants of two methods are used to predict the score which would be obtained with instrument A from the results obtained from instrument B. Both employ econometric methods to obtain a relationship between instrument scores from an existing data set and results are assumed to apply more generally.

Modal 1A: This method involved two stages.

(i) Each dimension score, Dim_i (A), of instrument A is predicted from a regression upon the dimensions of instrument B, Dim_i B.

$$Dim_i (A) = f(Dim_1(B)) \ldots Dim_n(B))$$

(ii) The predicted score for instrument A is obtained by inserting the predicted dimensions Dim_i (A) into the algorithm for instrument A.

Model 1B: As a variant of this method the square of the dimension score are entered into stage 1.

Model 2A: The utility score of instrument A is predicted directly from the scores obtained from instrument B and its dimensions.

Model 2B: The square of the dimension terms is entered into the regression.

In the present context, the task is to obtain a best estimate of the dependent instrument given information with respect to the independent instrument. A measurement error in the independent variable cannot be altered and, given this, the task is to minimise additional error arising from the estimation procedure. This suggests the use of OLS estimation.

Selection criteria: Four criteria were used for choosing between the results. These were:

(i) The value of the average error between actual and predicted values;
(ii) The intra-class correlation between predicted and actual values. (The intra-class correlation is a measure of the absolute agreement between scores which may be large despite a high correlation and low average error);
(iii) Visual inspection of the predicted and actual frequencies and, particularly, their correspondence at the ceiling and floor, and at peaks and troughs in the frequency;
(iv) Systematic bias in the predicted score. This was determined by regressing scores for instrument A upon the predicted score using each of the four methods. Perfect prediction would result in a linear regression of the form score A = 0.00 + 1.00 score (A/B). The fourth criterion was the extent of the deviation from this gold standard.

Reliability

A sub-study was conducted to determine the reliability of each of the instruments using two concepts of reliability. The first, generally measured with Cronbach's alpha, is a measure of internal consistency to determine whether the multiple items in an instrument (or dimension) are addressing the same underlying constructs. The second, test-retest reliability is commonly measured using the intra-class correlation which indicates the extent of absolute agreement between observations. The two measures may not be consistent. Cronbach's alpha generally rises with the number of items which describe the construct. Test-retest coefficients may be high despite items having limited or no relationship to each other. For example, an index of health which combined BMI, blood pressure and lung function may have nearly perfect test-retest reliability but uncorrelated items.

4 Data

For the purposes of obtaining a transformation the important feature of the sample is the breadth of observations, not the representativeness of the individuals. Consequently, the largest available database for each set of transformations was employed. Available data at May 2011 which span multiple instruments are reported by type of respondent and method of administration in Appendix A, Table A.1. In total, 2,617 observations were available for AQoL-8D, 3,417 for AQoL-6D 1,898 for AQoL-4D and 378 for AQoL-7D. The range of health states encompassed is indicated by the frequency distributions of the AQoL-8D dimensions created from (only) the public observations which are reproduced in the appendix.

The reliability sub-study (Test-Retest) employed a web-based sample of 385 individuals whose characteristics are shown in Appendix 3, Table A.1. The AQoL suite of instruments was completed three times at intervals of 2 weeks and 1 month. Respondents were paid $1.00, $1.00 and $7.00 for completion of each set of questions. A total of 224 individuals completed all sets.

5 Results

Tables 3 to 10 and Figures 3 to 10 summarise the data and results for each of the four models. Results from the test-retest study are reported in Appendix 3 and summarised in Table 1, earlier.

5.1 Predicting AQoL-4D from AQoL-6D

A total of 1,799 observations were used to predict AQoL-4D from AQoL-6D: 1,123 members of the public and 656 patients (Table 3). The diagnostic statistics for the four models were virtually identical (Table 3). Choice was therefore based upon the correspondence of predicted frequencies with the original frequency distribution of AQoL 4 as shown in Figure 3.1. In this, model 1A predicted values greater than 1.00 and model 2B predicted values which were significantly less than true AQoL-4D scores. Model 1B and 2B tracked ceiling and floor effects correctly but model 1B reflected the true distribution more accurately and therefore was selected. Predicted values are plotted against the original scores for the four models in Figure 3.2.

Table 3 Predicting AQoL-4D from AQoL-6D

Data (observations)			Public	Patient	Total
Original			1202	695	1897
After excluding missing values			1123	656	1799
Proportion (%)			63.13	36.87	100
Regression results		Modal 1A	Modal 1B	Modal 2A	Modal 2B
R^2					
Ave error		0.09	0.09	0.09	0.09
Diagnostic regression: AQoL = a + b AQoL (predicted)					
	a	0.032	0.006	0.00	0.00
	b	0.95	0.99	1.00	1.00
	R^2	0.82	0.83	0.82	0.82
	ICC	0.91	0.91	0.90	0.90

AQoL-4D predicted from AQoL-6D

Figure 3.1 Frequency distributions, AQoL-4D and predicted scores

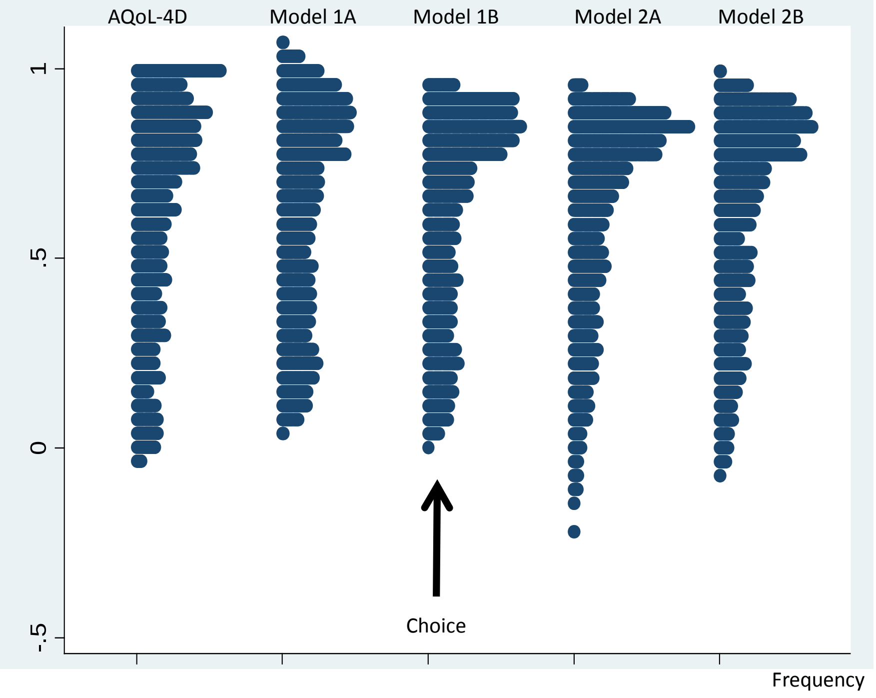
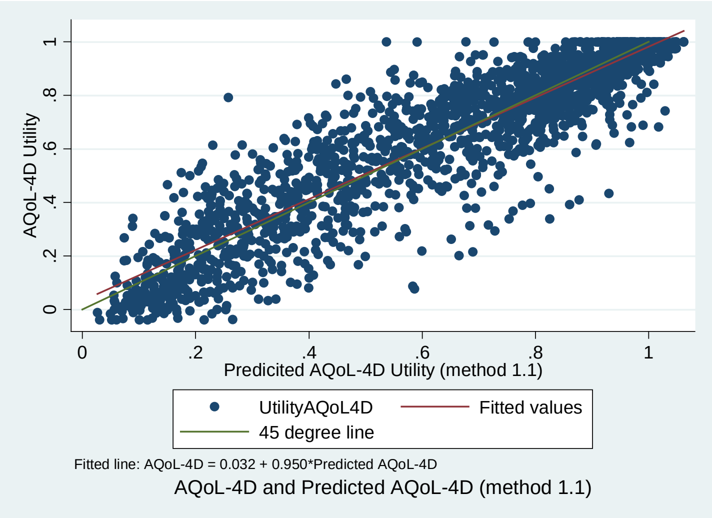
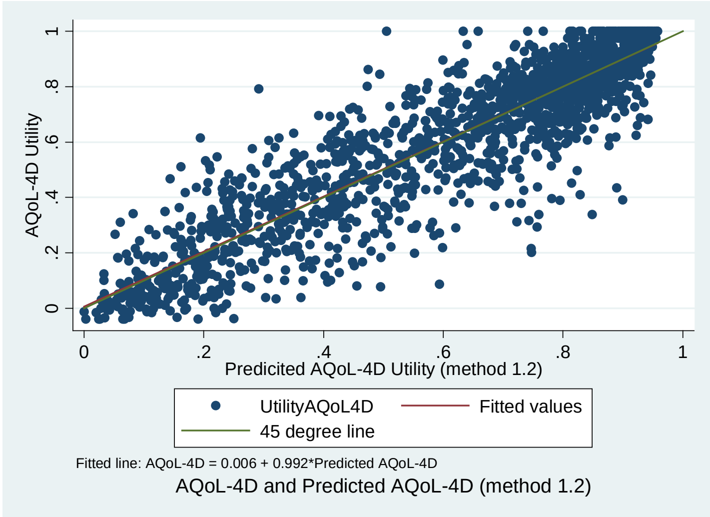


Figure 3.2 AQoL-4D predicted from AQoL-6D

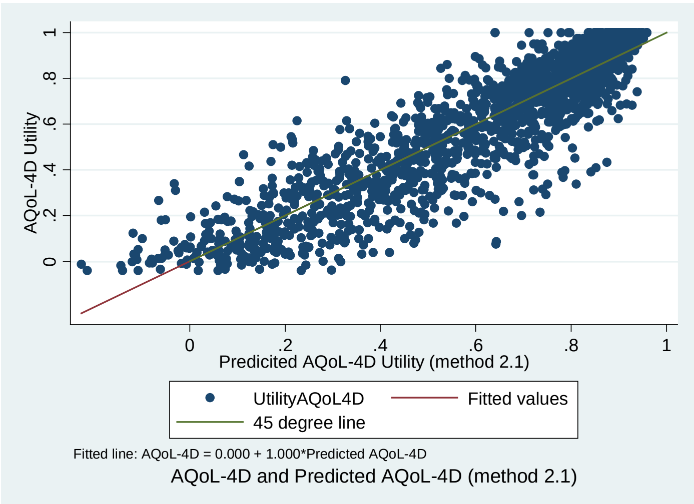
Model 1A



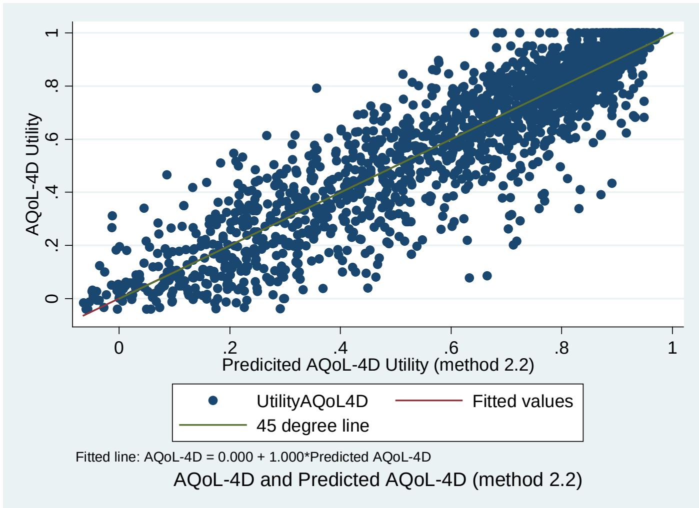
Model 1B (Choice)



Model 2A



Model 2B



5.2 Predicting AQoL-6D from AQoL-4D

Diagnostic statistics for the reverse prediction – AQoL-6D from AQoL-4D – are shown in Table 4. Models 1B and 2B are marginally superior using these criteria. From Figure 4.1 the predicted frequency distribution of model 1B is clearly superior in its prediction of lower scores and most closely tracked the original frequency distribution of AQoL-6D. It was therefore adopted. Predicted and actual scores are compared for the four models in Figure 4.2.

Table 4 Predicting AQoL-6D from AQoL-4D

Data (observations)			Public	Patient	Total
Original			1202	695	1897
After excluding missing values			1123	656	1799
Proportion (%)			63.13	36.87	100
Regression results		Model1A	Modal 1B	Modal 2A	Modal 2B
R^2					
Ave error		0.07	0.07	0.07	0.07
Diagnostic regression: AQoL = a + b AQoL (predicted)					
	a	-0.026	-0.013	0.00	0.00
	b	1.02	1.00	1.00	1.00
	R^2	0.76	0.81	0.79	0.82
	ICC	0.86	0.90	0.88	0.90

AQoL-6D predicted from AQoL-4D

Figure 4.1 Frequency distributions, AQoL-6D and predicted scores

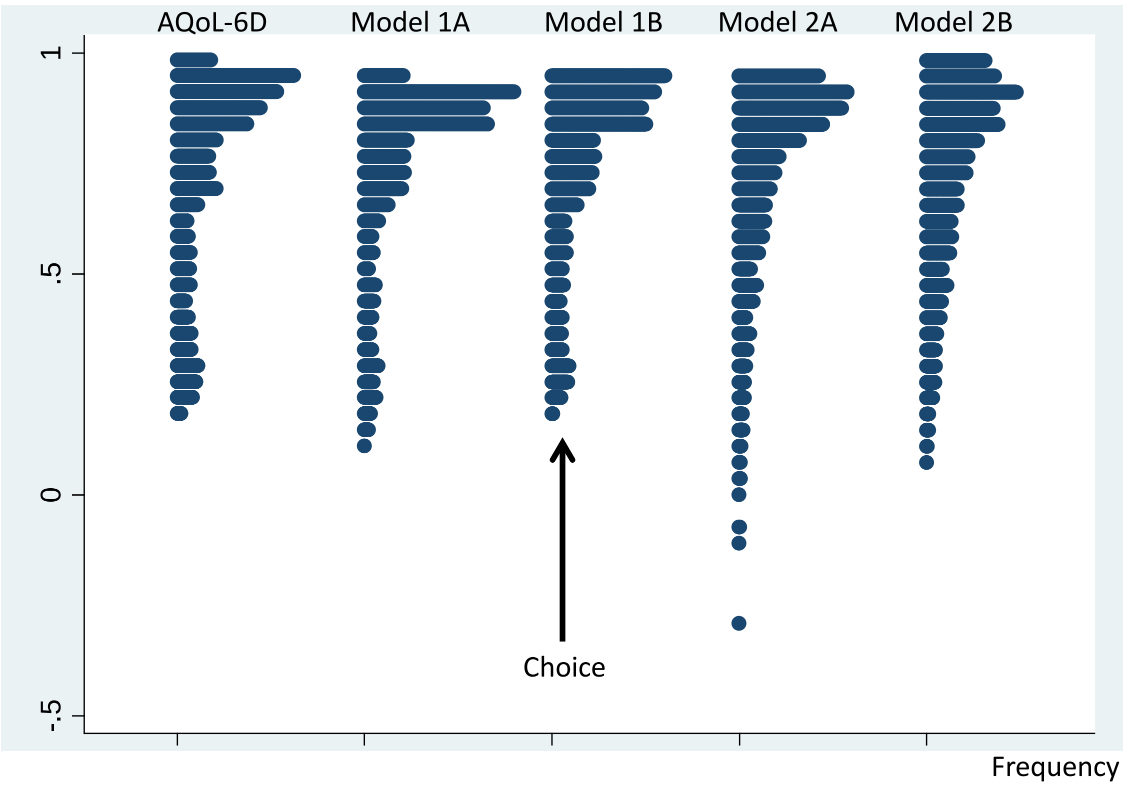
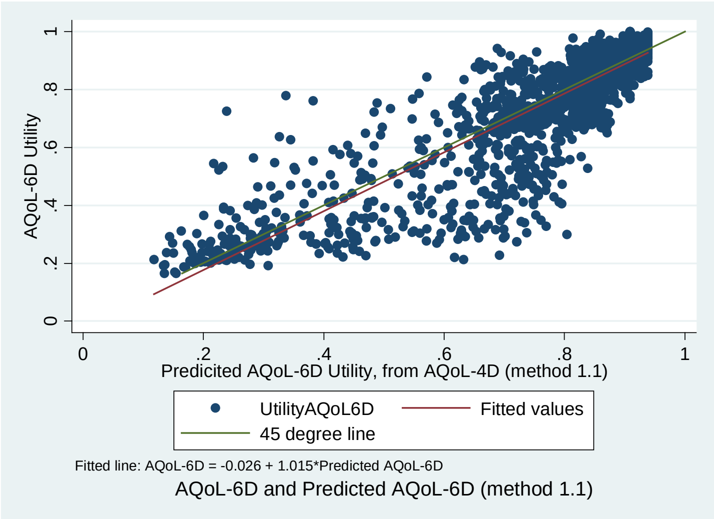
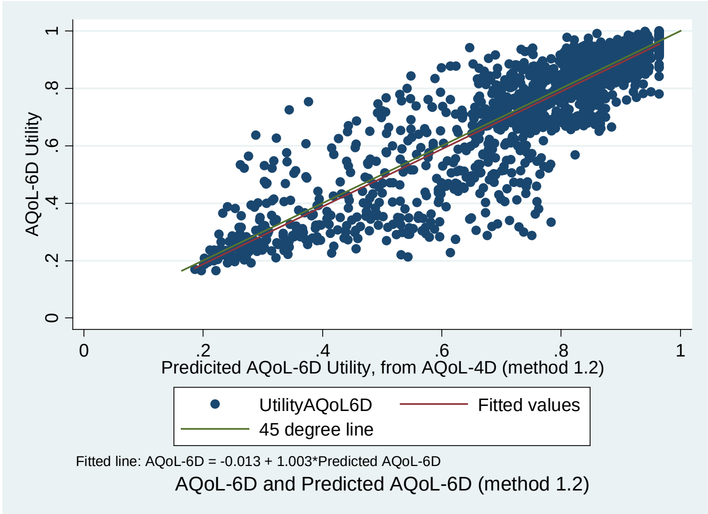


Figure 4.2 AQoL-6D predicted from AQoL-4D

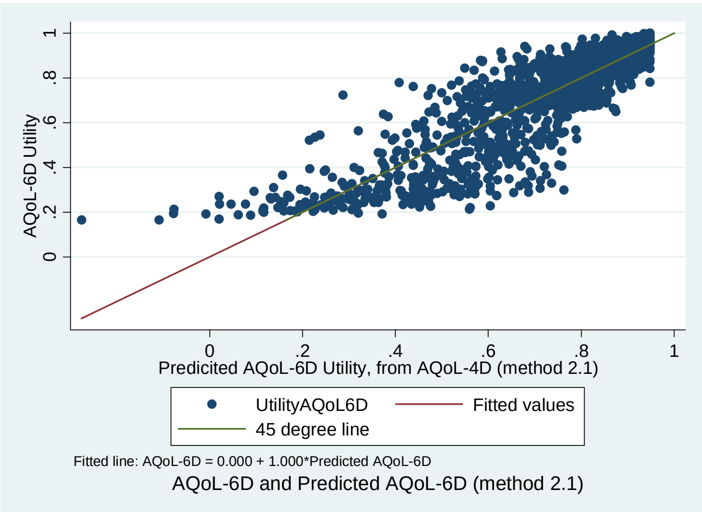
Model 1A



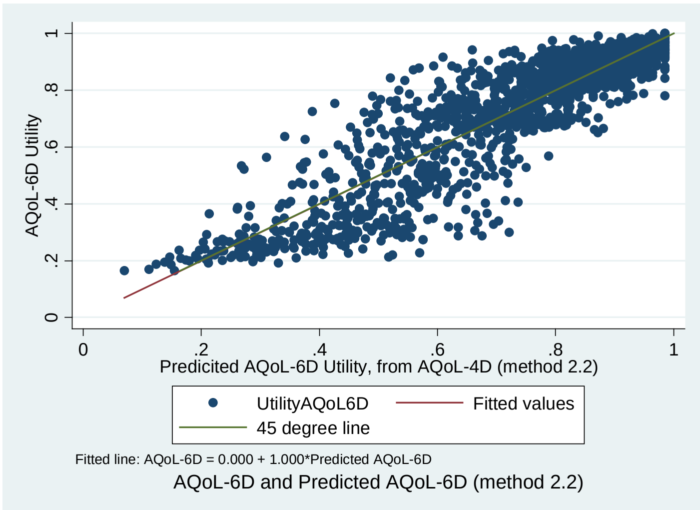
Model 1B (Choice)



Model 2A



Model 2B



5.3 Predicting AQoL-4D from AQoL-8D

From Table 5 a total of 1021 observations were used to derive the relationships between AQoL-8D and AQoL-4D; 474 patients and 547 members of the general public. Diagnostic statistics from the two regression equations for each model indicate the slight inferiority of model 1a but do not distinguish between the remaining three models.

The frequency distribution, Figure 5.1 similarly indicates a poor fit by model 1A as it predicts values in excess of 1.00. Model 2A and 2B incorrectly predict negative scores. The frequency distribution from model 1B most closely tracks the true distribution of scores and was therefore adopted for the transformation algorithm.

Scattergrams of the four model predictions in Figure 5.2 indicate the over prediction by model 1A and the ceiling and wrong prediction of negative scores at the floor by model 2A and 2B.

Table 5 Predicting AQoL-4D from AQoL-8D

Data (observations)			Public	Patient	Total
Original			582	515	1097
After excluding missing values			547	474	1021
Proportion (%)			53.57	46.43	100
Regression results		Modal 1A	Modal 1B	Modal 2A	Modal 2B
R^2					
Ave error		0.10	0.09	0.09	0.09
Diagnostic regression: AQoL = a + b AQoL (predicted)					
	a	0.04	0.01	0.00	0.00
	b	0.92	0.99	1.00	1.00
	R^2	0.82	0.84	0.83	0.84
	ICC	0.90	0.92	0.91	0.91

AQoL-4D predicted from AQoL-8D

Figure 5.1 Frequency distributions, AQoL-4D and predicted scores

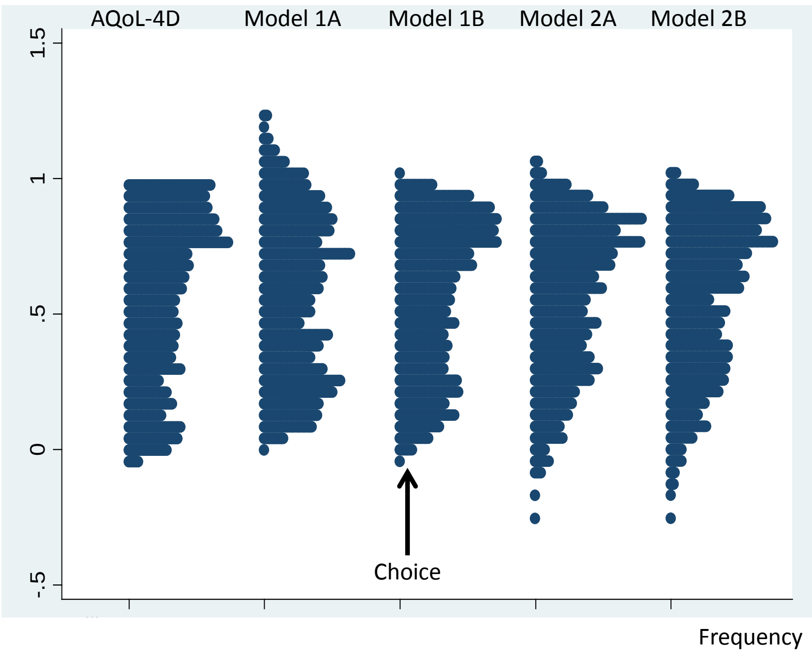
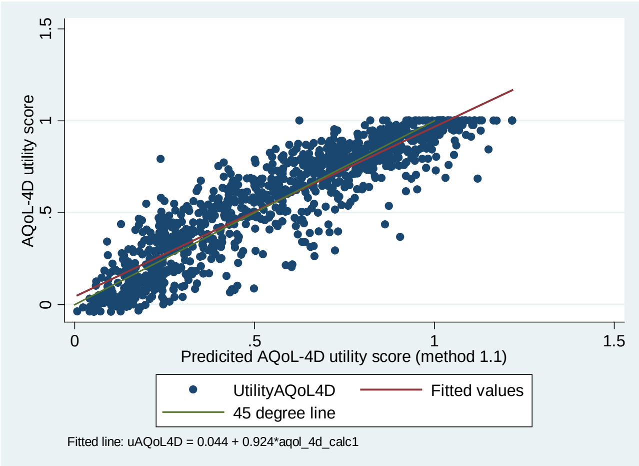
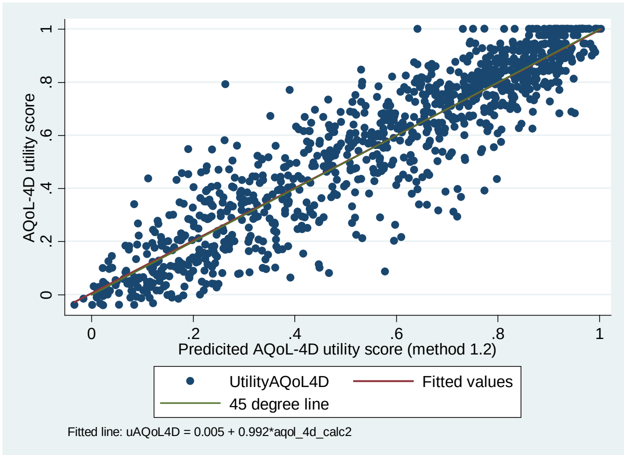


Figure 5.2 AQoL-4D predicted from AQoL-8D

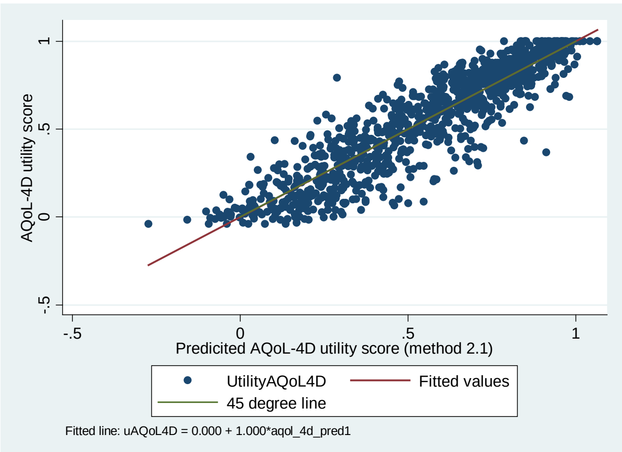
Model 1A



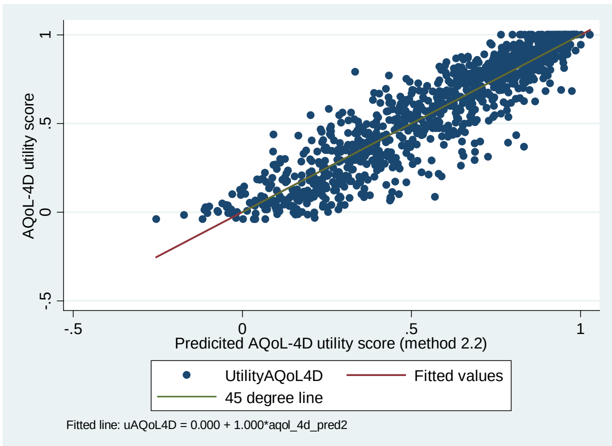
Model 1B (Choice)



Model 2A



Model 2B



5.4 Predicting AQoL-8D from AQoL-4D

From Table 6 diagnostic statistics indicate an overall better fit for models 1B and 2B (ICC 0.91) and average errors of 0.09. The corresponding frequency distributions, Figure 6.1 indicate that model 2B has marginal better prediction of extreme values. Elsewhere the predictions were comparable. Figure 6.2 confirms the poor fit from models 1A and 2A and suggests less skew in the error for model 2B. Consequently this model was adopted for the transformation.

Table 6 Predicting AQoL-8D from AQoL-4D

Data (observations)			Public	Patient	Total
Original			582	515	1097
After excluding missing values			547	474	1021
Proportion (%)			53.57	46.43	100
Regression results		Modal 1A	Modal 1B	Modal 2A	Modal 2B
R^2					
Ave error		0.09	0.08	0.09	0.08
Diagnostic regression: AQoL = a + b AQoL (predicted)					
	a	-0.02	0.00	0.00	0.00
	b	1.00	0.99	1.00	1.00
	R^2	0.78	0.83	0.77	0.83
	ICC	0.88	0.91	0.87	0.91

AQoL-8D predicted from AQoL-4D

Figure 6.1 Frequency distributions, AQoL-8D and predicted scores

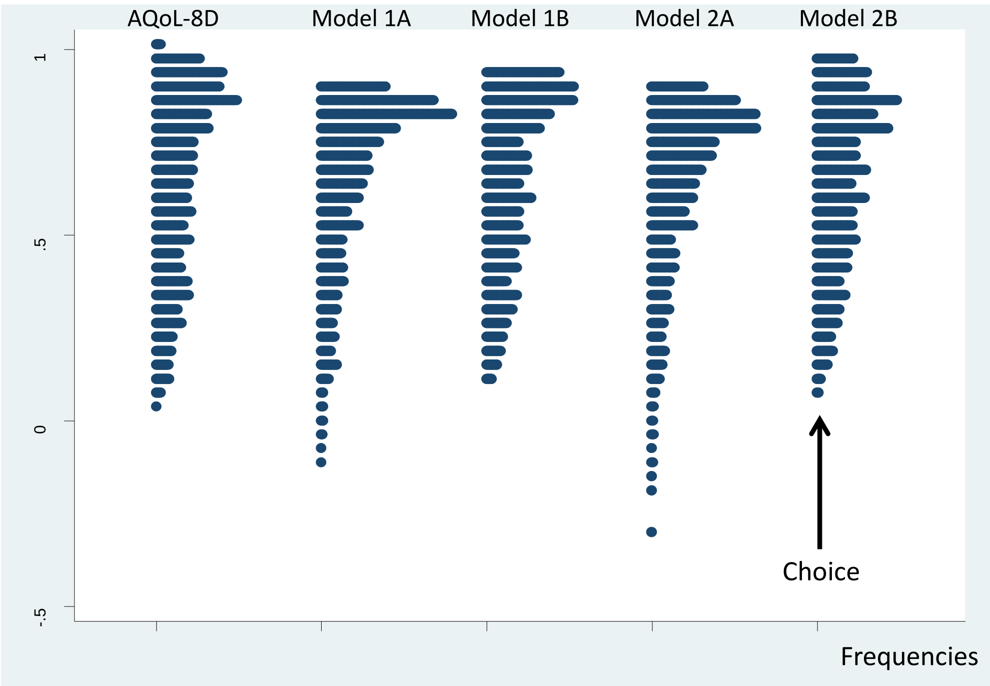
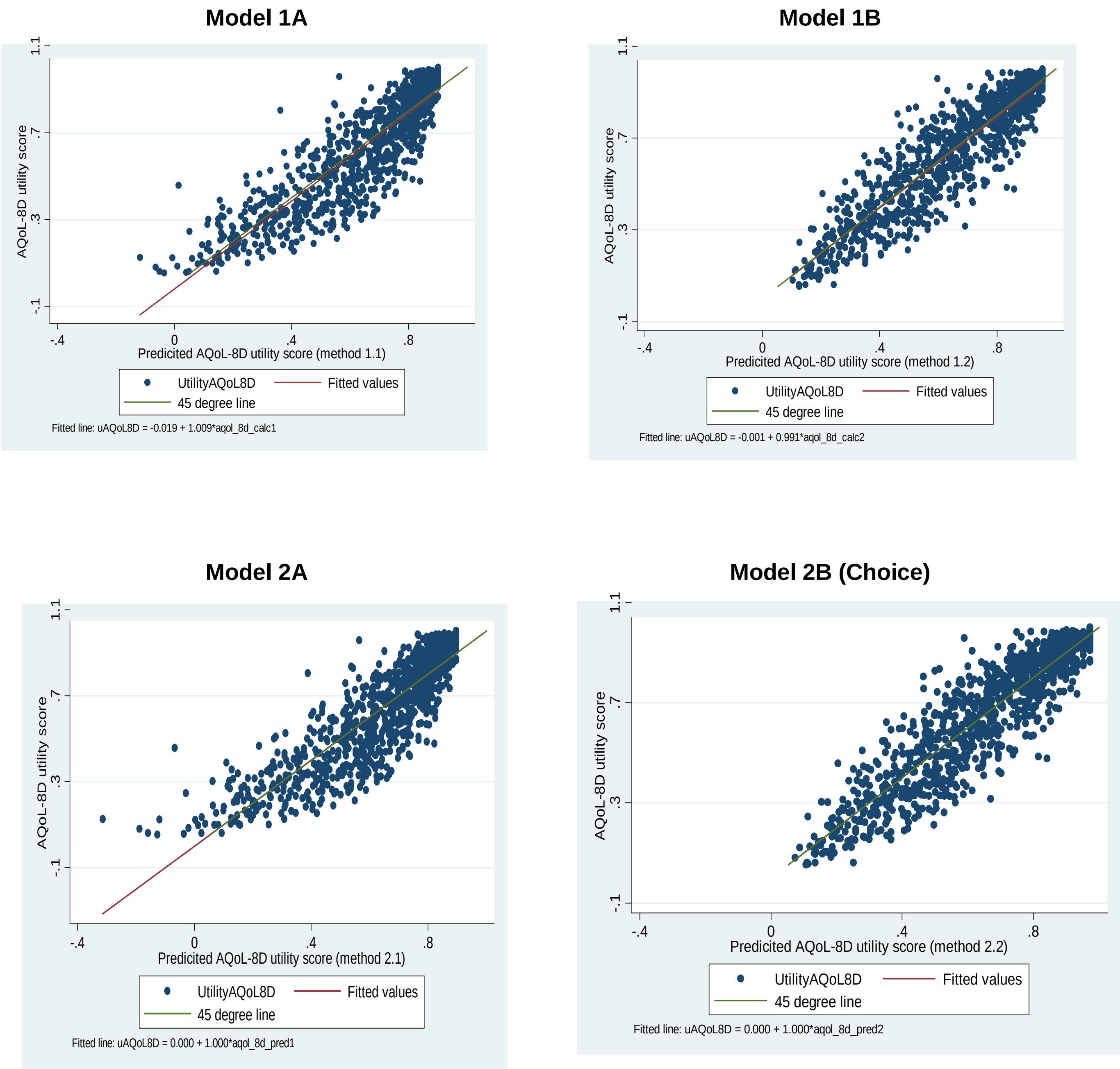


Figure 6.2 AQoL-8D predicted from AQoL-4D



5.5 Predicting AQoL-6D from AQoL-8D

Diagnostic statistics reported in Table 7 suggest the marginal superiority of model 1B. Frequency plots in Figure 71 indicate extreme value error for model 2A and 2B. Figure 7.2 indicates an extremely close fit for both model 1A and 1B. As the goodness of fit of these were otherwise indistinguishable model 1B was adopted for the transformation as the model proved more robust in other transformations.

Table 7 Predicting AQoL-6D from AQoL-8D

Data (observations)			Public	Patient	Total
Original			1079	1597	2676
After excluding missing values			1079	1522	2601
Proportion (%)			41.48	58.52	100
Regression results		Modal 1A	Modal 1B	Modal 2A	Modal 2B
R^2					
Ave error		0.04	0.04	0.05	0.04
Diagnostic regression: AQoL = a + b AQoL (predicted)					
	a	-0.01	-0.01	0.0	0.00
	b	1.01	1.01	1.00	1.00
	R^2	0.91	0.92	0.89	0.91
	ICC	0.95	0.96	0.94	0.95

AQoL-6D predicted from AQoL-8D

Figure 7.1 Frequency distribution, AQoL-8D and predicted scores

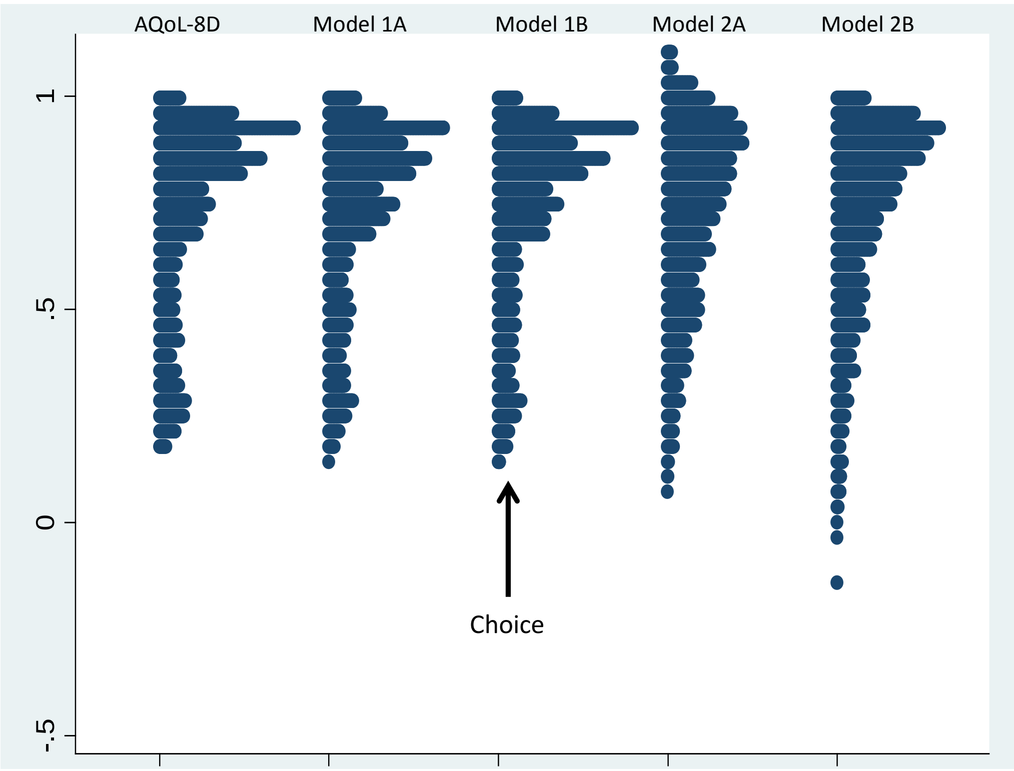
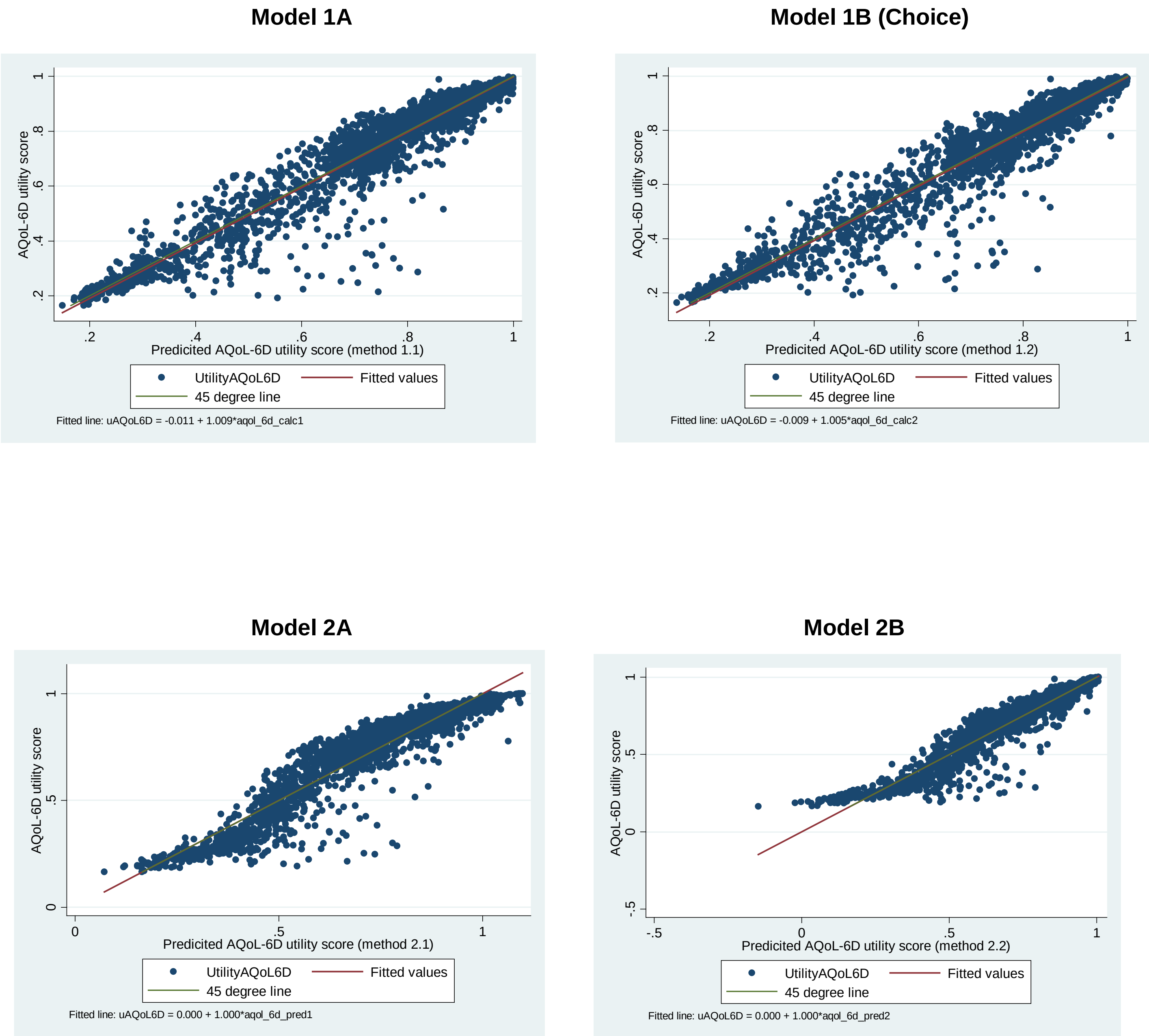


Figure 7.2 AQoL-6D predicted from AQoL-8D



5.6 Predicting AQoL-8D from AQoL-6D

Diagnostic statistics in Table 8 do not allow a distinction to be made between models 1B, 2A and 2B. The frequency distributions in Figure 8.1 indicate poorer prediction at extreme values for models 1A and 1B and, at the floor, a marginally better fit for model 2a over 2b. This is reflected in the scattergrams in figure 8.2. Consequently model 2A was adopted for the transformation.

Table 8 Predicting AQoL-8D from AQoL-6D

Data (observations)			Public	Patient	Total
Original			1079	1597	2676
After excluding missing values			1079	1522	2601
Proportion (%)			41.48	58.52	100
Regression results		Modal 1A	Modal 1B	Modal 2A	Modal 2B
R^2					
Ave error		0.05	0.04	0.04	0.04
Diagnostic regression: AQoL = a + b AQoL (predicted)					
	a	-0.001	0.004	0.00	0.00
	b	0.99	0.99	1.00	1.00
	R^2	0.93	0.94	0.94	0.94
	ICC	0.96	0.97	0.97	0.97

AQoL-8D predicted from AQoL-6D

Figure 8.1 Frequency distribution, AQoL-8D and predicted scores

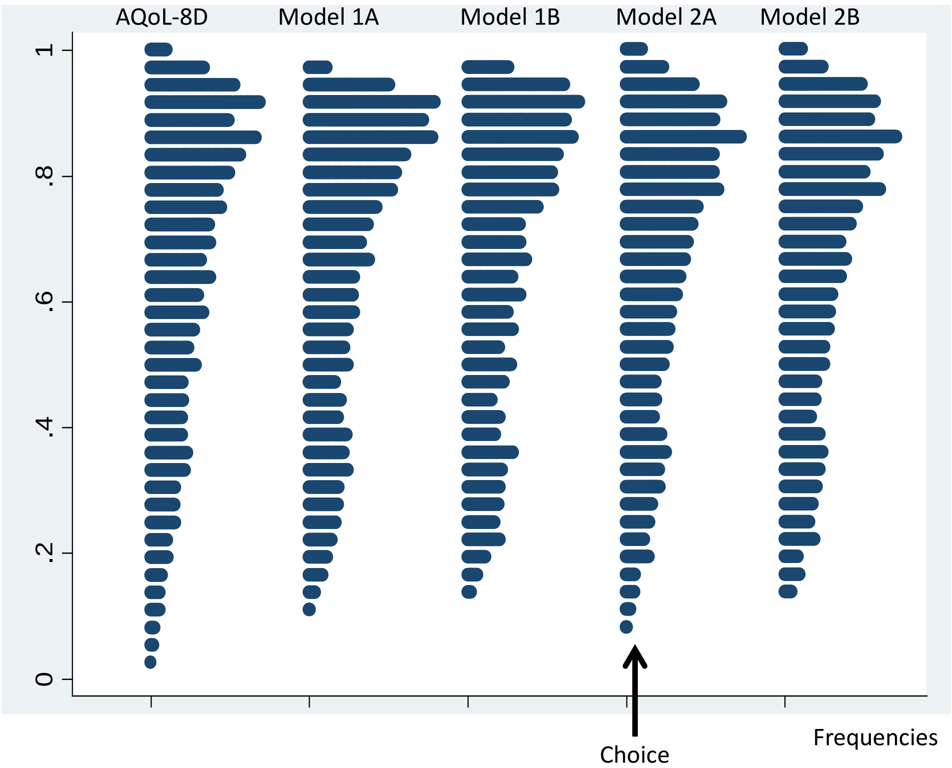
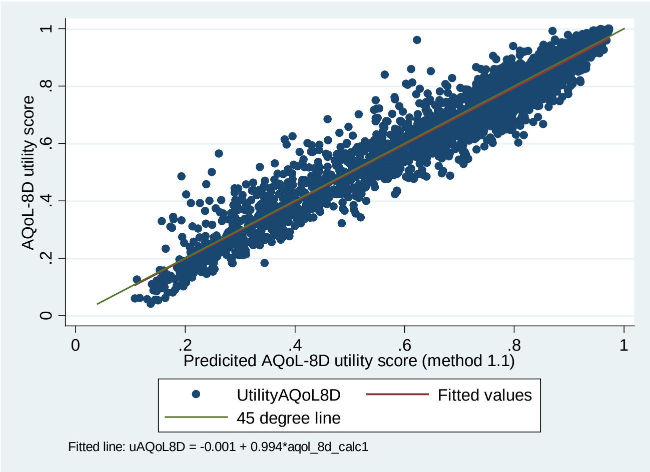
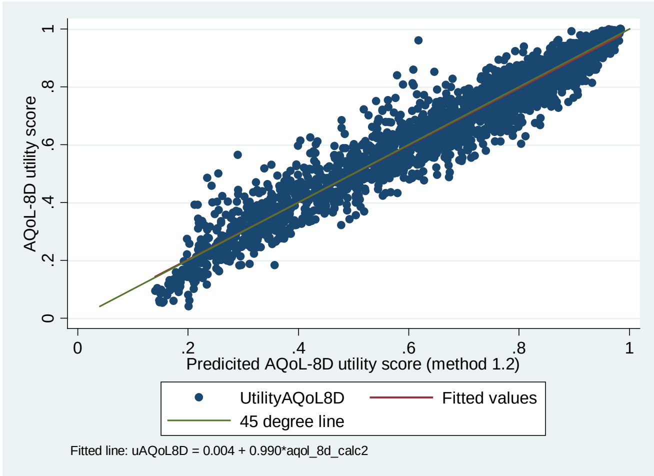


Figure 8.2 AQoL-8D predicted from AQoL-6D

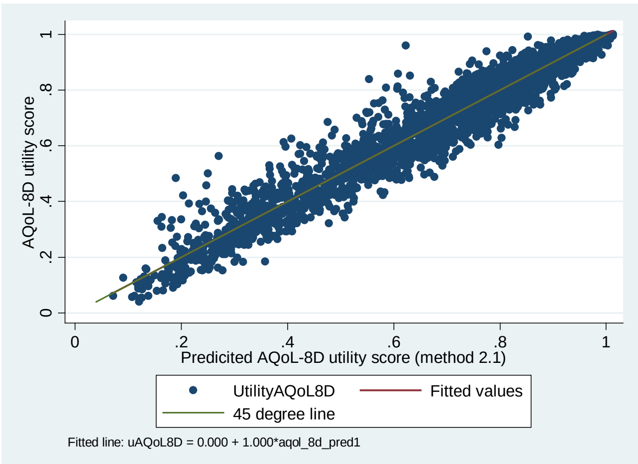
Model 1A



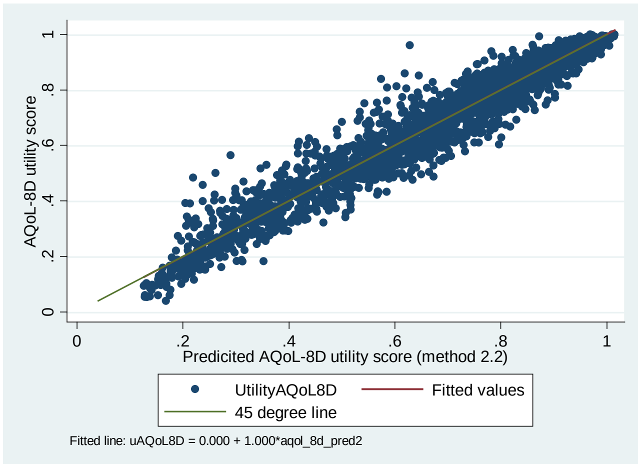
Model 1B



Model 2A (Choice)



Model 2B



5.7 Predicting AQoL-7D from AQoL-8D

Diagnostic statistics in Table 9 suggest the inferiority of model 1A and the marginal superiority of model 1B. The frequency distribution of this model also corresponded most closely with the distribution of AQoL-7D and it was therefore adopted.

Table 9 Predicting AQoL-7D from AQoL-8D

Data (observations)			Public	Patient	Total
Original			378	-	378
After excluding missing values			378	-	378
Proportion (%)			100	-	100
Regression results		Modal 1A	Modal 1B	Modal 2A	Modal 2B
R^2					
Ave error		0.04	0.02	0.03	0.03
Diagnostic regression: AQoL = a + b AQoL (predicted)					
	a	0.106	0.003	0.00	0.00
	b	0.88	1.00	1.00	1.00
	R^2	0.89	0.95	0.90	0.92
	ICC	0.94	0.97	0.95	0.96

AQoL-7D predicted from AQoL-8D

Figure 9.1 Frequency distribution, AQoL-7D and predicted scores

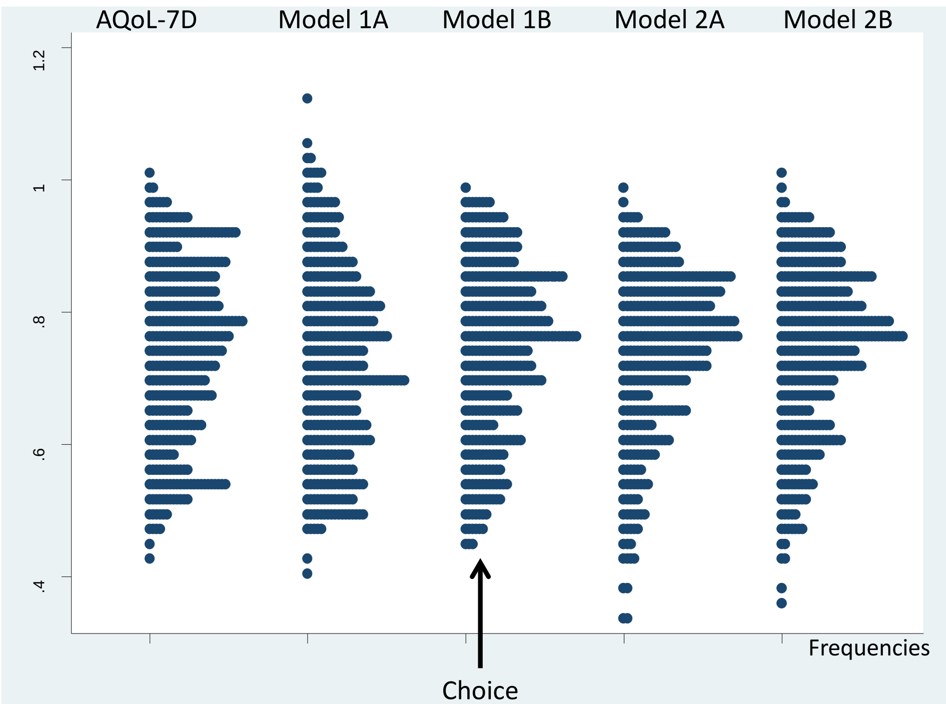
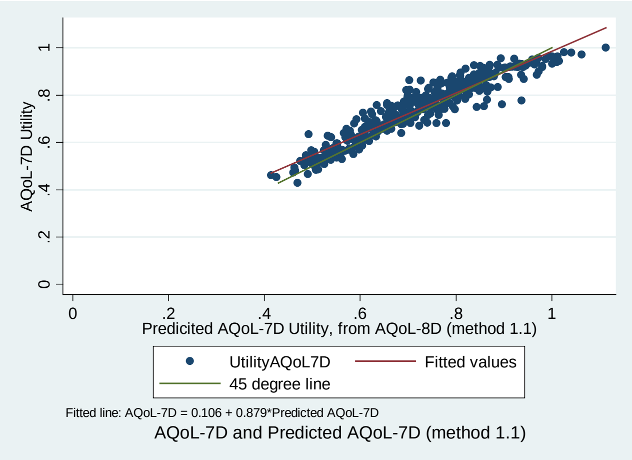
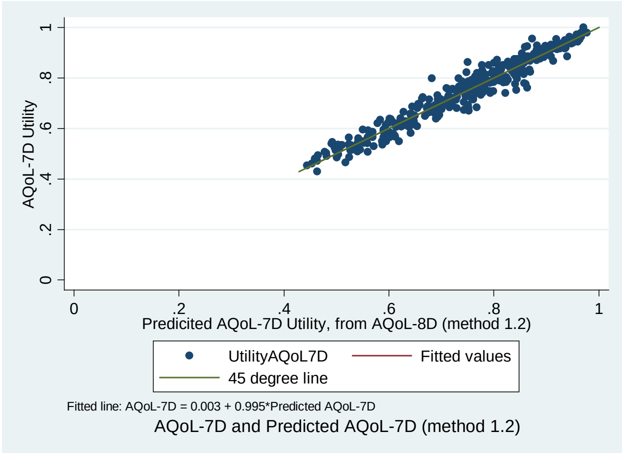


Figure 9.2 AQoL-7D predicted from AQoL-8D

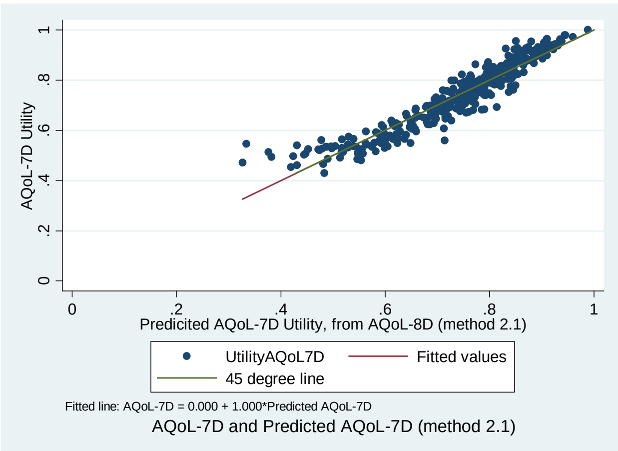
Model 1A



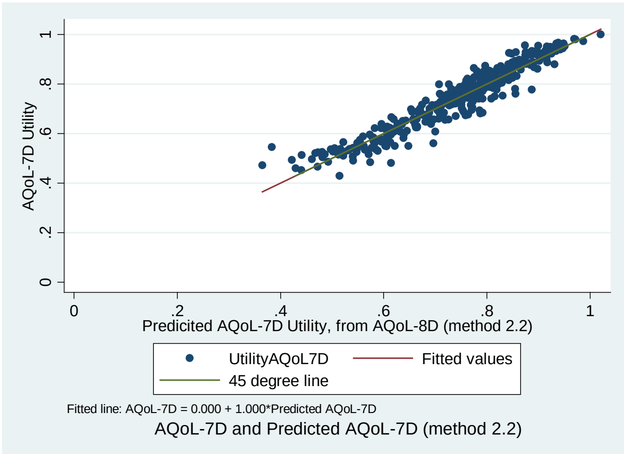
Model 1B (Choice)



Model 2A



Model 2B



5.8 Predicting AQoL-8D from AQoL-7D

The diagnostic statistics do not permit a distinction to be drawn between the different models. The frequency distributions are also virtually indistinguishable. Model 1B was selected because of a slight superiority in its prediction and the upper range of the scores and better performance of this model in other transformations.

Table 10 Predicting AQoL-8D from AQoL-7D

Data (observations)			**Public**	**Patient**	**Total**
Original			378	-	378
After excluding missing values			378	-	378
Proportion (%)			100	-	100
Regression results		Modal 1A	Modal 1B	Modal 2A	Modal 2B
R^2					
Ave error		0.04	0.03	0.03	0.03
Diagnostic regression: AQoL = a + b AQoL (predicted)					
	a	0.01	0.00	0.00	0.00
	b	0.99	0.99	1.00	1.00
	R^2	0.93	0.94	0.94	0.94
	ICC	0.97	0.97	0.97	0.97

AQoL-8D predicted from AQoL-7D

Figure 10.1 Frequency distribution, AQoL-8D from AQoL-7D

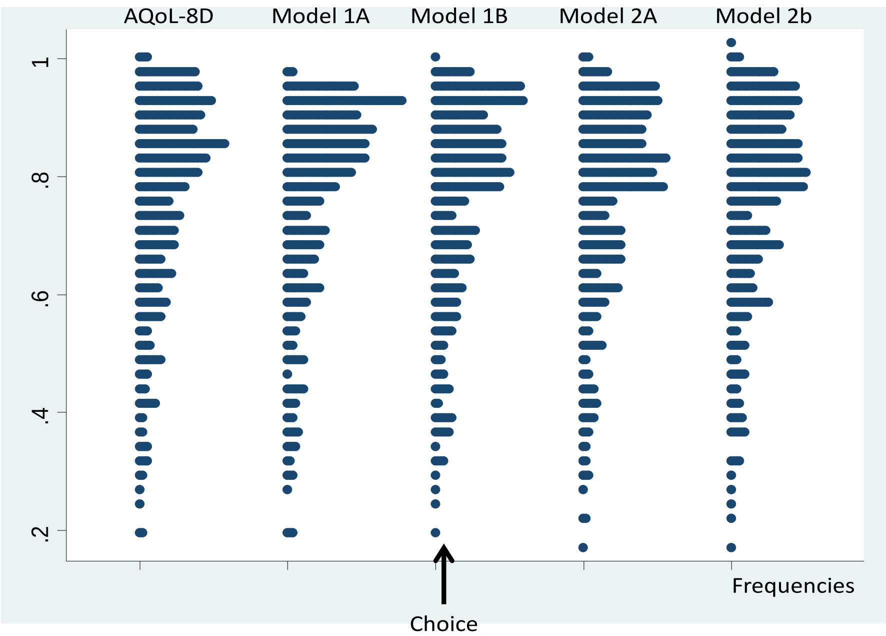
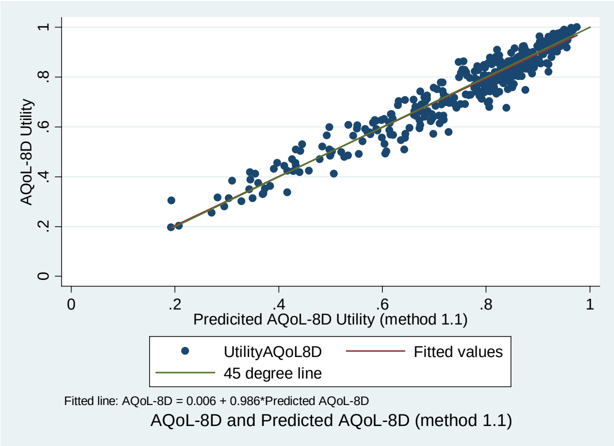
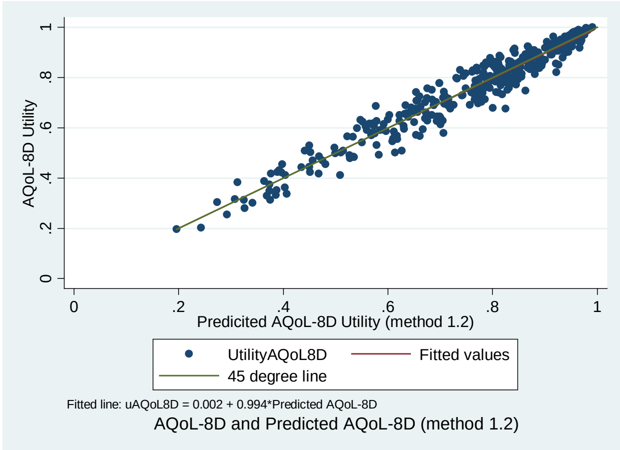


Figure 10.2 AQoL-8D predicted from AQoL-7D

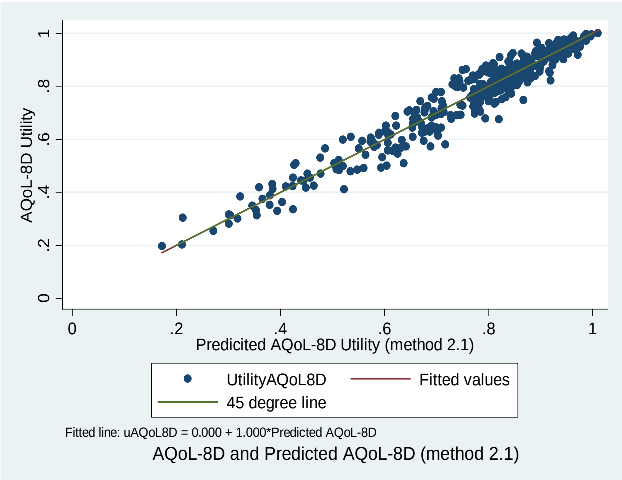
Model 1A



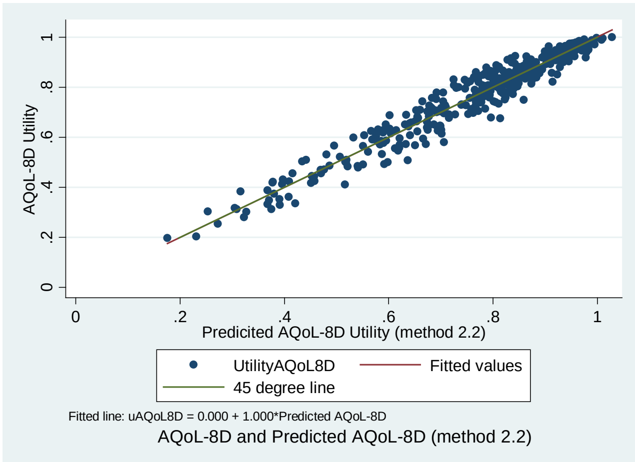
Model 1B (Choice)



Model 2A



Model 2B



6 Discussion

Three questions were posed in the introduction. These were first, whether it is necessary to have additional dimensions and items to achieve sensitivity when general multi attribute instruments purport to pick up all relevant utility information. Secondly, how can scores be compared from instruments with different dimensions and, thirdly, which instrument should be used.

The first question is effectively identical to the question of whether any generic instrument does, in fact, pick up all of the utility relevant information. If the answer was ‘yes’, then clearly, additional dimensions would be redundant and only one generic instrument would be needed. Since instruments generally (and not just AQoL instruments) produce different scores one of two conclusions must be drawn: either different instruments have a different capacity for detecting true utilities in different contexts or, all of the instruments with one exception, create scores which do not generally correspond with utility. To date this latter possibility remains unproven and the evidence supports the former conclusion. The limited testing to date suggests that different instruments have differing sensitivity with respect to different health states. In view of the striking differences between instrument descriptive systems any other conclusion would be surprising (see Richardson, McKie and Bariola (2011) for a review of the evidence).

This raises the third question of what instrument should, therefore, be used and, specifically, which of the AQoL instruments should be adopted. The general answer is that (at present) there is no general answer. The first requirement of an instrument is that it should be capable of detecting the differences to be encountered or that are of importance in use. However this broad criterion is insufficient. For example, instruments with and without detailed psychological content are likely to correlate as the generic items of the insensitive instrument will detect some but not all of the differences between health states. Consequently, at present, researchers must exercise judgement about which instrument is most likely to detect the changes they expect to encounter. Judgement can, of course, be improved through context specific comparisons of instruments (including qualitative research) prior to the selection of an instrument.

This previous conclusion raises the second question. If different instruments with different scoring algorithms are used in different studies then how can scores be compared? Part of the answer is to ensure that over a broad range of health states and individuals the scores from instruments which are compared correspond with one another. This was the problem addressed in the present paper. However, achieving comparability across a broad range of individuals and health states does not imply that instruments are equivalent as connoted by the misleading term ‘transformation’ (of one instrument to another). Aligning the measurement units is necessary but not sufficient for comparability and approximating the value of omitted items is second best to their inclusion. Transformations per se cannot, in general, inject sensitivity into insensitive instruments.

One reaction to the problem of achieving comparability of measurement has been to argue for the use of a single instrument since a single instrument ‘must produce comparable measurement’. The argument is beguiling but false. An instrument which is sensitive in one context may be insensitive in another. The use of only one instrument will favour interventions in the context where it is sensitive. To take an extreme example the measurement of ‘health’ using a single scale, namely blood pressure, would not achieve comparable measurement of health across health states. It would accurately detect problems associated with hypertension but neglect those associated with psychiatric disease.

7 Conclusion

Different generic multi attribute utility (MAU) instruments estimate different utility scores for the same individual. This implies that the result of an economic evaluation could depend upon the choice of measurement instrument. This problem can be mitigated, but not eliminated by transforming the scores from one instrument to ensure that over a broad range of health states the same individual is assigned a similar score.

Transformations shown in the present paper align the scales of the AQoL instruments and partially adjust for differences in the descriptive systems. They permit estimated utilities using one instrument to be transformed to produce the best estimate of the utility score that would be obtained from another instrument. This reduces but does not eliminate differences in measurement attributable to the choice of instrument. Transformations do not imply comparable sensitivity of instruments. Rather they provide a means for eliminating systematic bias arising from the numerical scale produced by different algorithms, They mitigate but do not eliminate differences attributable to the descriptive systems.

The transformations reported here are presently on the AQoL website [http://www.aqol.com.au/] and web-based AQoL algorithms have been supplemented to allow the option of conversion of AQoL-4D and AQoL-6D to AQoL-8D ‘equivalent’ values.

Appendix A Databases used for transformations

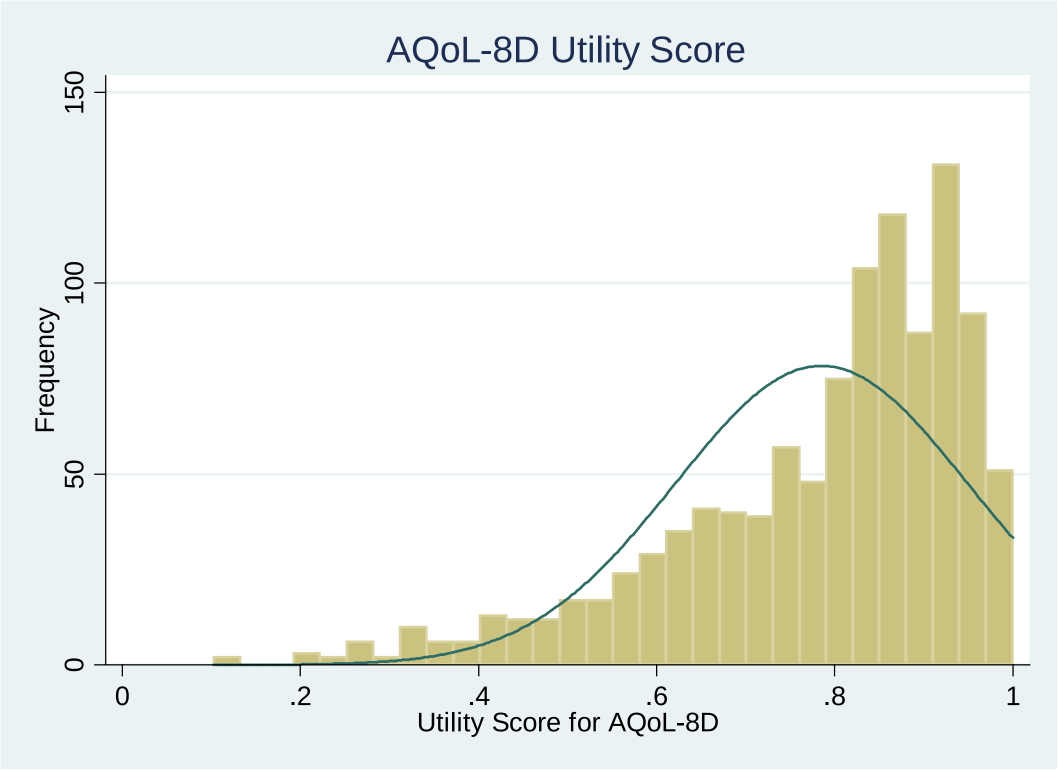
Table A.1 AQoL databases used for transformations

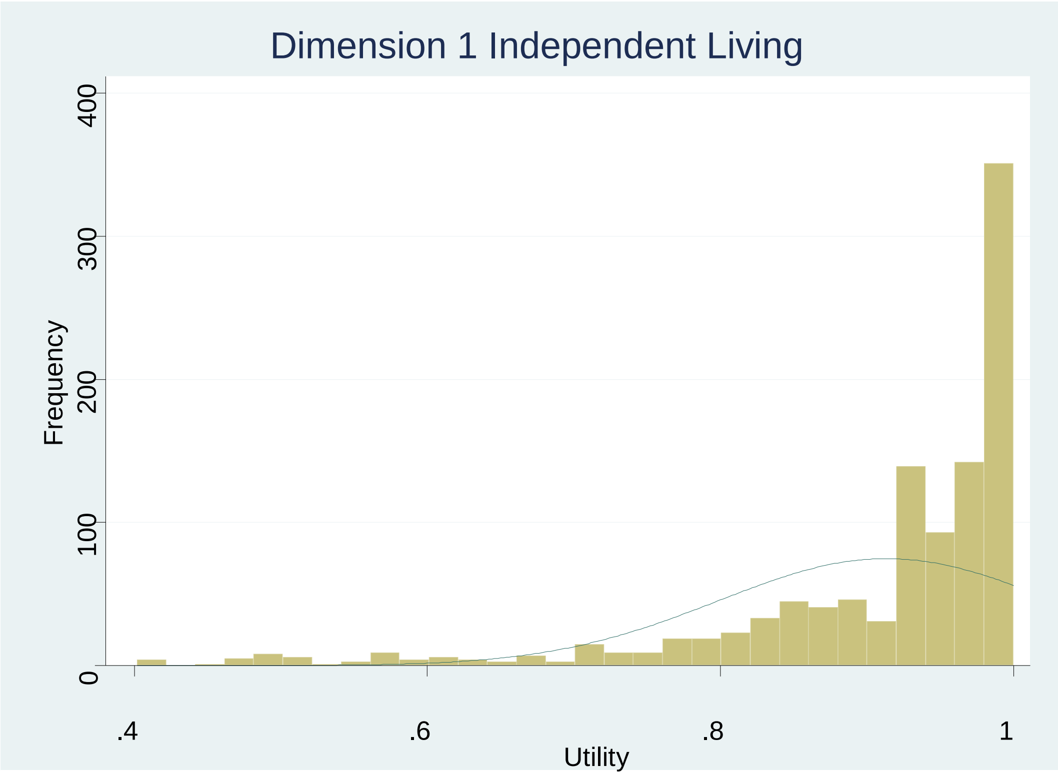
	Public sample size						Patient sample size						Total				
Project	**Method**	**AQoL 8**	**AQoL-4D**	**AQoL-6D**	**AQoL-7D**	**AQoL-8D**	**Method**	**AQoL 8**	**AQoL-4D**	**AQoL-6D**	**AQoL-7D**	**AQoL-8D**	**AQoL 8**	**AQoL-4D**	**AQoL-6D**	**AQoL-7D**	**AQoL-8D**
AQoL 6D construction	P	436	436	436									436	436	436		
AQoL-7D	P	184	184	184	184		Self	180	180	180	180		364	364	364	364	
AQoL-8D construction	P	197	197	197		197	Self	515	515	515		515	712	712	712		7
AQoL-8D scaling	Self			302		302	Self			316		316			618		618
AQoL-8D test-retest	W	385	385	385	385	385	W						385	385	385	385	385
Benefit measurement																	
Quit QoL (Cancer Vic)	P						P and W			411		411			411		411
Obesity							Self			196		196			196		196
ORYGEN Youth	W			195		195	W								196		195
Mental Health (The Melbourne Clinic, St Vincent's Hospital)							Self			159		159			159		159
Total		1202	1202	1699	569	1079		695	695	1777	180	1597	1897	1897	3476	749	2676

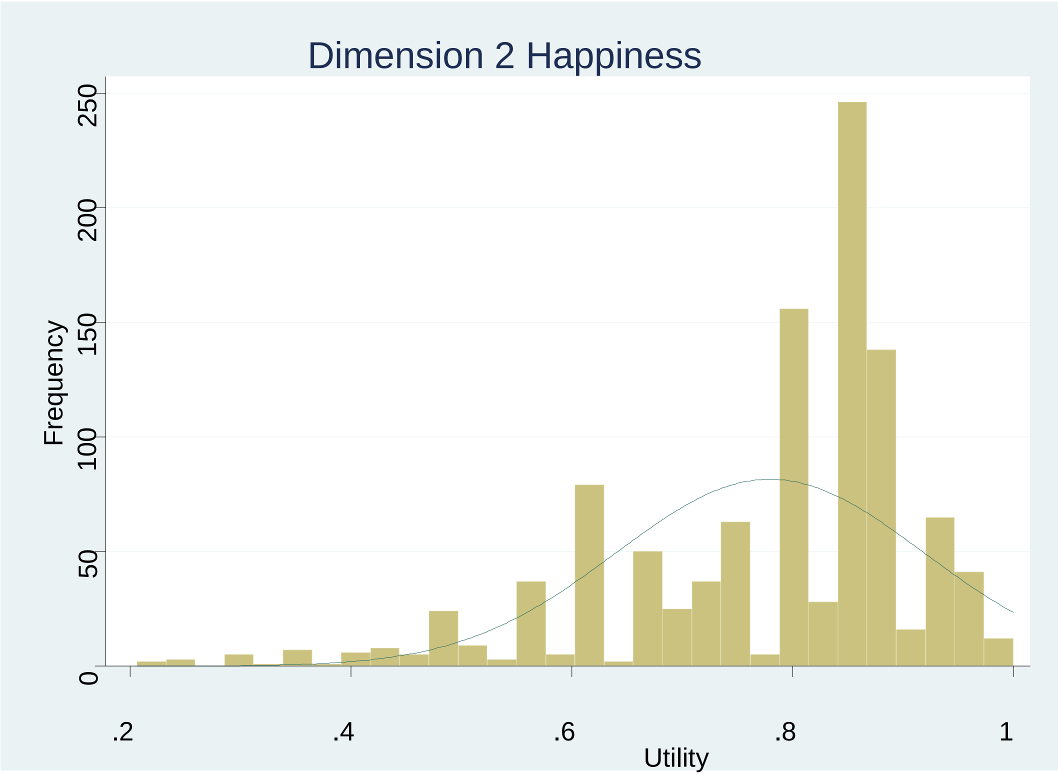
Notes:

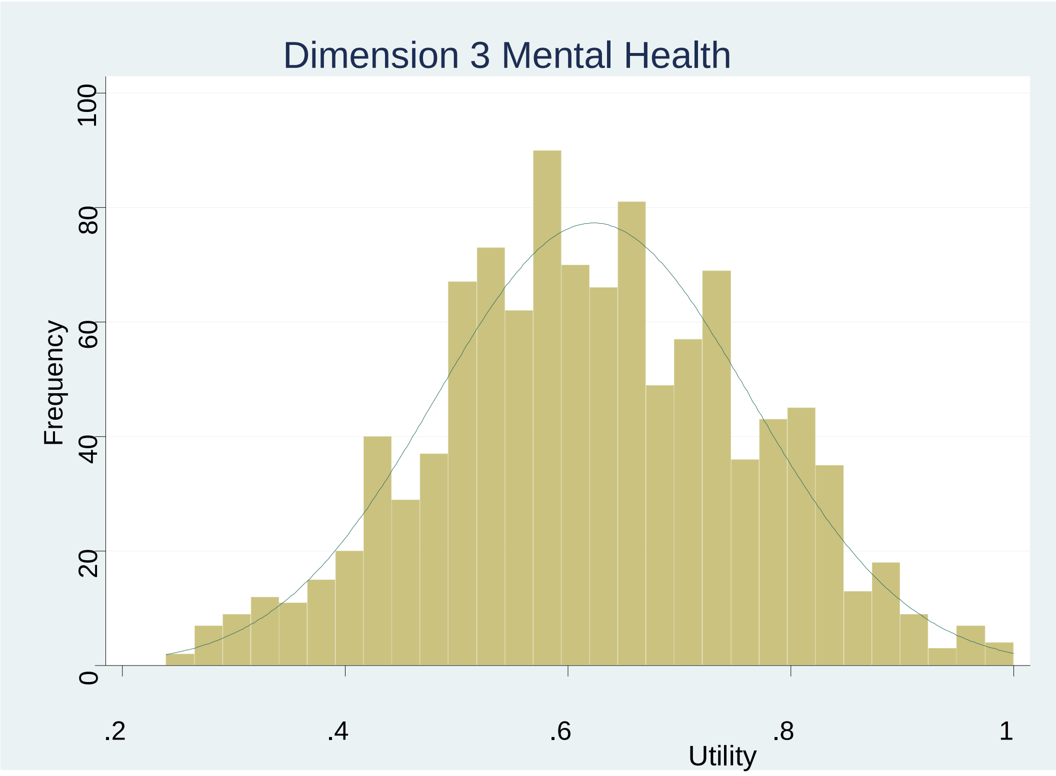
Method = Method of collection; P = Postal survey; Self = Self complete with interviewer present; I = Interviewer administration; W = Web based

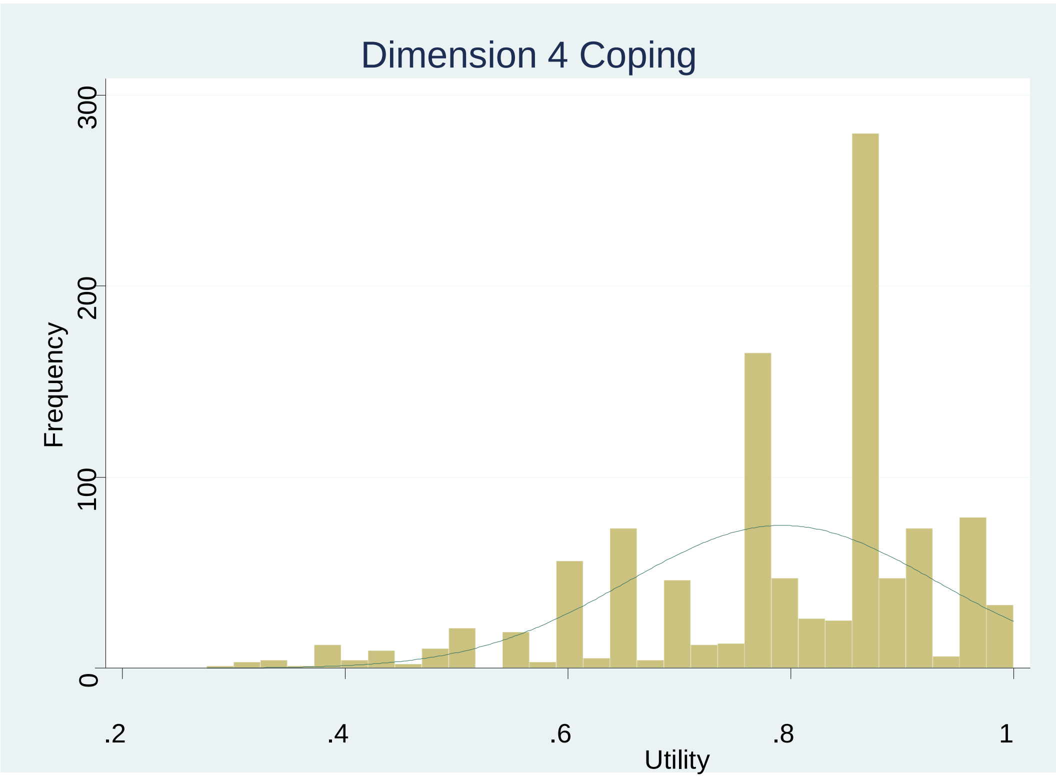
Appendix B AQoL-8D and dimension frequencies

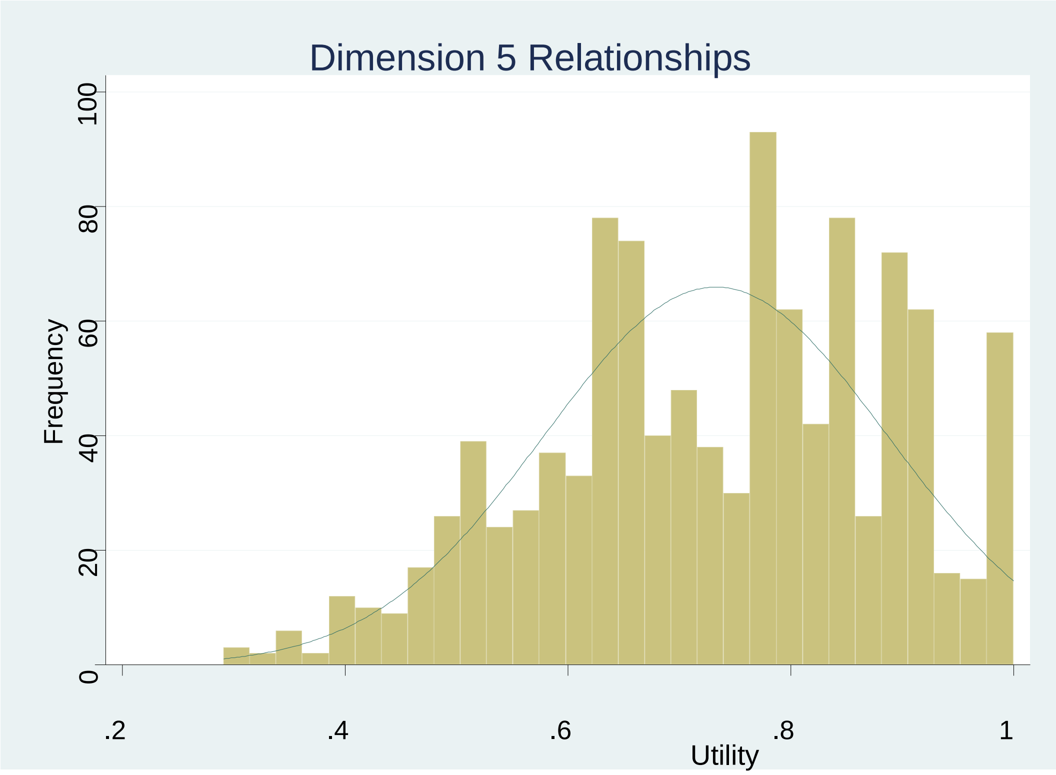


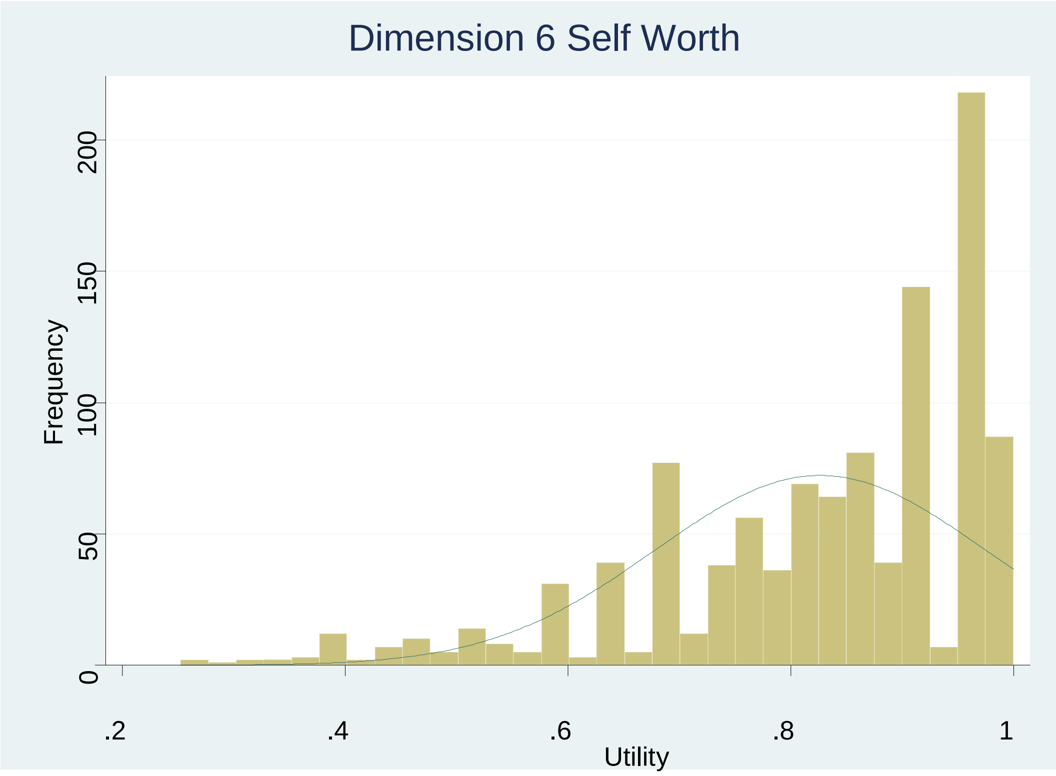

Dimension 1 Independent Living
Frequency
0
100
200
300
400
.4
.6
.8
1
Utility

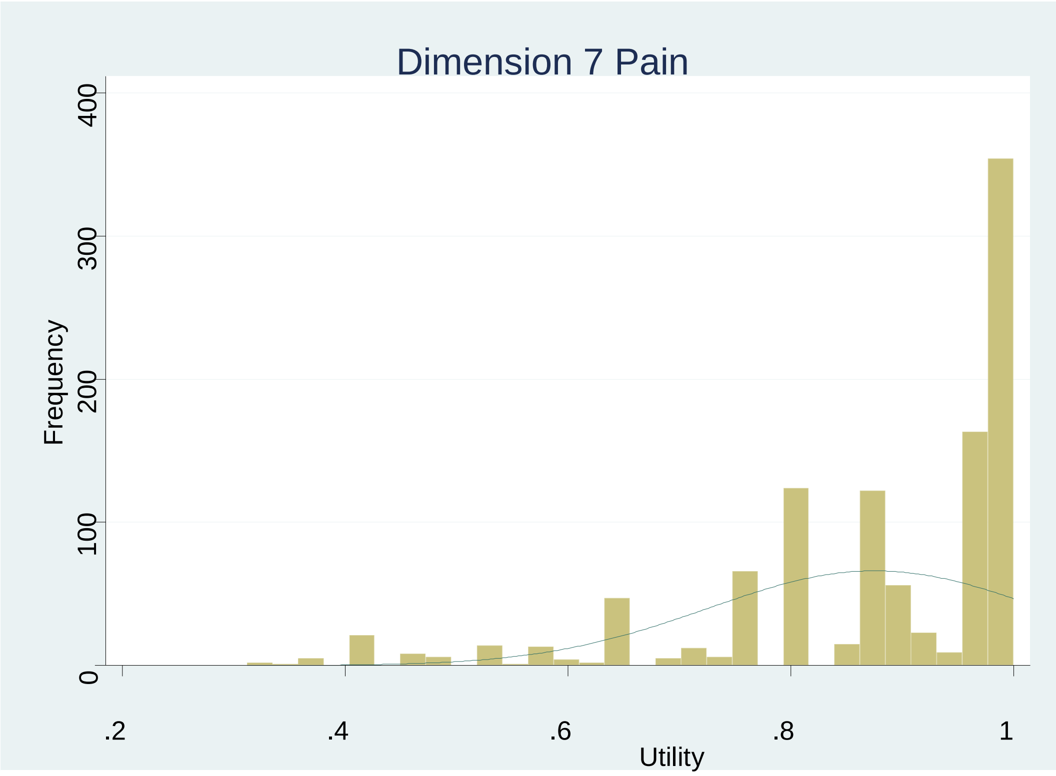

Dimension 2 Happiness
Frequency
0
50
100
150
200
250
.2
.4
.6
.8
1
Utility


Dimension 3 Mental Health
Frequency
0
20
40
60
80
100
.2
.4
.6
.8
1
Utility

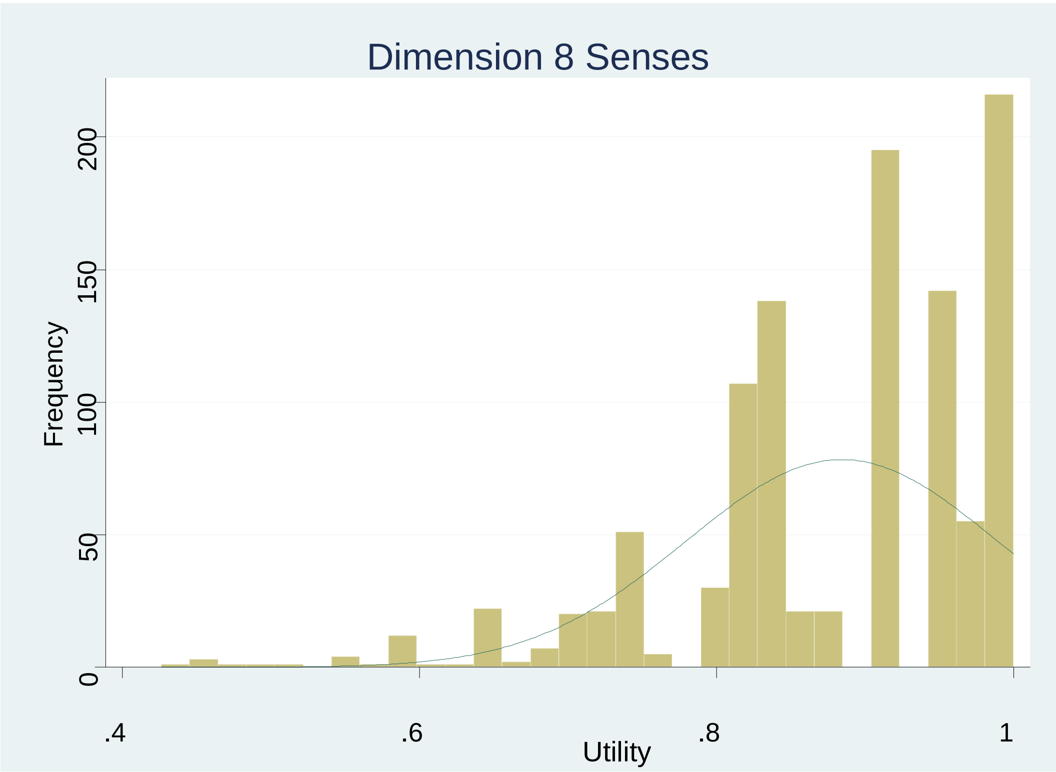

Dimension 4 Coping
Frequency
0
100
200
300
.2
.4
.6
.8
1
Utility


Dimension 5 Relationships
Frequency
0
20
40
60
80
100
.2
.4
.6
.8
1
Utility

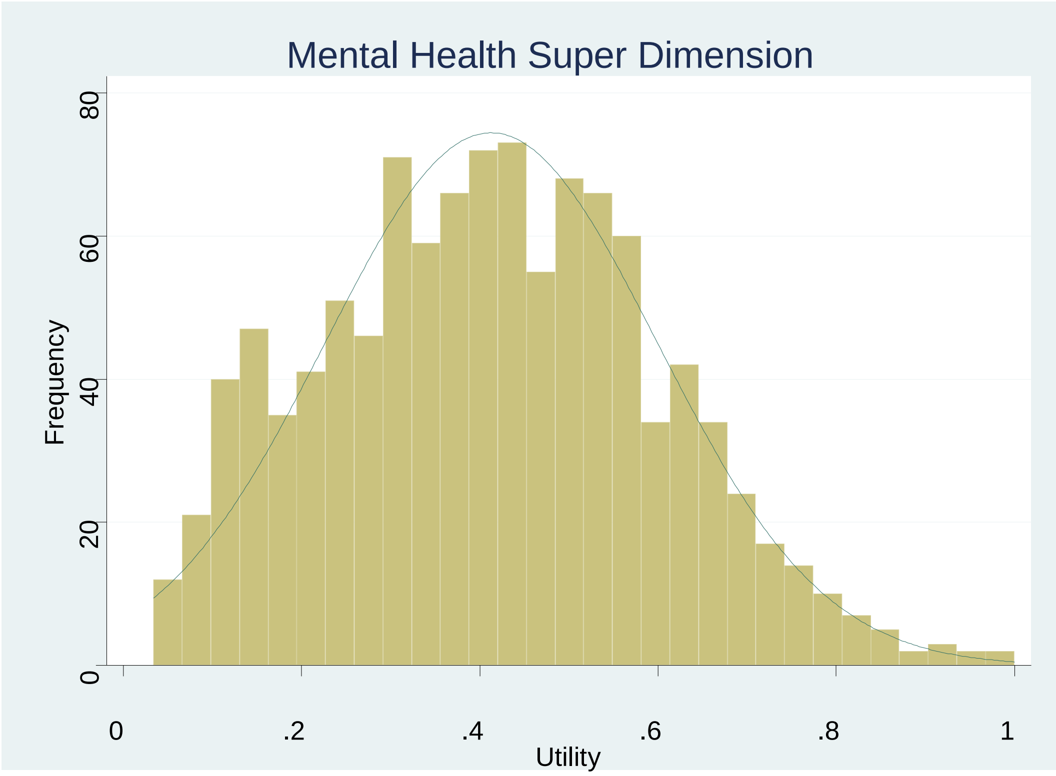

Dimension 6 Self Worth
Frequency
0
50
100
150
200
.2
.4
.6
.8
1
Utility



Dimension 7 Pain
Frequency
0
100
200
300
400
.2
.4
.6
.8
1
Utility



Dimension 8 Senses
Frequency
0
50
100
150
200
.4
.6
.8
1
Utility


Mental Health Super Dimension
Frequency
0
20
40
60
80
0
.2
.4
.6
.8
1
Utility

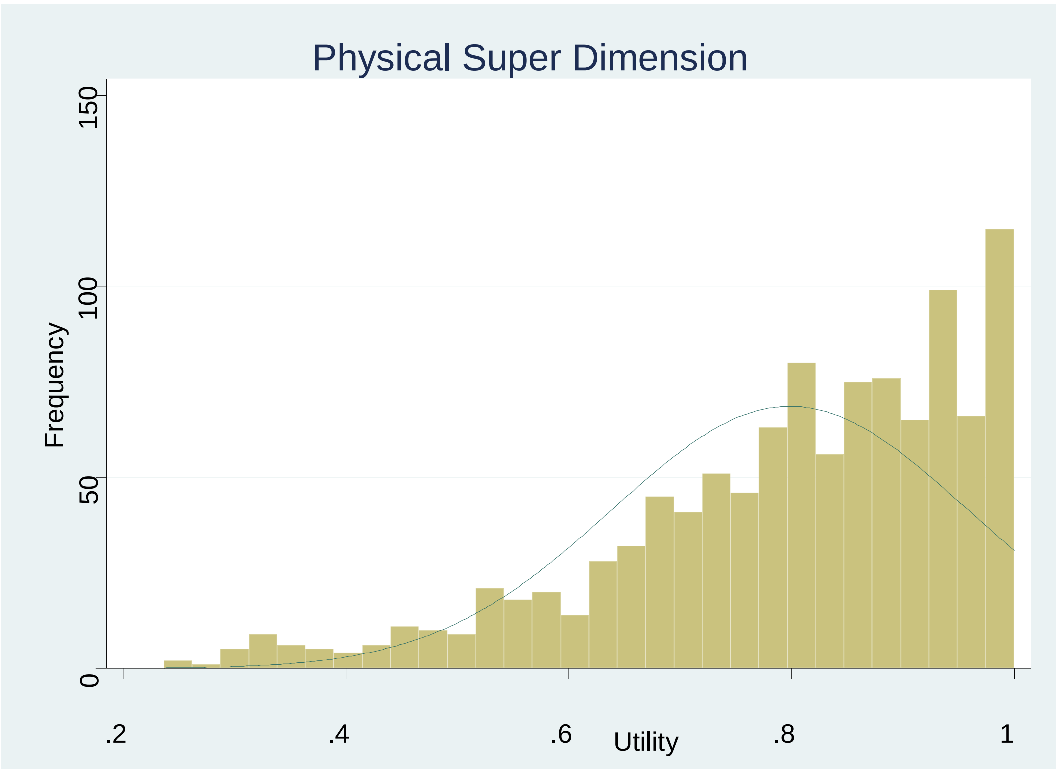
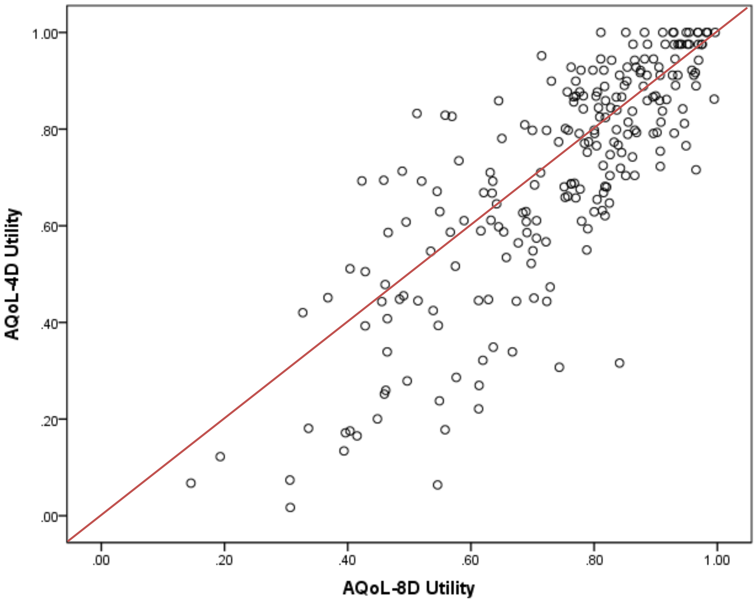
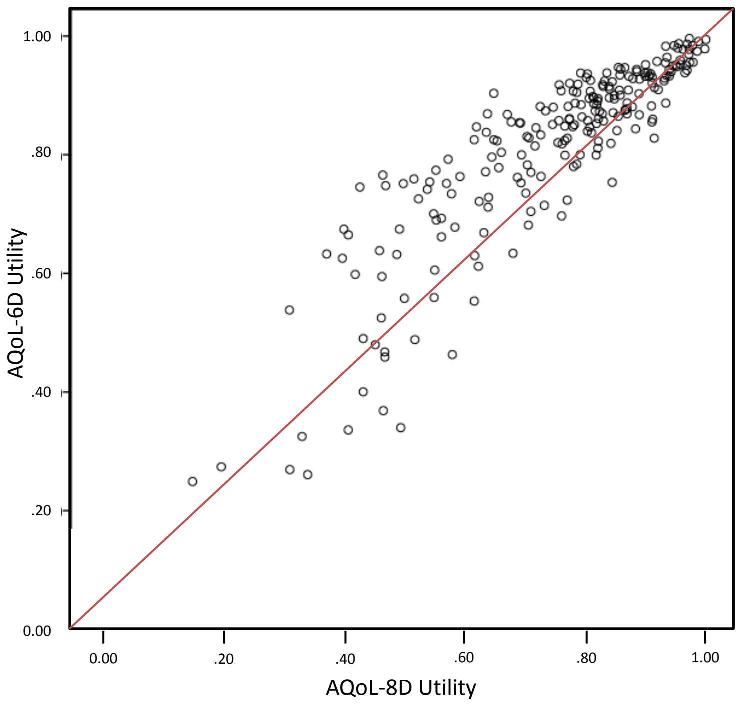

Physical Super Dimension
Frequency
0
50
100
150
.2
.4
.6
.8
1
Utility

Figure 11 Scatterplot of AQoL-4D, AQoL-6D and AQoL-8D (data source: Test retest n =224)





Appendix C Test-Retest Survey Results

AQoL-4D, AQoL-6D, AQoL 8 and AQoL-8D

Table C.1 Characteristics of population completing the test-retest surveys

(a) Gender distribution

Gender	Frequency	Percent	Cumulative percent
Male	112	50.0	50.
Female	112	50.0	100.0
Total	224	100	

(b) Age distribution

Age group	Frequency	Percent	Cumulative percent
18-24	21	9.4	9.4
25-34	16	7.1	16.5
35-44	47	21.0	37.5
45-54	53	23.7	61.2
55-64	39	17.4	78.6
65+	48	21.4	100.0
Total	224	100.0	

(c) Education level completed

Level of education	Frequency	Percent	Cumulative percent
High school	78	34.8	34.8
TAFE/Diploma/Trade	79	35.3	70.1
Qualification			
University: Bachelor or above	67	29.9	100.0
Total	224	100.0	

Table C.2 Test Retest AQoL-4D and its dimensions

Baseline, Time 1 and Time 2 AQoL-4D Dimensions and Instrument	Pearson correlation coefficient				
	Base IL	Base Rel	Base Sen	Base MH	Base AQoL-4D
Base IL	1				
Base Rel	.394**	1			
Base Sen	.320**	.410**	1		
Base MH	.438**	.435**	.268**	1	
Base AQoL-4D	.634**	.819**	.623**	.741**	1
T2 IL	.843**	.410**	.313**	.491**	.615**
T2 Rel	.266**	.777**	.270**	.389**	.664**
T2 Sen	.232**	.310**	.656**	.194**	.434**
T2 MH	.461**	.411**	.255**	.738**	.633**
T2 AQoL-4D	.523**	.712**	.455**	.619**	.829**
T3 IL	.813**	.390**	.412**	.439**	.599**
T3 Rel	.325**	.774**	.314**	.446**	.690**
T3 Sen	.301**	.283**	.710**	.238**	.462**
T3 MH	.447**	.390**	.259**	.745**	.632**
T3 AQoL-4D	.561**	.701**	.511**	.635**	.849**

**Correlation is significant at the 0.01 level (2-tailed)

Table C.3 AQoL-4D Summary of intra-class correlation coefficient[a] (ICC)

	T2	T3
IL	.838 [b]	.812 [b]
Rel	.776 [b]	.772 [b]
Sen	.649 [b]	.698 [b]
MH	.738 [b]	.735 [b]
AQoL-4D	.828 [b]	.847 [b]

a. Type A intra-class correlation using an absolute agreement definition

b. The estimator is the same, whether the interaction effect is present or not

Table C.4 Test Retest: AQoL-6D and its dimensions

Baseline, Time 1 and Time 2 AQoL-6D Dimensions and Instrument	Pearson correlation coefficient						
	Base IL	**Base Rel**	**Base MH**	**Base Cop**	**Base Pain**	**Base Sen**	**Base AQoL-6D**
Base IL	1						
Base Rel	.632**	1					
Base MH	.292**	.444**	1				
Base Cop	.336**	.456**	.687**	1			
Base Pain	.603**	.524**	.258**	.297**	1		
Base Sen	.262**	.282**	.250**	.368**	.263**	1	
Base AQoL-6D	-.739**	-.787**	-.662**	-.677**	-.754**	-.477**	1
T2 IL	.873**	.596**	.238**	.279**	.606**	.319**	-.704**
T2 Rel	.558**	.764**	.427**	.394**	.492**	.265**	-.690**
T2 MH	.312**	.446**	.833**	.658**	.281**	.206**	-.619**
T2 Cop	.369**	.453**	.690**	.830**	.323**	.312**	-.665**
T2 Pain	.557**	.497**	.238**	.275**	.849**	.288**	-.681**
T2Sen	.150*	.154*	.186**	.234**	0.12	.610**	-.286**
T2 AQoL-6D	-.666**	-.701**	-.589**	-.581**	-.681**	-.418**	.878**
T3 IL	.846**	.574**	.243**	.276**	.587**	.333**	-.688**
T3Rel	.565**	.745**	.501**	.490**	.425**	.326**	-.704**
T3 MH	.278**	.375**	.822**	.632**	.233**	.207**	-.583**
T3 Cop	.399**	.499**	.699**	.807**	.308**	.330**	-.676**
T3 Pain	.542**	.498**	.204**	.286**	.846**	.324**	-.672**
T3 Sen	.216**	.257**	.272**	.355**	.157*	.703**	-.398**
T3 AQoL-6D	-.649**	-.679**	-.616**	-.627**	-.624**	-.435**	.863**

**Correlation is significant at the 0.01 level (2-tailed)

Table C.5 AQoL-6D Summary of intra-class correlation coefficient[a] (ICC)

	T2	T3
IL	.871 [b]	.842 [b]
Rel	.763 [b]	.744 [b]
MH	.826 [b]	.809 [b]
Cop	.829 [b]	.805 [b]
Pain	.848 [b]	.842 [b]
Sen	.598 [b]	.649 [b]
AQoL-6D	.875 [b]	.852 [b]

a. Type A intra-class correlation using an absolute agreement definition

b. The estimator is the same, whether the interaction effect is present or not

Table C.6 Test Retest: AQoL-7D and its dimensions

Baseline, Time 1 and Time 2 AQoL-7D Dimensions and Instrument	Pearson Correlation coefficients							
	Base IL	Base Rel	Base MH	Base Cop	Base Pain	Base Sen	Base VisQoL	Base AQoL-7D
Base IL	1							
Base Rel	.632**	1						
Base MH	.292**	.444**	1					
Base Cop	.336**	.456**	.687**	1				
Base Pain	.603**	.524**	.258**	.297**	1			
Base Sen	.262**	.282**	.250**	.368**	.263**	1		
Base VisQoL	.359**	.457**	.225**	.283**	.301**	.240**	1	
Base AQoL-7D	.643**	.580**	.652**	.572**	.793**	.534**	.367**	1
T2 IL	.873**	.596**	.238**	.279**	.606**	.319**	.330**	.604**
T2 Rel	.558**	.764**	.427**	.394**	.492**	.265**	.400**	.540**
T2 MH	.312**	.446**	.833**	.658**	.281**	.206**	.228**	.570**
T2 Cop	.369**	.453**	.690**	.830**	.323**	.312**	.266**	.556**
T2 Pain	.557**	.497**	.238**	.275**	.849**	.288**	.231**	.679**
T2 Sen	.150*	.154*	.186**	.234**	0.12	.610**	.185**	.300**
T2 VisQoL	.288**	.336**	.161*	.210**	.247**	.368**	.586**	.336**
T2 AQoL-7D	.567**	.523**	.529**	.504**	.675**	.434**	.287**	.820**
T3 IL	.854**	.576**	.249**	.272**	.590**	.341**	.291**	.598**
T3 Rel	.580**	.748**	.504**	.486**	.433**	.335**	.415**	.555**
T3 MH	.278**	.375**	.822**	.632**	.233**	.207**	.201**	.528**
T3 Cop	.399**	.499**	.699**	.808**	.308**	.330**	.238**	.547**
T3 Pain	.544**	.498**	.203**	.286**	.847**	.326**	.238**	.683**
T3 Sen	.216**	.257**	.272**	.355**	.157*	.703**	.330**	.383**
T3 VisQoL	.390**	.429**	.209**	.339**	.338**	.335**	.668**	.382**
T3 AQoL-7D	.585**	.527**	.536**	.549**	.689**	.488**	.321**	.851**

**Correlation is significant at the 0.01 level (2-tailed)

Table C.7 AQoL-7D Summary of intra-class correlation coefficient[a] (ICC)

	T2	T3
IL	.871 [b]	.852 [b]
Rel	.763 [b]	.747 [b]
MH	.826 [b]	.809 [b]
Cop	.829 [b]	.805 [b]
Pain	.848 [b]	.843 [b]
Sen	.598 [b]	.649 [b]
VisQoL	.579 [b]	.659 [b]
AQoL-7D	.810 [b]	.830 [b]

a. Type A intra-class correlation using an absolute agreement definition

b. The estimator is the same, whether the interaction effect is present or not

Table C.8 Test Retest AQoL-8D and its dimensions

Baseline, Time 1 and Time 2 AQoL-8D Dimensions and Instrument	Pearson correlation coefficient										
	Base IL	Base Hap	Base MH	Base Cop	Base Rel	Base SW	Base Pain	Base Sen	Base Med	Base PSD	Base AQoL-8D
Base IL	1										
Base Hap	.361**	1									
Base MH	.371**	.731**	1								
Base Cop	.383**	.772**	.690**	1							
Base Rel	.326**	.720**	.618**	.617**	1						
Base SW	.351**	.666**	.712**	.699**	.647**	1					
Base Pain	.625**	.280**	.336**	.349**	.210**	.208**	1				
Base Sen	.323**	.285**	.234**	.372**	.337**	.330**	.275**	1			
Base MSD	.406**	.852**	.870**	.814**	.830**	.797**	.322**	.315**	1		
Base PSD	.795**	.392**	.402**	.474**	.364**	.361**	.852**	.663**	.444**	1	
Base AQoL-8D	.598**	.830**	.823**	.844**	.754**	.822**	.551**	.532**	.887**	.708**	1
T2 IL	.863**	.355**	.334**	.342**	.331**	.287**	.622**	.351**	.386**	.748**	.562**
T2 Hap	.361**	.858**	.690**	.707**	.669**	.633**	.300**	.218**	.758**	.369**	.772**
T2 MH	.307**	.700**	.878**	.652**	.575**	.690**	.281**	.199**	.806**	.333**	.759**
T2 Cop	.404**	.780**	.693**	.817**	.634**	.690**	.351**	.333**	.772**	.455**	.817**
T2 Rel	.330**	.726**	.672**	.587**	.788**	.702**	.275**	.236**	.794**	.361**	.742**
T2 SW	.356**	.670**	.717**	.676**	.598**	.865**	.296**	.286**	.746**	.389**	.796**
T2 Pain	.572**	.309**	.323**	.318**	.211**	.160*	.852**	.292**	.309**	.754**	.507**
T2 Sen	.222**	.168*	.157*	.229**	.151*	.197**	.173**	.653**	.152*	.440**	.337**
T2 MSD	.381**	.810**	.822**	.741**	.728**	.763**	.319**	.263**	.911**	.409**	.833**
T2 PSD	.688**	.359**	.354**	.381**	.292**	.257**	.752**	.532**	.365**	.848**	.597**
T2 AQoL-8D	.541**	.789**	.779**	.749**	.672**	.747**	.524**	.412**	.805**	.621**	.912**
T3 IL	.858**	.345**	.345**	.336**	.314**	.286**	.622**	.407**	.373**	.774**	.570**
T3 Hap	.400**	.849**	.695**	.714**	.669**	.678**	.310**	.273**	.770**	.407**	.795**
T3 MH	.341**	.693**	.861**	.652**	.559**	.715**	.326**	.235**	.802**	.384**	.772**
T3 Cop	.405**	.748**	.668**	.799**	.640**	.722**	.324**	.353**	.755**	.449**	.811**
T3 Rel	.356**	.687**	.615**	.598**	.749**	.663**	.243**	.293**	.754**	.369**	.713**
T3 SW	.408**	.686**	.722**	.647**	.595**	.856**	.317**	.335**	.743**	.435**	.813**
T3 Pain	.570**	.298**	.287**	.337**	.216**	.171*	.854**	.347**	.297**	.784**	.511**
T3 Sen	.285**	.243**	.247**	.336**	.248**	.334**	.198**	.732**	.265**	.506**	.443**
T3 MSD	.403**	.785**	.794**	.735**	.703**	.770**	.331**	.313**	.890**	.442**	.830**
T3 PSD	.707**	.368**	.359**	.421**	.318**	.309**	.757**	.603**	.391**	.890**	.632**
T3 AQoL-8D	.560**	.768**	.759**	.738**	.659**	.767**	.507**	.450**	.789**	.633**	.909**

**Correlation is significant at the 0.01 level (2-tailed)

Table C.9 AQoL-8D Summary of intra-class correlation coefficient[a] (ICC)

	T2	T3
IL	.861 [b]	.856 [b]
Hap	.858 [b]	.846 [b]
MH	870 [b]	.844 [b]
Cop	.816 [b]	.795 [b]
Rel	.783 [b]	.733 [b]
SW	.863 [b]	.848 [b]
Pain	.851 [b]	.851 [b]
Sen	.644 [b]	.691 [b]
MSD	.902 [b]	.863 [b]
PSD	.842 [b]	.874 [b]
AQoL-8D	.907 [b]	.894 [b]

a. Type A intra-class correlation using an absolute agreement definition

b. The estimator is the same, whether the interaction effect is present or not

Appendix D Regression equations for the selected models

Predicting AQoL-4D from AQoL-6D

Model 1B (1) Predict AQoL-4D dimensions from the 4 regressions below
(2) Insert predicted dimension scores in AQoL-6D formula.
See AQoL website www.aqol.com.au

Table D.1 Predicting dimension 1 of AQoL-4D from AQoL-6D

	Coef.	t	P>|t|
dud1_6d	0.1896	4.86	0.00
dud2_6d	0.0470	1.30	0.20
dud3_6d	0.1203	2.77	0.01
dud4_6d	-0.1184	-2.86	0.00
dud5_6d	-0.0236	-0.79	0.43
dud6_6d	0.0545	1.18	0.24
dud1_6dsq	0.3211	7.10	0.00
dud2_6dsq	0.0403	0.98	0.33
dud3_6dsq	-0.1156	-2.67	0.01
dud4_6dsq	0.1585	3.56	0.00
dud5_6dsq	0.0331	1.02	0.31
dud6_6dsq	0.1442	1.87	0.06
constant	-0.0066	-0.75	0.46
R^2	0.68		

Table D.2 Predicting dimension 2 of AQoL-4D from AQoL-6D

	Coef.	t	P>|t|
dud1_6d	0.1178	2.21	0.03
dud2_6d	0.2664	5.39	0.00
dud3_6d	-0.0002	0.00	1.00
dud4_6d	0.0481	0.85	0.39
dud5_6d	-0.0421	-1.04	0.30
dud6_6d	0.1036	1.65	0.10
dud1_6dsq	-0.1594	-2.58	0.01
dud2_6dsq	0.1754	3.14	0.00
dud3_6dsq	0.1036	1.75	0.08
dud4_6dsq	0.1025	1.68	0.09
dud5_6dsq	0.0272	0.62	0.54
dud6_6dsq	0.0419	0.40	0.69
constant	0.0132	1.09	0.27
R^2	0.63		

Table D.3 Predicting dimension 3 of AQoL-4D from AQoL-6D

	Coef.	t	P>|t|
dud1_6d	0.0115	0.51	0.61
dud2_6d	0.0240	1.15	0.25
dud3_6d	0.0363	1.46	0.15
dud4_6d	-0.0454	-1.91	0.06
dud5_6d	0.0212	1.24	0.21
dud6_6d	0.5749	21.77	0.00
dud1_6dsq	-0.0011	-0.04	0.97
dud2_6dsq	-0.0131	-0.56	0.58
dud3_6dsq	-0.0518	-2.08	0.04
dud4_6dsq	0.0885	3.46	0.00
dud5_6dsq	-0.0151	-0.81	0.42
dud6_6dsq	-0.1205	-2.73	0.01
constant	-0.0075	-1.48	0.14
R^2	0.69		

Table D.4 Predicting dimension 4 of AQoL-4D from AQoL-6D

	Coef.	t	P>|t|
dud1_6d	0.0325	0.87	0.38
dud2_6d	-0.0733	-2.13	0.03
dud3_6d	-0.0116	-0.28	0.78
dud4_6d	-0.0810	-2.06	0.04
dud5_6d	0.0584	2.06	0.04
dud6_6d	-0.0209	-0.48	0.63
dud1_6dsq	0.0180	0.42	0.68
dud2_6dsq	0.1134	2.91	0.00
dud3_6dsq	0.1500	3.63	0.00
dud4_6dsq	0.1605	3.78	0.00
dud5_6dsq	0.2143	6.96	0.00
dud6_6dsq	0.0491	0.67	0.50
constant	0.0429	5.10	0.00
R^2	0.63		

Predicting AQoL-6D from AQoL-4D

Model 1B (1) Predict AQoL-4D dimensions from the 4 regressions below
(2) Insert predicted dimension scores in AQoL-6D formula.
See AQoL website www.aqol.com.au

Table D.5 Predicting dimension 1 of AQoL-6D from AQoL-4D

	Coef.	t	P>|t|
dud1_4d	1.1493	21.44	0.00
dud2_4d	0.2069	4.21	0.00
dud3_4d	0.1332	1.67	0.09
dud4_4d	0.5974	10.28	0.00
dud1_4dsq	-0.5172	-6.31	0.00
dud2_4dsq	-0.1154	-2.15	0.03
dud3_4dsq	0.2737	1.45	0.15
dud4_4dsq	-0.4734	-6.35	0.00
constant	-0.0051	-0.79	0.43
R^2	0.71		

Table D.6 Predicting dimension 2 of AQoL-6D from AQoL-4D

	Coef.	t	P>|t|
dud1_4d	0.4803	8.02	0.00
dud2_4d	1.2151	22.11	0.00
dud3_4d	-0.0444	-0.50	0.62
dud4_4d	0.5114	7.87	0.00
dud1_4dsq	-0.1894	-2.07	0.04
dud2_4dsq	-0.6709	-11.18	0.00
dud3_4dsq	0.2087	0.99	0.32
dud4_4dsq	-0.3587	-4.31	0.00
constant	-0.0201	-2.81	0.01
R^2	0.71		

Table D.7 Predicting dimension 3 of AQoL-6D from AQoL-4D

	Coef.	t	P>|t|
dud1_4d	0.1013	1.42	0.16
dud2_4d	0.9934	15.20	0.00
dud3_4d	-0.0234	-0.22	0.83
dud4_4d	1.2367	16.01	0.00
dud1_4dsq	-0.0684	-0.63	0.53
dud2_4dsq	-0.6858	-9.61	0.00
dud3_4dsq	-0.0890	-0.35	0.72
dud4_4dsq	-0.9046	-9.13	0.00
constant	0.2020	23.68	0.00
R^2	0.55		

Table D.8 Predicting dimension 4 of AQoL-6D from AQoL-4D

	Coef.	T	P>|t|
dud1_4d	0.1222	1.76	0.08
dud2_4d	1.0985	17.21	0.00
dud3_4d	-0.0365	-0.35	0.72
dud4_4d	0.8348	11.06	0.00
dud1_4dsq	0.0178	0.17	0.87
dud2_4dsq	-0.6566	-9.42	0.00
dud3_4dsq	0.1174	0.48	0.63
dud4_4dsq	-0.5091	-5.26	0.00
constant	0.0524	6.29	0.00
R^2	0.59		

Table D.9 Predicting dimension 5 of AQoL-6D from AQoL-4D

	Coef.	t	P>|t|
dud1_4d	0.4177	5.47	0.00
dud2_4d	-0.0103	-0.15	0.88
dud3_4d	0.3487	3.07	0.00
dud4_4d	1.9812	23.90	0.00
dud1_4dsq	-0.3469	-2.97	0.00
dud2_4dsq	-0.0641	-0.84	0.40
dud3_4dsq	-0.3957	-1.47	0.14
dud4_4dsq	-1.3223	-12.45	0.00
constant	0.0189	2.07	0.04
R^2	0.55		

Table D.10 Predicting dimension 6 of AQoL-6D from AQoL-4D

	Coef.	t	P>|t|
dud1_4d	0.0815	2.47	0.01
dud2_4d	-0.0615	-2.03	0.04
dud3_4d	1.3987	28.52	0.00
dud4_4d	-0.0057	-0.16	0.87
dud1_4dsq	0.0806	1.60	0.11
dud2_4dsq	0.0919	2.78	0.01
dud3_4dsq	-0.7901	-6.79	0.00
dud4_4dsq	0.0269	0.59	0.56
constant	0.0330	8.36	0.00
R^2	0.70		

Predicting AQoL-4D from AQoL-8D

Model 1B (1) Predict AQoL-4D dimensions from the 4 regressions below
(2) Insert predicted dimension scores in AQoL-6D formula.
See AQoL website www.aqol.com.au

Table D.11 Predicting dimension 1 of AQoL-4D from AQoL-8D

	Coef.	t	P>|t|
dud1_8d	-2.0767	-9.24	0.00
dud2_8d	-0.2258	-1.36	0.18
dud3_8d	0.1840	1.09	0.28
dud4_8d	-0.5201	-2.55	0.01
dud5_8d	0.2627	1.28	0.20
dud6_8d	-0.2064	-1.25	0.21
dud7_8d	-0.2340	-1.42	0.16
dud8_8d	-0.6772	-3.22	0.00
dud1_8dsq	0.9370	6.24	0.00
dud2_8dsq	0.2819	2.18	0.03
dud3_8dsq	-0.2143	-1.58	0.11
dud4_8dsq	0.3559	2.38	0.02
dud5_8dsq	-0.2270	-1.54	0.13
dud6_8dsq	0.0842	0.71	0.48
dud7_8dsq	0.1425	1.27	0.20
dud8_8dsq	0.3615	2.60	0.01
constant	1.7621	14.82	0.00
R^2	0.64		

Table D.12 Predicting dimension 2 of AQoL-4D from AQoL-8D

	Coef.	t	P>|t|
dud1_8d	-0.2458	-0.81	0.42
dud2_8d	-1.2954	-5.78	0.00
dud3_8d	-0.1848	-0.81	0.42
dud4_8d	0.1118	0.41	0.69
dud5_8d	-1.2183	-4.41	0.00
dud6_8d	-0.3635	-1.63	0.10
dud7_8d	-0.1237	-0.56	0.58
dud8_8d	-0.3340	-1.18	0.24
dud1_8dsq	-0.0291	-0.14	0.89
dud2_8dsq	0.7659	4.39	0.00
dud3_8dsq	0.1426	0.78	0.44
dud4_8dsq	-0.0632	-0.31	0.75
dud5_8dsq	0.5222	2.62	0.01
dud6_8dsq	0.1541	0.96	0.34
dud7_8dsq	0.0934	0.62	0.54
dud8_8dsq	0.1282	0.68	0.49
constant	1.9475	12.17	0.00
R^2	0.65		

Table D.13 Predicting dimension 3 of AQoL-4D from AQoL-8D

	Coef.	t	P>|t|
dud1_8d	-0.1877	-1.65	0.10
dud2_8d	0.1222	1.45	0.15
dud3_8d	-0.1238	-1.45	0.15
dud4_8d	-0.2618	-2.53	0.01
dud5_8d	-0.0492	-0.47	0.64
dud6_8d	0.0013	0.02	0.99
dud7_8d	-0.0047	-0.06	0.96
dud8_8d	-0.4149	-3.90	0.00
dud1_8dsq	0.1033	1.36	0.18
dud2_8dsq	-0.0473	-0.72	0.47
dud3_8dsq	0.0855	1.25	0.21
dud4_8dsq	0.1933	2.55	0.01
dud5_8dsq	0.0057	0.08	0.94
dud6_8dsq	-0.0209	-0.35	0.73
dud7_8dsq	-0.0113	-0.20	0.84
dud8_8dsq	-0.0941	-1.34	0.18
constant	0.6969	11.58	0.00
R^2	0.71		

Table D.14 Predicting dimension 4 of AQoL-4D from AQoL-8D

	Coef.	t	P>|t|
dud1_8d	-0.3489	-1.76	0.08
dud2_8d	-0.6952	-4.73	0.00
dud3_8d	-0.6896	-4.62	0.00
dud4_8d	-0.0059	-0.03	0.97
dud5_8d	0.0418	0.23	0.82
dud6_8d	-0.2746	-1.88	0.06
dud7_8d	-1.5171	-10.40	0.00
dud8_8d	-0.1914	-1.03	0.30
dud1_8dsq	0.1952	1.47	0.14
dud2_8dsq	0.4681	4.09	0.00
dud3_8dsq	0.3322	2.78	0.01
dud4_8dsq	0.0029	0.02	0.98
dud5_8dsq	-0.0367	-0.28	0.78
dud6_8dsq	0.2013	1.91	0.06
dud7_8dsq	0.7334	7.43	0.00
dud8_8dsq	0.1406	1.14	0.25
constant	1.6889	16.09	0.00
R^2	0.69		

Table D.15 Predicting AQoL-8D from AQoL-4D (Model 2B)

	Coef.	Std. Err.	t	P>|t|
dud1_4d	-0.2614	0.05	-5.22	0.00
dud2_4d	-0.8947	0.05	-19.61	0.00
dud3_4d	-0.3552	0.07	-4.90	0.00
dud4_4d	-0.8900	0.05	-16.72	0.00
dud1_4dsq	0.1816	0.08	2.37	0.02
dud2_4dsq	0.5890	0.05	12.64	0.00
dud3_4dsq	0.0615	0.18	0.34	0.74
dud4_4dsq	0.5819	0.07	8.85	0.00
constant	0.9738	0.01	147.66	0.00
R^2	0.83			

Predicting AQoL-6D from AQoL-8D

Model 1B (1) Predict AQoL-4D dimensions from the 4 regressions below
(2) Insert predicted dimension scores in AQoL-6D formula.
See AQoL website www.aqol.com.au

Table D.16 Predicting dimension 1 of AQoL-6D from AQoL-8D

	Coef.	t	P>|t|
dud1_8d	-3.3744	-37.31	0.00
dud2_8d	-0.1940	-2.93	0.00
dud3_8d	-0.1248	-1.96	0.05
dud4_8d	0.1479	1.83	0.07
dud5_8d	-0.2388	-3.28	0.00
dud6_8d	-0.0670	-1.06	0.29
dud7_8d	-0.1781	-2.86	0.00
dud8_8d	-0.2096	-2.52	0.01
dud1_8dsq	1.2961	21.88	0.00
dud2_8dsq	0.1540	3.10	0.00
dud3_8dsq	0.0617	1.20	0.23
dud4_8dsq	-0.1018	-1.77	0.08
dud5_8dsq	0.1417	2.71	0.01
dud6_8dsq	0.0344	0.77	0.44
dud7_8dsq	0.1180	2.83	0.01
dud8_8dsq	0.1489	2.76	0.01
constant	2.3943	53.31	0.00
R^2	0.92		

Table D.17 Predicting dimension 2 of AQoL-6D from AQoL-8D

	Coef.	t	P>|t|
dud1_8d	-1.0132	-4.43	0.00
dud2_8d	-0.7148	-4.26	0.00
dud3_8d	-0.6568	-4.08	0.00
dud4_8d	-0.6403	-3.14	0.00
dud5_8d	-0.6456	-3.51	0.00
dud6_8d	-0.4323	-2.69	0.01
dud7_8d	-0.2470	-1.57	0.12
dud8_8d	-0.3007	-1.43	0.15
dud1_8dsq	0.3398	2.27	0.02
dud2_8dsq	0.4084	3.25	0.00
dud3_8dsq	0.4891	3.76	0.00
dud4_8dsq	0.3688	2.53	0.01
dud5_8dsq	0.0522	0.39	0.69
dud6_8dsq	0.2414	2.12	0.03
dud7_8dsq	0.1009	0.96	0.34
dud8_8dsq	0.1351	0.99	0.32
constant	2.5040	22.04	0.00
R^2	0.67		

Table D.18 Predicting dimension 3 of AQoL-6D from AQoL-8D

	Coef.	t	P>|t|
dud1_8d	-0.3481	-2.11	0.04
dud2_8d	-0.0453	-0.37	0.71
dud3_8d	-1.0807	-9.29	0.00
dud4_8d	-0.6353	-4.31	0.00
dud5_8d	-0.1036	-0.78	0.44
dud6_8d	0.2415	2.08	0.04
dud7_8d	-0.0356	-0.31	0.75
dud8_8d	-0.3668	-2.42	0.02
dud1_8dsq	0.2231	2.06	0.04
dud2_8dsq	-0.0425	-0.47	0.64
dud3_8dsq	-0.0611	-0.65	0.52
dud4_8dsq	0.3383	3.22	0.00
dud5_8dsq	0.0309	0.32	0.75
dud6_8dsq	-0.2651	-3.23	0.00
dud7_8dsq	0.0345	0.45	0.65
dud8_8dsq	0.2406	2.44	0.02
constant	1.7635	21.50	0.00
R^2	0.81		

Table D.19 Predicting dimension 4 of AQoL-6D from AQoL-8D

	Coef.	t	P>|t|
dud1_8d	-0.1840	-2.22	0.03
dud2_8d	0.0045	0.07	0.94
dud3_8d	-0.4226	-7.25	0.00
dud4_8d	-1.6861	-22.82	0.00
dud5_8d	-0.4217	-6.33	0.00
dud6_8d	0.0200	0.34	0.73
dud7_8d	-0.0899	-1.58	0.11
dud8_8d	-0.0675	-0.89	0.38
dud1_8dsq	0.1256	2.32	0.02
dud2_8dsq	0.0218	0.48	0.63
dud3_8dsq	0.2891	6.15	0.00
dud4_8dsq	0.1590	3.02	0.00
dud5_8dsq	0.2767	5.77	0.00
dud6_8dsq	-0.0603	-1.47	0.14
dud7_8dsq	0.0789	2.07	0.04
dud8_8dsq	0.0464	0.94	0.35
constant	1.8817	45.76	0.00
R^2	0.95		

Table D.20 Predicting dimension 5 of AQoL-6D from AQoL-8D

	Coef.	t	P>|t|
dud1_8d	-0.1821	-1.64	0.10
dud2_8d	-0.0004	0.00	1.00
dud3_8d	-0.1978	-2.53	0.01
dud4_8d	0.3146	3.18	0.00
dud5_8d	-0.3776	-4.23	0.00
dud6_8d	-0.0135	-0.17	0.86
dud7_8d	-1.0885	-14.27	0.00
dud8_8d	-0.1454	-1.43	0.15
dud1_8dsq	0.1107	1.52	0.13
dud2_8dsq	0.0024	0.04	0.97
dud3_8dsq	0.1302	2.07	0.04
dud4_8dsq	-0.2227	-3.15	0.00
dud5_8dsq	0.2466	3.84	0.00
dud6_8dsq	-0.0122	-0.22	0.83
dud7_8dsq	-0.3587	-7.01	0.00
dud8_8dsq	0.1021	1.54	0.12
constant	1.6920	30.69	0.00
R^2	0.93		

Table D.21 Predicting dimension 6 of AQoL-6D from AQoL-8D

	Coef.	t	P>|t|
dud1_8d	-0.1897	-2.11	0.04
dud2_8d	-0.0049	-0.07	0.94
dud3_8d	-0.1207	-1.91	0.06
dud4_8d	0.1675	2.09	0.04
dud5_8d	-0.3338	-4.61	0.00
dud6_8d	-0.0518	-0.82	0.41
dud7_8d	0.0148	0.24	0.81
dud8_8d	-2.3583	-28.52	0.00
dud1_8dsq	0.1122	1.90	0.06
dud2_8dsq	0.0218	0.44	0.66
dud3_8dsq	0.0803	1.57	0.12
dud4_8dsq	-0.1172	-2.05	0.04
dud5_8dsq	0.2008	3.86	0.00
dud6_8dsq	0.0293	0.66	0.51
dud7_8dsq	0.0096	0.23	0.82
dud8_8dsq	0.8773	16.35	0.00
constant	1.6715	37.41	0.00
R^2	0.83		

Table D.22 Predicting AQoL-8D from AQoL-6D (Model 2A)

	Coef.	Std. Err.	t	P>|t|
dud1_6d	-0.0788	0.01	-11.14	0.00
dud2_6d	-0.1005	0.01	-16.54	0.00
dud3_6d	-0.2387	0.01	-38.22	0.00
dud4_6d	-0.3017	0.01	-43.55	0.00
dud5_6d	-0.1272	0.00	-27.13	0.00
dud6_6d	-0.1618	0.01	-19.73	0.00
constant	1.0125	0.00	415.16	0.00
R^2	0.94			

Predicting AQoL-7D from AQoL-8D

Model 1B (1) Predict AQoL-4D dimensions from the 4 regressions below
(2) Insert predicted dimension scores in AQoL-6D formula.
See AQoL website www.aqol.com.au

Table D.23 Predicting dimension 1 of AQoL-7D from AQoL-8D

	Coef.	t	P>|t|
dud1_8d	-3.6228	-41.64	0.00
dud2_8d	0.1102	1.47	0.14
dud3_8d	-0.2293	-3.27	0.00
dud4_8d	-0.0236	-0.27	0.79
dud5_8d	0.0053	0.08	0.93
dud6_8d	-0.0176	-0.23	0.82
dud7_8d	-0.1225	-2.12	0.03
dud8_8d	-0.1577	-1.54	0.12
dud1_8dsq	1.4324	25.81	0.00
dud2_8dsq	-0.0618	-1.16	0.25
dud3_8dsq	0.1789	3.36	0.00
dud4_8dsq	0.0032	0.06	0.96
dud5_8dsq	-0.0130	-0.29	0.77
dud6_8dsq	0.0220	0.44	0.66
dud7_8dsq	0.0762	2.02	0.04
dud8_8dsq	0.1130	1.79	0.07
constant	2.3244	42.86	0.00
R^2	0.99		

Table D.24 Predicting dimension 2 of AQoL-7D from AQoL-8D

	Coef.	t	P>|t|
dud1_8d	-2.1251	-4.07	0.00
dud2_8d	-1.6309	-3.64	0.00
dud3_8d	-0.4212	-1.00	0.32
dud4_8d	1.3711	2.65	0.01
dud5_8d	-1.2868	-3.39	0.00
dud6_8d	-0.9042	-1.98	0.05
dud7_8d	-0.4865	-1.41	0.16
dud8_8d	0.0463	0.08	0.94
dud1_8dsq	0.9955	2.99	0.00
dud2_8dsq	0.9309	2.91	0.00
dud3_8dsq	0.3238	1.02	0.31
dud4_8dsq	-0.8068	-2.31	0.02
dud5_8dsq	0.5111	1.90	0.06
dud6_8dsq	0.5862	1.95	0.05
dud7_8dsq	0.1977	0.87	0.38
dud8_8dsq	-0.0517	-0.14	0.89
constant	2.7471	8.45	0.00
R^2	0.69		

Table D.25 Predicting dimension 3 of AQoL-7D from AQoL-8D

	Coef.	t	P>|t|
dud1_8d	-0.2934	-0.64	0.53
dud2_8d	-0.5912	-1.49	0.14
dud3_8d	-1.4871	-4.00	0.00
dud4_8d	-0.8404	-1.84	0.07
dud5_8d	-0.0931	-0.28	0.78
dud6_8d	0.8356	2.07	0.04
dud7_8d	-0.3274	-1.07	0.29
dud8_8d	-0.9268	-1.71	0.09
dud1_8dsq	0.2484	0.84	0.40
dud2_8dsq	0.2637	0.93	0.35
dud3_8dsq	0.2692	0.95	0.34
dud4_8dsq	0.4307	1.39	0.16
dud5_8dsq	-0.0011	0.00	1.00
dud6_8dsq	-0.5612	-2.11	0.04
dud7_8dsq	0.2125	1.06	0.29
dud8_8dsq	0.5822	1.74	0.08
constant	2.2059	7.66	0.00
R^2	0.80		

Table D.26 Predicting dimension 4 of AQoL-7D from AQoL-8D

	Coef.	t	P>|t|
dud1_8d	-0.2048	-1.04	0.30
dud2_8d	-0.1113	-0.66	0.51
dud3_8d	-0.6530	-4.11	0.00
dud4_8d	-2.0964	-10.74	0.00
dud5_8d	-0.1434	-1.00	0.32
dud6_8d	-0.0288	-0.17	0.87
dud7_8d	0.0413	0.32	0.75
dud8_8d	-0.2350	-1.02	0.31
dud1_8dsq	0.1387	1.10	0.27
dud2_8dsq	0.0402	0.33	0.74
dud3_8dsq	0.4520	3.75	0.00
dud4_8dsq	0.5030	3.81	0.00
dud5_8dsq	0.1131	1.12	0.27
dud6_8dsq	-0.0359	-0.32	0.75
dud7_8dsq	-0.0105	-0.12	0.90
dud8_8dsq	0.1481	1.04	0.30
constant	2.0751	16.89	0.00
R^2	0.96		

Table D.27 Predicting dimension 5 of AQoL-7D from AQoL-8D

	Coef.	t	P>|t|
dud1_8d	0.3832	2.59	0.01
dud2_8d	0.0643	0.51	0.61
dud3_8d	-0.0857	-0.72	0.47
dud4_8d	0.0000	0.00	1.00
dud5_8d	-0.1049	-0.98	0.33
dud6_8d	-0.0035	-0.03	0.98
dud7_8d	-1.5505	-15.81	0.00
dud8_8d	-0.3540	-2.04	0.04
dud1_8dsq	-0.2236	-2.37	0.02
dud2_8dsq	-0.0706	-0.78	0.44
dud3_8dsq	0.0835	0.92	0.36
dud4_8dsq	-0.0069	-0.07	0.94
dud5_8dsq	0.0725	0.95	0.34
dud6_8dsq	0.0174	0.20	0.84
dud7_8dsq	-0.0838	-1.31	0.19
dud8_8dsq	0.1895	1.77	0.08
constant	1.6726	18.15	0.00
R^2	0.99		

Table D.28 Predicting dimension 6 of AQoL-7D from AQoL-8D

	Coef.	t	P>|t|
dud1_8d	-0.0979	-1.55	0.12
dud2_8d	-0.0072	-0.13	0.90
dud3_8d	-0.0777	-1.53	0.13
dud4_8d	0.1095	1.75	0.08
dud5_8d	-0.1315	-2.86	0.00
dud6_8d	-0.0640	-1.16	0.25
dud7_8d	-0.0562	-1.34	0.18
dud8_8d	-2.5546	-34.47	0.00
dud1_8dsq	0.0652	1.62	0.11
dud2_8dsq	0.0178	0.46	0.65
dud3_8dsq	0.0531	1.37	0.17
dud4_8dsq	-0.0732	-1.73	0.08
dud5_8dsq	0.0845	2.60	0.01
dud6_8dsq	0.0406	1.12	0.26
dud7_8dsq	0.0417	1.52	0.13
dud8_8dsq	0.9680	21.13	0.00
constant	1.6819	42.72	0.00
R^2	0.98		

Table D.29 Predicting dimension 7 of AQoL-7D from AQoL-8D

	Coef.	t	P>|t|
dud1_8d	-0.2715	-1.25	0.21
dud2_8d	0.1244	0.67	0.51
dud3_8d	-0.7757	-4.43	0.00
dud4_8d	-0.1040	-0.48	0.63
dud5_8d	-0.2246	-1.42	0.16
dud6_8d	0.2425	1.27	0.20
dud7_8d	0.1119	0.78	0.44
dud8_8d	0.0628	0.25	0.81
dud1_8dsq	0.0629	0.45	0.65
dud2_8dsq	-0.0103	-0.08	0.94
dud3_8dsq	0.5382	4.05	0.00
dud4_8dsq	0.0691	0.48	0.64
dud5_8dsq	0.1171	1.05	0.30
dud6_8dsq	-0.1562	-1.25	0.21
dud7_8dsq	-0.0619	-0.66	0.51
dud8_8dsq	-0.1123	-0.71	0.48
constant	0.4254	3.14	0.00
R^2	0.33		

Predicting AQoL-8D from AQoL-7D

Model 1B (1) Predict AQoL-4D dimensions from the 4 regressions below
(2) Insert predicted dimension scores in AQoL-6D formula.
See AQoL website www.aqol.com.au

Table D.30 Predicting dimension 1 of AQoL-8D from AQoL-7D

	Coef.	t	P>|t|
dud1_7d	-0.9253	-49.52	0.00
dud2_7d	-0.0313	-1.93	0.05
dud3_7d	-0.0280	-1.64	0.10
dud4_7d	0.0005	0.03	0.98
dud5_7d	-0.0253	-2.09	0.04
dud6_7d	-0.0655	-2.94	0.00
dud7_7d	-0.0227	-0.59	0.55
dud1_7dsq	0.3749	16.02	0.00
dud2_7dsq	0.0338	1.48	0.14
dud3_7dsq	0.0236	1.25	0.21
dud4_7dsq	0.0002	0.01	0.99
dud5_7dsq	0.0235	1.71	0.09
dud6_7dsq	0.1088	2.28	0.02
dud7_7dsq	-0.0140	-0.17	0.87
constant	1.0013	310.24	0.00
R^2	0.98		

Table D.31 Predicting dimension 2 of AQoL-8D from AQoL-7D

	Coef.	t	P>|t|
dud1_7d	-0.0595	-0.84	0.40
dud2_7d	-0.1685	-2.75	0.01
dud3_7d	-0.0589	-0.91	0.36
dud4_7d	-0.4031	-6.40	0.00
dud5_7d	-0.0113	-0.25	0.80
dud6_7d	-0.0377	-0.45	0.66
dud7_7d	0.0714	0.49	0.62
dud1_7dsq	0.1864	2.11	0.04
dud2_7dsq	-0.0225	-0.26	0.80
dud3_7dsq	-0.0849	-1.19	0.23
dud4_7dsq	0.0506	0.67	0.50
dud5_7dsq	0.0045	0.09	0.93
dud6_7dsq	0.1618	0.90	0.37
dud7_7dsq	0.4877	1.57	0.12
constant	0.9318	76.45	0.00
R^2	0.78		

Table D.32 Predicting dimension 3 of AQoL-8D from AQoL-7D

	Coef.	t	P>|t|
dud1_7d	-0.0133	-0.21	0.84
dud2_7d	0.0681	1.21	0.23
dud3_7d	-0.8472	-14.30	0.00
dud4_7d	-0.1060	-1.83	0.07
dud5_7d	-0.0542	-1.29	0.20
dud6_7d	-0.1080	-1.39	0.16
dud7_7d	-0.2427	-1.82	0.07
dud1_7dsq	0.0881	1.08	0.28
dud2_7dsq	-0.1280	-1.61	0.11
dud3_7dsq	0.4749	7.25	0.00
dud4_7dsq	-0.0189	-0.27	0.79
dud5_7dsq	0.0351	0.74	0.46
dud6_7dsq	0.2246	1.36	0.18
dud7_7dsq	0.2879	1.01	0.31
constant	0.9042	80.64	0.00
R^2	0.80		

Table D.33 Predicting dimension 4 of AQoL-8D from AQoL-7D

	Coef.	t	P>|t|
dud1_7d	-0.0437	-1.40	0.16
dud2_7d	-0.0399	-1.48	0.14
dud3_7d	-0.0348	-1.22	0.22
dud4_7d	-0.7378	-26.53	0.00
dud5_7d	-0.0011	-0.06	0.96
dud6_7d	-0.0578	-1.55	0.12
dud7_7d	0.0215	0.34	0.74
dud1_7dsq	0.0387	0.99	0.32
dud2_7dsq	0.0324	0.85	0.40
dud3_7dsq	0.0339	1.08	0.28
dud4_7dsq	0.1733	5.22	0.00
dud5_7dsq	-0.0080	-0.35	0.73
dud6_7dsq	0.0946	1.19	0.24
dud7_7dsq	0.2918	2.13	0.03
constant	0.9604	178.43	0.00
R^2	0.96		

Table D.34 Predicting dimension 5 of AQoL-8D from AQoL-7D

	Coef.	t	P>|t|
dud1_7d	-0.0415	-0.46	0.65
dud2_7d	-0.7637	-9.67	0.00
dud3_7d	-0.4513	-5.43	0.00
dud4_7d	-0.1599	-1.97	0.05
dud5_7d	0.0612	1.04	0.30
dud6_7d	0.1340	1.23	0.22
dud7_7d	-0.3768	-2.02	0.04
dud1_7dsq	0.1548	1.36	0.18
dud2_7dsq	0.6864	6.15	0.00
dud3_7dsq	0.3171	3.45	0.00
dud4_7dsq	-0.0503	-0.52	0.60
dud5_7dsq	-0.0306	-0.46	0.65
dud6_7dsq	-0.2406	-1.04	0.30
dud7_7dsq	0.8618	2.16	0.03
constant	0.9313	59.22	0.00
R^2	0.67		

Table D.35 Predicting dimension 6 of AQoL-8D from AQoL-7D

	Coef.	t	P>|t|
dud1_7d	-0.1303	-1.40	0.16
dud2_7d	-0.0870	-1.08	0.28
dud3_7d	-0.3893	-4.59	0.00
dud4_7d	-0.1988	-2.39	0.02
dud5_7d	0.0349	0.58	0.56
dud6_7d	-0.0179	-0.16	0.87
dud7_7d	0.0129	0.07	0.95
dud1_7dsq	0.1990	1.71	0.09
dud2_7dsq	-0.0342	-0.30	0.77
dud3_7dsq	0.2476	2.64	0.01
dud4_7dsq	-0.1943	-1.96	0.05
dud5_7dsq	0.0102	0.15	0.88
dud6_7dsq	-0.0869	-0.37	0.71
dud7_7dsq	-0.0006	0.00	1.00
constant	1.0076	62.72	0.00
R^2	0.65		

Table D.36 Predicting dimension 7 of AQoL-8D from AQoL-7D

	Coef.	t	P>|t|
dud1_7d	0.0160	0.77	0.44
dud2_7d	0.0270	1.50	0.14
dud3_7d	-0.0258	-1.36	0.17
dud4_7d	0.0073	0.39	0.69
dud5_7d	-0.6059	-45.11	0.00
dud6_7d	0.0153	0.62	0.54
dud7_7d	-0.0787	-1.85	0.07
dud1_7dsq	-0.0677	-2.60	0.01
dud2_7dsq	-0.0430	-1.69	0.09
dud3_7dsq	0.0175	0.83	0.41
dud4_7dsq	0.0031	0.14	0.89
dud5_7dsq	0.0318	2.08	0.04
dud6_7dsq	0.0502	0.95	0.34
dud7_7dsq	0.1441	1.58	0.12
constant	0.9973	277.95	0.00
R^2	0.99		

Table D.37 Predicting dimension 8 of AQoL-8D from AQoL-7D

	Coef.	t	P>|t|
dud1_7d	-0.0268	-1.54	0.12
dud2_7d	-0.0012	-0.08	0.94
dud3_7d	-0.0021	-0.13	0.89
dud4_7d	-0.0073	-0.47	0.64
dud5_7d	-0.0295	-2.62	0.01
dud6_7d	-1.2555	-60.52	0.00
dud7_7d	0.0224	0.63	0.53
dud1_7dsq	0.0277	1.28	0.20
dud2_7dsq	0.0044	0.20	0.84
dud3_7dsq	0.0094	0.54	0.59
dud4_7dsq	-0.0004	-0.02	0.98
dud5_7dsq	0.0282	2.20	0.03
dud6_7dsq	0.7248	16.36	0.00
dud7_7dsq	-0.0570	-0.75	0.46
constant	0.9828	327.59	0.00
R^2	0.98		

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