

Valuing health benefits: the development of a preference-based measure of health for use in the economic evaluation of health care from the SF-36 Health Survey

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This thesis has been submitted for the degree of Doctor of Philosophy

The work was undertaken in the Department of Economics at The University of Sheffield

Vol 2.

Date of submission: May 1997

Date of acceptance:

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Appendix 1

Five preference-based measures

A1.1: The Quality of Well-Being Scale - Function

Step	Step definition	Weight
	<i>Mobility Scale (MOB)</i>	
5	No limitations for health reasons	-.000
4	Did not drive a car, health related; did not ride in a car as usual for age (younger than 15 yr.), health related, and/or did not use public transportation, health related; or had or would have used more help than usual for age to use public transportation, health related; or had or would have used more help than usual for age to use public transportation, health related	-.062
2	In hospital, health related	-.090
	<i>Physical Activity Scale (PAC)</i>	
4	No limitations for health reasons	-.000
3	In wheelchair, moved or controlled movement of wheelchair without help from someone else; or had trouble or did not try to lift, stoop, bend over, or use stairs or inclines, health related; and/or had any other physical limitation in walking, or did not try to walk as far as or as fast as others the same age are able, health related	-.060
1	In wheelchair, did not move or control the movement of wheelchair without help from someone else, or in bed, chair, or couch for most or all of the day, health related	-.077
	<i>Social Activity Scale (SAC)</i>	
5	No limitations for health reasons	-.000
4	Limited in other (e.g. recreational) role activity, health related	-.061
3	Limited in major (primary) role activity, health related	-0.61
2	Performed no major role activity, health related, but did perform self-care activities	-.061
1	Performed no major role activity, health related, and did not perform or had more help than usual in performance of one or more self-care activities, health related	-.106

A1.1 continued: - symptom and problem complexes

CPX No.	CPX description	Weight
1	Death [not on respondent's card]	-.727
2	Loss of consciousness such as seizure (fits), fainting, or coma (out cold or knocked out)	-.407
3	Burn over large areas of face, body, arms, or legs	-.387
4	Pain, bleeding, itching, or discharge (drainage) from sexual organs - does not include normal menstrual bleeding	-.349
5	Trouble learning, remembering, or thinking clearly	-.340
6.	Any combination of one or more hands, feet, arms, or legs either missing, deformed (crooked), paralysed (unable to move), or broken - includes wearing artificial limbs or braces	-.333
7	Pain, stiffness, weakness, numbness, or other discomfort in chest, stomach (including hernia or rupture), side, neck, back, hips, or any joints or hands, feet, arms, or legs	-.299
8	Pain, burning, bleeding, itching, or other difficulty with rectum, bowel movements, or urination (passing water)	-.292
9	Sick or upset stomach, vomiting or loose bowel movement, with or without chills, or aching all over	-.290
10	General tiredness, weakness, or weight loss	-.259
11	Cough, wheezing or shortness of breath, with or without fever, chills, or aching all over	-.257
12	Spells of feeling upset, being depressed, or of crying	-.257
13	Headache, or dizziness, or ringing in ears, or spells of feeling hot, nervous or shaky	-.244
14	Burning or itching rash on large areas of face, body, arms, or legs	-.240
15	Trouble talking, such as lisp, stuttering, hoarseness, or being unable to speak	-.237
16	Pain or discomfort in one or both eyes (such as burning or itching) or any trouble seeing after correction	-.230
17	Overweight for age and height or skin defect of face, body, arms, or legs, such as scars, pimples, warts, bruises or changes in colour	-.188
18	Pain in ear, tooth, jaw, throat, lips, tongue; several missing or crooked permanent teeth - includes wearing bridges or false teeth	-.170
19	Took medication or stayed on a prescribed diet for health reasons	-.144
20	Wore eyeglasses or contact lenses	-.101
21	Breathing smog or unpleasant air	-.101
22	No symptoms or problems [not on respondent's card]	-.000
23	Standard symptom/problem	-.257
24	Trouble sleeping	-.257
25	Intoxication	-.257
26	Problems with sexual interest or performance	-.257
27	Excessive worry or anxiety	-.257

A1.2: Rosser's Classification of illness states

Disability		Distress	
I	No disability	A.	No distress
II	Slight social disability	B.	Mild
III	Severe social disability and/or slight impairment of performance at work Able to do all housework except very heavy tasks	C.	Moderate
		D.	Severe
IV	Choice of work or performance at work very severely limited Housewives and old people able to do light housework only but able to go out shopping		
V	Unable to undertake any paid employment Unable to continue any education Old people confined to home except for escorted outings and short walks and unable to do shopping Housewives able only to perform a few simple tasks		
VI	Confined to chair or to wheelchair or able to move around in the house only with support from an assistant		
VII	Confined to bed		
VIII	Unconscious		

See: Kind, Rosser and Williams: 'Valuation of Quality of Life: Some Psychometric Evidence' in Jones-Lee, M.W. (editor) The Value of Life and Safety, North Holland, 1982.

A1.2 continued: - Rosser's Valuation Matrix: All 70 respondents

Disability Rating	Distress Rating			
	A	B	C	D
I	1.000	0.995	0.990	0.967
II	0.990	0.986	0.973	0.932
III	0.980	0.972	0.956	0.912
IV	0.964	0.956	0.942	0.870
V	0.946	0.935	0.900	0.700
VI	0.875	0.845	0.680	0.000
VII	0.677	0.564	0.000	-1.486
VIII	-1.028	Not Applicable		

Fixed points: Healthy = 1 Dead = 0

See: Kind, Rosser & Williams: 'Valuation of Quality of Life: Some Psychometric Evidence' in Jones-Lee, M.W. (editor) The Value of Life and Safety, North Holland, 1982:

A1.3 HUI-I

Level	Definition of HRQOL Concept	Preference Weight
Physical function: mobility and physical activity (P)^a		
P1	Being able to get around the house, yard, neighbourhood or community WITHOUT HELP from another person; AND having NO limitation in physical ability to lift, walk, run, jump or bend.	1.00
P2	Being able to get around the house, yard, neighbourhood or community WITHOUT HELP from another person; AND having SOME limitations in physical ability to lift, walk, run, jump or bend.	0.91
P3	Being able to get around the house, yard, neighbourhood or community WITHOUT HELP from another person; AND NEEDING mechanical aids to walk or get around.	0.81
P4	NEEDING HELP from another person in order to get around the house, yard, neighbourhood or community; AND having SOME limitations in physical ability to lift, walk, run, jump or bend.	0.80
P5	NEEDING HELP from another person in order to get around the house, yard, neighbourhood or community; AND NEEDING mechanical aids to walk or get around.	0.61
P6	NEEDING HELP from another person in order to get around the house, yard, neighbourhood or community; AND NOT being able to use or control the arms and legs.	0.52
Role function: self-care and role activity (R)^a		
R1	Being able to eat, dress, bathe, and go to the toilet WITHOUT HELP; AND having NO limitations when playing, going to school, working or in other activities.	1.00
R2	Being able to eat, dress, bathe and go to the toilet WITHOUT HELP; AND having SOME limitations when working, going to school, playing or in other activities.	0.94
R3	Being able to eat, dress, bathe and go to the toilet WITHOUT HELP; AND NOT being able to play, attend school or work	0.77
R4	NEEDING HELP to eat, dress, bathe or go to the toilet; AND having SOME limitations when working, going to school, playing or in other activities.	0.75
R5	NEEDING HELP to eat, dress, bathe or go to the toilet; AND NOT being able to play, attend school or work.	0.50
Social-emotional function: emotional well-being and social activity (S)		
S1	Being happy and relaxed most or all of the time, AND having an average number of friends and contacts with others.	1.00
S2	Being happy and relaxed most or all of the time, AND having very few friends and little contact with others	0.96
S3	Being anxious or depressed some or a good bit of time. AND having an average number of friends and contacts with others.	0.86
S4	Being anxious or depressed some or a good bit of time, AND having very few friends and little contact with others.	
Health problem (H)^b		
H1	Having no health problem	1.00
H2	Having a minor physical deformity or disfigurement such as scars on the face	0.92
H3	Needing a hearing aid	0.91
H4	Having a medical problem which causes pain or discomfort for a few days in a row every two months	0.91
H5	Needing to go to a special school because of trouble learning or remembering things	0.86
H6	Having trouble seeing even when wearing glasses	0.84
H7	Having trouble being understood by others	0.83
H8	Being blind OR deaf OR not able to speak	0.74

^a Multiple choices within each description are applied to individuals as appropriate for their age. For example, a 3 year old child is not expected to be able to get around the community without help from another person

^b Individuals with more than one health problem are classified according to the problem they consider the most serious

Calculating Formula

The formula gives utility values on the standard scale where healthy is 1.00 and dead is 0.00. However, since some of the health states were judged to be worse than death, some of the utility values are less than zero. The least utility value, for health state (P6, R5, S4, H8), is 0.21.

$$U = 1.42 (P_i R_i S_i H_i) - 0.42$$

Where U = utility of health state P_i = preference weight for the level on mobility and physical activity; R_i = preference weight for the level on role function, etc.

Example Calculations
$U(P1,R1,S1,H1) = 1.42(1.00 \times 1.00 \times 1.00 \times 1.00) - 0.42 = 1.00$ $U(P1,R1,S1,H4) = 1.42(1.00 \times 1.00 \times 1.00 \times 1.91) - 0.42 = 0.87$ $U(P3,R2,S1,H4) = 1.42(0.81 \times 0.94 \times 1.00 \times 1.00) - 0.42 = 0.66$ $U(P1,R1,S4,H1) = 1.42(1.00 \times 0.94 \times 0.77 \times 1.00) - 0.42 = 0.61$ $U(P3,R2,S2,H5) = 1.42(0.81 \times 0.94 \times 0.96 \times 0.86) - 0.42 = 0.47$ $U(P5,R4,S3,H1) = 1.42(0.61 \times 0.75 \times 0.86 \times 1.00) - 0.42 = 0.14$ $U(P6,R5,S4,H8) = 1.42(0.52 \times 0.50 \times 0.77 \times 0.74) - 0.42 = 0.21$

Adapted from Drummond et al 1987

a Although the formula produces a single utility value for each health state, the measurements on which the formula is based are not precise. Measurement uncertainty includes both sampling error and measurement imprecision. These are combined in the standard error $S_x = 0.06$. A sensitivity analysis of $\pm 2S_x$ would give an upper bound utility value of $U + 0.12$, not to exceed 1.00, and a lower bound of $U - 0.12$.

A1.3 continued: HUI-II

ATTRIBUTE	LEVEL	DESCRIPTION
SENSORY	1	Able to see, hear and speak normally for age
	2	Requires equipment to see or hear or speak
	3	See, hears or speaks with limitations, even with equipment
	4	Blind, deaf or mute
MOBILITY	1	Able to walk, bend, lift, jump and run normally for age
	2	Walks, bends, lifts, jumps or runs with some limitations, but does not require help.
	3	Requires mechanical equipment (such as canes, crutches, braces or wheelchair) to walk or get around independently.
	4	Requires the help of another person to walk or get around and requires mechanical equipment as well
	5	Unable to control or use arms and legs
EMOTION	1	Generally happy and free from worry
	2	Occasionally fretful, angry, irritable, anxious, depressed or suffering "night terrors."
	3	Often fretful, angry, irritable, anxious, depressed or suffering "night terrors"
	4	Almost always fretful, angry, irritable, anxious, depressed
	5	Extremely fretful, angry, irritable or depressed, usually requiring hospitalisation or psychiatric institutional care.
COGNITIVE	1	Learns and remembers school work normally for age
	2	Learns and remembers school work more slowly than classmates, as judged by parents and/or teachers
	3	Learns and remembers very slowly and usually requires special educational assistance
	4	Unable to learn and remember
SELF-CARE	1	Eats, bathes, dresses and uses the toilet normally for age
	2	Eats, bathes, dresses or uses the toilet independently with difficulty
	3	Requires mechanical equipment to eat, bathes, dress or use the toilet independently
	4	Requires the help of another person to eat, bathe, dress or use the toilet.
PAIN	1	Free of pain and discomfort
	2	Occasional pain. Discomfort relieved by non-prescription drugs or self-control activity without disruption of normal activities
	3	Frequent pain. Discomfort relieved by oral medicines with occasional disruption of normal activities
	4	Frequent pain; frequent disruption of normal activities. Discomfort requires prescription narcotics for relief.
	5	Severe pain. Pain not relieved by drugs and constantly disrupts normal activities
FERTILITY	1	Able to have children with a fertile spouse
	2	Difficulty in having children with a fertile spouse
	3	Unable to have children with a fertile spouse

Multi-Attribute Value Function (MAVF)

Sensory		Mobility		Emotional		Cognitive		Self-Care		Pain		Fertility	
x1	a1	x2	a2	x3	a3	x4	a4	x5	a5	x6	a6	x7	a7
1	1.00	1	1.00	1	1.00	1	1.00	1	1.00	1	1.00	1	1.00
2	0.73	2	0.78	2	0.69	2	0.72	2	0.88	2	0.77	2	0.79
3	0.57	3	0.54	3	0.51	3	0.59	3	0.81	3	0.54	3	0.61
4	0.33	4	0.42	4	0.40	4	0.34	4	0.73	4	0.34		
		5	0.30	5	0.27					5	0.17		

$$v^* = 1.02 (a1 * a2 * a3 * a4 * a5 * a6 * a7) - 0.02$$

where v^* is the value of the health state on a value scale where dead has a value of 0.00 and healthy has a value of 1.00. Because the worst possible health state was judged by respondents as worse than death, it has a negative value of -0.02

Multiple-Attribute Utility Function (MAUF)

Sensory		Mobility		Emotional		Cognitive		Self-Care		Pain		Fertility	
x1	b1	x2	b2	x3	b3	x4	b4	x5	b5	x6	b6	x7	b7
1	1.00	1	1.00	1	1.00	1	1.00	1	1.00	1	1.00	1	1.00
2	0.95	2	0.97	2	0.93	2	0.95	2	0.97	2	0.97	2	0.97
3	0.86	3	0.84	3	0.81	3	0.88	3	0.91	3	0.85	3	0.88
4	0.61	4	0.73	4	0.70	4	0.65	4	0.80	4	0.64		
		5	0.58	5	0.53					5	0.38		

$$u^* = 1.06 (b1 * b2 * b3 * b4 * b5 * b6 * b7) - 0.06$$

where u^* is the utility of the health state on a utility scale where dead has a value of 0.00 and healthy has a value of 1.00. Because the worst possible health state was judged by respondents as worse than death, it has a negative value of -0.02

A1.3 Continued: HUI-III

Attribute	Level	Level description
Vision	1	Able to see well enough to read ordinary newsprint and recognise a friend on the other side of the street, without glasses or contact lenses
	2	Able to see well enough to read ordinary newsprint and recognise a friend on the other side of the street, but with glasses or contact lenses
	3	Able to read ordinary newsprint with or without glasses but unable to recognise a friend on the other side of the street, even with glasses or contact lenses
	4	Able to recognise a friend on the other side of the street with or without glasses but unable to read ordinary newsprint, even with glasses or contact lenses
	5	Unable to read ordinary newsprint and unable to recognise a friend on the other side of the street, even with glasses or contact lenses
	6	Unable to see at all
Hearing	1	Able to hear what is said in a group conversation with at least 3 other people, without a hearing aid
	2	Able to hear what is said in a conversation with 1 other person in a quiet room without a hearing aid, but requires a hearing aid to hear what is said in a group conversation with at least 3 other people
	3	Able to hear what is said in a conversation with 1 other person in a quiet room with a hearing aid, and able to hear what is said in a group conversation with at least 3 other people, with a hearing aid
	4	Able to hear what is said in a conversation with 1 other person in a quiet room without a hearing aid, but unable to hear what is said in a group conversation with at least 3 other people even with a hearing aid
	5	Able to hear what is said in a conversation with 1 other person in a quiet room with a hearing aid, but unable to hear what is said in a group conversation with at least 3 other people even with a hearing aid
	6	Unable to hear at all
Speech	1	Able to be understood completely when speaking with strangers or people who know me well
	2	Able to be understood partially when speaking with strangers but able to be understood completely when speaking with people who know me well
	3	Able to be understood partially when speaking with strangers or people who know me well
	4	Unable to be understood when speaking with strangers but able to be understood partially by people who know me well
	5	Unable to be understood when speaking to other people (or unable to speak at all)
Ambulation	1	Able to walk around the neighbourhood without difficulty, and without walking equipment
	2	Able to walk around the neighbourhood with difficulty, but does not require walking equipment or the help of another person
	3	Able to walk around the neighbourhood with walking equipment, but without the help of another person
	4	Able to walk only short distances with walking equipment, and requires a wheelchair to get around the neighbourhood
	5	Unable to walk alone, even with walking equipment. Able to walk short distances with the help of another person and requires a wheelchair to get around the neighbourhood
	6	Cannot walk at all
Dexterity	1	Full use of 2 hands and 10 fingers
	2	Limitations in the use of hands or fingers, but does not require special tools or help of another person
	3	Limitations in the use of hands or fingers, is independent with use of special tools and does not require the help of another person
	4	Limitations in the use of hands or fingers, requires the help of another person for some tasks (not independent even with use of special tools)
	5	Limitations in the use of hands or fingers, requires the help of another person for most tasks (not independent even with use of special tools)
	6	Limitations in use of hands or fingers, requires the help of another person for all tasks (not

		independent even with use of special tools)
Emotion	1	Happy and interested in life
	2	Somewhat happy
	3	Somewhat unhappy
	4	Very unhappy
	5	So unhappy that life is not worthwhile

Contd.

Cognition	1	Able to remember most things, think clearly and solve day to day problems
	2	Able to remember most things, but has little difficulty when trying to think and solve day to day problems
	3	Somewhat forgetful, but able to think clearly and solve day to day problems
	4	Somewhat forgetful, and has a little difficulty when trying to think or solve day to day problems
	5	Very forgetful, and has great difficulty when trying to think or solve day to day problems
	6	Unable to remember anything at all, and unable to think or solve day to day problems
Pain	1	Free of pain and discomfort
	2	Mild to moderate pain that prevents no activities
	3	Moderate pain that prevents a few activities
	4	Moderate to severe pain that prevents some activities
	5	Severe pain that prevents most activities

Table II Predictive validity of multi-attribute value function (MAVF) and multi-attribute utility function (MAUF) for the Health Utilities Index Mark II system.[51]. The scores in this table are on all the worst-healthy scale (the scale where the worst possible health state has a score that would be obtained from table I, which is on the dead-to-healthy scale

MAVF (n = 203)				MAUF (n = 194)			
validation state ^a	value predicted by model (P)	measured value (M)	difference (deviation) (P - M)	Validation state ^a	utility predicted by model (P)	measured utility (M)	difference (deviation) (P - M)
Interior 1	0.29	0.34	-0.05	Mobility 3/5	0.84	0.78	0.06
Interior 2	0.37	0.41	-0.04	Fertility 3/3	0.89	0.88	0.01
Interior 3	0.06	0.21	-0.15	Interior 1	0.68	0.76	-0.08
Interior 4	0.01	0.09	-0.08	Interior 3	0.51	0.51	0.00
Mean difference (deviation)			-0.080				-0.002
Standard deviation ^b			0.105				0.058

a Interior 1 health state is 1,4,2,1,1,1,1; Interior 2 health state is 1,1,3,2,1,1,1; Interior 3 health state is 3,3,2,3,3,2,2; Interior 4 health state is 3,3,4,4,4,4,3; Mobility 3/5 health state is 1,3,1,1,1,1,1. Fertility 3/3 health state is 1,1,1,1,1,1,3. See section 4.2 for details of the notation.

b The standard deviation of the prediction error is $\sqrt{[\sum d^2 / (n-1)]}$, where d = difference (deviation) and n=4

A1.4: 15D.2

Question 1 **Mobility**

- 1 () I am able to walk normally (without difficulty) indoors, outdoors and on stairs
- 2 () I am able to walk without difficulty indoors, but outdoors and/or on stairs I have slight difficulties
- 3 () I am able to walk without help indoors (with or without an appliance), but outdoors and/or on stairs only with considerable difficulty or with help from others.
- 4 () I am able to walk indoors only with help from others
- 5 () I am completely bed-ridden and unable to move about

Question 2 **Vision**

- 1 () I see normally, i.e. I can read newspapers and TV text without difficulty (with or without glasses)
- 2 () I can read papers and/or TV text with slight difficulty (with or without glasses).
- 3 () I can read papers and/or TV text with considerable difficulty (with or without glasses).
- 4 () I cannot read papers or TV text either with glasses or without, but I can see enough to walk about without guidance
- 5 () I cannot see enough to walk about without a guide, i.e. I am almost or completely blind

Question 3 **Hearing**

- 1 () I can hear normally, i.e. normal speech (with or without a hearing aid).
- 2 () I hear normal speech with a little difficulty
- 3 () I hear normal speech with considerable difficulty; in conversation I need voices to be louder than normal
- 4 () I hear even loud voices poorly; I am almost deaf
- 5 () I am completely deaf

Question 4 **Breathing**

- 1 () I am able to breathe normally, i.e. with no shortness of breath or other breathing difficulty
- 2 () I have shortness of breath during heavy work or sports, or when walking briskly on flat ground or slightly uphill
- 3 () I have shortness of breath when walking on flat ground at the same speed as others my age
- 4 () I get shortness of breath even after light activity, e.g. washing or dressing myself
- 5 () I have breathing difficulties almost all the time, even when resting

Question 5 **Sleeping**

- 1 () I am able to sleep normally, i.e. I have no problems with sleeping
- 2 () I have slight problems with sleeping, e.g. difficulty in falling asleep, or sometimes waking at night
- 3 () I have moderate problems with sleeping, e.g. disturbed sleep, or feeling I have not slept enough
- 4 () I have great problems with sleeping, e.g. having to use sleeping pills often or routinely, or usually waking at night and/or too early in the morning
- 5 () I suffer severe sleeplessness, e.g. sleep is almost impossible even with full use of sleeping pills, or staying awake most of the night

Question 6 **Eating**

- 1 () I am able to eat normally, i.e. with no help from others
- 2 () I am able to eat by myself with minor difficulty (e.g. slowly, clumsily, shakily, or with special appliances).
- 3 () I need some help from another person in eating
- 4 () I am unable to eat by myself at all, so I must be fed by another person

Question 7 Speech

- 1 () I am able to speak normally, i.e. clearly, audibly and fluently
- 2 () I have slight speech difficulties, e.g. occasional fumbling for words, mumbling, or changes of pitch
- 3 () I can make myself understood, but my speech is e.g. disjointed, faltering, stuttering or stammering
- 4 () Most people have great difficulty understanding my speech
- 5 () I can only make myself understood by gestures

Question 8 Elimination

- 1 () My bladder and bowel work normally and without problems
- 2 () I have slight problems with my bladder and/or bowel function, e.g. difficulties with urination, or loose or hard bowels
- 3 () I have marked problems with my bladder and/or bowel function, e.g. occasional 'accidents', or severe constipation or diarrhoea
- 4 () I have serious problems with my bladder and/or bowel function, e.g. routine 'accidents', or need of catheterization or enemas
- 5 () I have no control over my bladder and/or bowel function

Question 9 Usual activities

- 1 () I am able to perform my usual activities (e.g. employment, studying, housework, free-time activities) without difficulty
- 2 () I am able to perform my usual activities slightly less effectively or with minor difficulty
- 3 () I am able to perform my usual activities much less effectively, with considerable difficulty, or not completely
- 4 () I can only manage a small proportion of my previously usual activities
- 5 () I am unable to manage any of my previously usual activities

Question 10 Mental function

- 1 () I am able to think clearly and logically, and my memory functions well
- 2 () I have slight difficulties in thinking clearly and logically, or my memory sometimes fails me
- 3 () I have marked difficulties in thinking clearly and logically, or my memory is somewhat impaired
- 4 () I have great difficulties in thinking clearly and logically, or my memory is seriously impaired.
- 5 () I am permanently confused and disoriented in place and time

Question 11 Discomfort and symptoms

- 1 () I have no physical discomfort or symptoms, e.g. pain, ache, nausea, itching etc.
- 2 () I have mild physical discomfort or symptoms, e.g. pain, ache, nausea, itching etc.
- 3 () I have marked physical discomfort or symptoms, e.g. pain, ache, nausea, itching etc.
- 4 () I have unbearable physical discomfort or symptoms e.g. pain, ache, nausea, itching etc.

Question 12 Depression

- 1 () I do not feel at all sad, melancholic or depressed
- 2 () I feel slightly sad, melancholic or depressed
- 3 () I feel moderately sad, melancholic or depressed.
- 4 () I feel extremely sad, melancholic or depressed.

Question 13 Distress

- 1 () I do not feel at all anxious, stressed or nervous
- 2 () I feel slightly anxious, stressed or nervous
- 3 () I feel moderately anxious, stressed or nervous
- 4 () I feel very anxious, stressed or nervous
- 5 () I feel extremely anxious, stressed or nervous

Question 14 Vitality

- 1 () I feel healthy and energetic
- 2 () I feel slightly weary, tired or feeble
- 3 () I feel moderately weary, tired or feeble
- 4 () I feel very weary, tired or feeble, almost exhausted
- 5 () I feel extremely weary, tired or feeble, totally exhausted

Question 15 Sexual activity

- 1 () My state of health has no adverse effect on my sexual activity
- 2 () My state of health has a slight effect on my sexual activity
- 3 () My state of health has a considerable effect on my sexual activity
- 4 () My state of health makes sexual activity almost impossible
- 5 () My state of health makes sexual activity impossible

A1.5: The EuroQol Descriptive System-five dimensions (EQ-5D)

Mobility	
1.	No problems walking about
2.	Some problems walking about
3.	Confined to bed
Self-Care	
1.	No problems with self-care
2.	Some problems washing or dressing self
3.	Unable to wash or dress self
Usual Activities	
1.	No problems with performing usual activities (e.g. work, study, housework, family or leisure activities)
2.	Some problems with performing usual activities
3.	Unable to perform usual activities
Pain/Discomfort	
1.	No pain or discomfort
2.	Moderate pain or discomfort
3.	Extreme pain or discomfort
Anxiety/Depression	
1.	Not anxious or depressed
2.	Moderately anxious or depressed
3.	Extremely anxious or depressed

Coefficients for TTO tariffs

DIMENSION	COEFFICIENT
Constant (a)	0.081
Mobility	
level 2	0.069
level 3	0.314
Self-care	
level 2	0.104
level 3	0.214
Usual activity	
level 2	0.036
level 3	0.094
Pain/discomfort	
level 2	0.123
level 3	0.386
Anxiety/depression	
level 2	0.071
level 3	0.236
N3	0.269
adjusted r^2	0.46

Appendix 2

UK Short Form 36 (SF-36) Health Survey

HEALTH STATUS QUESTIONNAIRE (SF-36)

The following questions ask you about your health, how you feel and how well you are able to do your usual activities.

If you are unsure how to answer a question, please give the best answer you can.

1. In general, would you say your health is:

(tick one)

- Excellent
- Very good
- Good
- Fair
- Poor

2. Compared to one year ago, how would you rate your health in general now?

(tick one)

- Much better than one year ago
- Somewhat better than one year ago
- About the same
- Somewhat worse now than one year ago
- Much worse now than one year ago

HEALTH AND DAILY ACTIVITIES

3. The following questions are about activities that you might do during a typical day. Does your health limit you in these activities? If so, how much?

(circle one number on each line)

ACTIVITIES	Yes, limited a lot	Yes, limited a little	No, not limited at all
a. Vigorous activities , such as running, lifting heavy objects, participating in strenuous sports	1	2	3
b. Moderate activities , such as moving a table, pushing a vacuum cleaner, bowling or playing golf	1	2	3
c. Lifting or carrying groceries	1	2	3
d. Climbing several flights of stairs	1	2	3
e. Climbing one flight of stairs	1	2	3
f. Bending, kneeling or stooping	1	2	3
g. Walking more than a mile	1	2	3
h. Walking half a mile	1	2	3
i. Walking 100 yards	1	2	3
j. Bathing and dressing yourself	1	2	3

4. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

(circle one number on each line)

	YES	NO
a. Cut down on the amount of time you spent on work or other activities	1	2
b. Accomplished less than you would like	1	2
c. Were limited in the kind of work or other activities	1	2
d. Had difficulty in performing the work or other activities (e.g. it took extra effort)	1	2

5. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

(circle one number on each line)

	YES	NO
a. Cut down on the amount of time you spent on work or other activities	1	2
b. Accomplished less than you would like	1	2
c. Didn't do work or other activities as carefully as usual	1	2

6. During the past 4 weeks, to what extent have your physical health or emotional problems interfered with your normal social activities with family, friends, neighbours or groups?

(circle one number)

Not at all.....1
Slightly2
Moderately3
Quite a bit.....4
Extremely5

7. How much bodily pain have you had during the past 4 weeks?

(circle one number)

None1
Very mild2
Mild3
Moderate.....4
Severe.....5
Very severe.....6

8. During the past 4 weeks, how much did pain interfere with your normal work (including work both outside the home and housework)?

(circle one number)

Not at all.....1
A little bit2
Moderately3
Quite a bit.....4
Extremely5

YOUR FEELINGS

9. These questions are about how you feel and how things have been with you during the past 4 weeks. (For each question, please indicate the one answer that comes closest to the way you have been feeling.)

(circle one number on each line)

How much of the time during the past 4 weeks:	All of the time	Most of the time	A good bit of the time	Some of the time	A little of the time	None of the time
a. Did you feel full of life?	1	2	3	4	5	6
b. Have you been a very nervous person?	1	2	3	4	5	6
c. Have you felt so down in the dumps that nothing could cheer you up?	1	2	3	4	5	6
d. Have you felt calm and peaceful?	1	2	3	4	5	6
e. Did you have a lot of energy?	1	2	3	4	5	6
f. Have you felt down-hearted and low?	1	2	3	4	5	6
g. Did you feel worn-out?	1	2	3	4	5	6
h. Have you been a happy person?	1	2	3	4	5	6
i. Did you feel tired?	1	2	3	4	5	6
j. Has your health limited your social activities (like visiting friends or close relatives)	1	2	3	4	5	6

HEALTH IN GENERAL

10. Please choose the answer that best describes how true or false each of the following statements is for you.

(circle one number on each line)

	Definitely true	Mostly true	Not sure	Mostly false	Definitely false
a. I seem to get ill more easily than other people	1	2	3	4	5
b. I am as healthy as anybody I know	1	2	3	4	5
c. I expect my health to get worse	1	2	3	4	5
d. My health is excellent	1	2	3	4	5

Appendix 3

Scoring system for the SF-36

SF-36 SCORING SYSTEM¹

The instructions given below are for scoring the eight dimensions of the UK SF-36 reproduced in this manual. They show;

- which items compose each dimension;
- the coding system for each item. Important note: not all items in a domain are coded in the same manner. For example, in the mental health dimension items 9d and 9h are coded in the reverse manner to 9b, 9c and 9f;
- the scoring algorithms for each dimension.

If you are interested in creating the summary scale scores (the Physical Component Summary (PCS) and the Mental Component Summary (MCS)) from UK SF-36 data then please see page 39.

1. Coding items:

Physical function

3a, 3b, 3c, 3d, 3e, 3f, 3g, 3h, 3i, 3j

Yes, limited a lot = 1
Yes, limited a little = 2
No, not limited at all = 3

Role limitation due to physical problems

4a, 4b, 4c, 4d

Yes = 0
No = 1

Role limitation due to emotional problems

5a, 5b, 5c

Yes = 0
No = 1

¹ Source: Jenkinson et al, 1996

Social functioning

6

Not at all = 5
Slightly = 4
Moderately = 3
Quite a bit = 2
Extremely = 1

9j

All of the time = 1
Most of the time = 2
A good bit of the time = 4
A little bit of the time = 5
None of the time = 6

Mental health

9b, 9c, 9f

All of the time = 1
Most of the time = 2
A good bit of the time = 3
Some of the time = 4
A little of the time = 5
None of the time = 6

9d, 9h

All of the time = 6
Most of the time = 5
A good bit of the time = 4
Some of the time = 3
A little of the time = 2
None of the time = 1

Energy/vitality

9a, 9e

All of the time = 6
Most of the time = 5
A good bit of the time = 4
Some of the time = 3
A little of the time = 2
None of the time = 1

9g, 9i

All of the time = 1
Most of the time = 2
A good bit of the time = 3
Some of the time = 4
A little of the time = 5
None of the time = 6

Pain

7

None = 6
Very mild = 5
Mild = 4
Moderate = 3
Severe = 2
Very severe = 1

8

Not at all = 5
A little bit = 4
Moderately = 3
Quite a bit = 2
Extremely = 1

General health Perception

1

Excellent = 5
Very good = 4.4
Good = 3.4
Fair = 2
Poor = 1

10a, 10c

Definitely true = 5
Mostly true = 2
Not sure = 3
Mostly false = 4
Definitely false = 5

10b, 10d

Definitely true = 5
Mostly true = 4
Not sure = 3
Mostly false = 2
Definitely false = 1

Change in health

2

Much better now = 5
Somewhat better = 4
About the same = 3
Somewhat worse = 1
Much worse = 1

2. Calculating dimension scores

Physical function (PF)

$$PF = 3a + 3b + 3c + 3d + 3e + 3f + 3g + 3h + 3i + 3j$$

$$\text{Physical function score} = ((PF-10)/10)*100$$

Role limitation due to physical problems (RP)

$$RP = 4a + 4b + 4c + 4d$$

$$\text{Role limitation due to physical problems score} = (RP/4)*100$$

Role limitation due to emotional problems (EP)

$$RE = 5a + 5b + 5c$$

$$\text{Role limitations due to emotional problems score} = (RE/3)*100$$

Social functioning (SF)

$$SC = 6 + 9j$$

$$\text{Social functioning score} = ((SC-2)/9)*100$$

Mental health (MH)

$$MH = 9b + 9c + 9d + 9f + 9h$$

$$\text{Mental health score} = ((MH-5)/25)*100$$

Energy/vitality (EV)

$$EV = 9a + 9e + 9g + 9i$$

$$\text{Energy/vitality score} = ((EV-4)/20)*100$$

Pain (P)

$$P = 7 + 8$$

$$\text{Pain} = ((p-2)/9)*100$$

General health Perception (GHP)

$$HP = 1 + 10a + 10b + 10c + 10d$$

$$\text{General health perceptions} = ((GHP-5)/20)*100$$

Change in health (CH)

$$CH = 2$$

$$\text{Change in health score} = ((CH - 1)/4)*100$$

Notes: (see over)

Notes:

This scoring system is for use with the SF-36, as reproduced in this manual.

Do not present CH data in terms of means and standard deviations.

Where items are missing from multi-item scales the developers suggest an estimate may be calculated. They suggest that in those instances where over half the items are completed missing values can be imputed as the average of completed items. We have not employed this strategy in the data presented in this report. We strongly advise that users do not impute data in small data sets.

Ownership of this report does not constitute or imply a right to use this questionnaire. Potential users must inform the Medical Outcomes Trust (see page 43).

Appendix 4

Valuation Survey questionnaire booklet



UNIVERSITY OF SHEFFIELD
MEDICAL SCHOOL

Medical Care Research Unit
Department of General Practice

VALUATION OF HEALTH AND ILL HEALTH

We are trying to find out how people value health. Please answer every question as best you can, but don't take too long over each one.

How old are you? _____ years

Are you

Please tick

male

female

Do you do any paid work as an employee or
self employed?

Yes, full-time

Yes, part-time

No

If "YES", what is (or was) the name and title of your main job?

Occupation _____

Industry _____

If "NO", are you

looking for work?

permanently unable to work?

wholly retired?

full-time student?

looking after the home or family?

other?

If other please specify _____

How old were you when you completed your full-time education?

_____ years

In general would you say your health is:

excellent

very good

good

fair

poor

Do you have any long-standing illness, disability or infirmity?

(long-standing means anything that has troubled you over a period
of time or that is likely to affect you over a period of time).

Yes

No

If "YES", does this limit your activities in any way ?

Yes

No

B. YOUR OWN HEALTH TODAY

Please tick one box in each group to show which statements best describe your health state today.

Physical functioning

Please tick
one in
each group

Level

1. Your health does not limit you in vigorous activities (e.g. running, lifting heavy objects, participating in strenuous sports).
2. Your health limits you in vigorous activities (e.g. running, lifting heavy objects, participating in strenuous sports).
3. Your health limits you in climbing several flights of stairs or in walking more than a mile.
4. Your health limits you in climbing one flight of stairs or in walking half a mile.
5. Your health limits you in walking 100 yards.
6. Your health limits you in bathing and dressing yourself.

Role limitation

Level

1. You have no problems with your work or other regular daily activities as a result of your physical health or any emotional problems.
2. You have problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Social functioning

Level

1. Your physical health or emotional problems do not interfere at all with your normal social activities.
2. Your physical health or emotional problems interfere slightly with your normal social activities.
3. Your physical health or emotional problems interfere moderately with your normal social activities.
4. Your physical health or emotional problems interfere quite a bit with your normal social activities.
5. Your physical health or emotional problems interfere extremely with your normal social activities.

Bodily pain

*Please tick
one*

Level

- 1. You have no bodily pain.
- 2. You have very mild bodily pain.
- 3. You have mild bodily pain.
- 4. You have moderate bodily pain.
- 5. You have severe bodily pain.
- 6. You have very severe bodily pain.

Mental health

Level

- 1. You feel tense or downhearted and low a little or none of the time.
- 2. You feel tense or downhearted and low some of the time.
- 3. You feel tense or downhearted and low a good bit of the time.
- 4. You feel tense or downhearted and low most of the time.
- 5. You feel tense or downhearted and low all of the time.

Vitality

Level

- 1. You feel worn out or tired a little or none of the time.
- 2. You feel worn out or tired some of the time
- 3. You feel worn out or tired a good bit of the time.
- 4. You feel worn out or tired most of the time.
- 5. You feel worn out or tired all of the time.

The health states which we will be using in the rest of this questionnaire will all be made up from these six groups of statements.

C. RANKING AND RATING EXERCISE

Attached to this questionnaire are two envelopes. Please open the envelope marked I and remove the contents. There should be six cards, each describing a state of health. The cards are in no particular order. You will see that one card has 'unconsciousness, followed shortly by death' written on it. Rank this card along with the others.

Please read through each card carefully in your own time.

When you do this, imagine you yourself are in these states and that they would last for 10 years without any change.

Please sort the cards into an order so that the one you think is the best health state is at the top and the one you think is the worst is at the bottom. If you think any are the same, you can place them alongside each other.

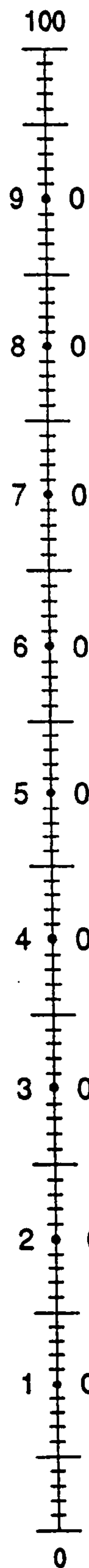
When you have ranked them, please list them below in order of severity, starting with the least severe at the top. You may rank two or more health states equally.

.....
.....
.....
.....
.....
.....

We would now like you to indicate how good or bad you think each health state on the scale opposite.

Rating exercise I

Best
imaginable
health state



Worst
imaginable
health state

Now please indicate the relative positions of each of the health states on this scale.

(It may be helpful to mark your ratings of the best and the worst health states first, followed by the intermediate states)

Please repeat the ranking and rating exercise with the cards in Envelope II (see overpage).

Ranking Exercise II

Please rank the health states in Envelope II, and list them below in order of severity, starting with 1 for the least severe. You may rank two or more health states equally.

.....

.....

.....

.....

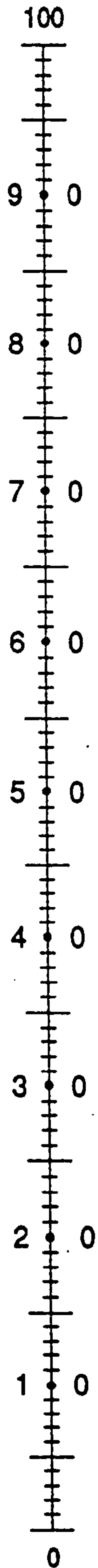
.....

.....

Now indicate how good or bad you think each health state on the scale opposite.

Rating Exercise II

Best
imaginable
health state



Worst
imaginable
health state

Now please indicate the relative positions
of each of the health states on this scale.

(It may be helpful to mark your ratings of the
best and the worst health states first, followed
by the intermediate states)

D. STANDARD GAMBLE EXERCISES

You are going to be asked to make choices between the health states you have just ranked. One choice will involve a risk and the other will be a certainty.

The choice in the upper box describes a state of health. The first choice is fairly simple because it describes only one state of health, which is certain to occur. If something is certain, it is equal to 100% chance or probability.

The second choice is more complicated because if it is chosen there are two possible results. The chances of each of these results occurring will be shown to you.

For example, let us assume you have suffered an illness. The doctor explains to you that you have the two choices shown opposite: one choice is to stay in the health state shown in the upper box and the second choice is a treatment which may succeed or fail. The first choice means remaining in a state of ill-health for certain, whereas the treatment choice is risky, since the treatment doesn't always work. If the treatment does work, you will be in the health state shown in the lower left hand box. But if the treatment does not work, your health will deteriorate and may result in death (as shown in this example).

For each choice there are a range of chances of a successful treatment (from 99 in 100 down to 10 in 100) and corresponding chances of dying from the treatment (1 in 100 up to 90 in 100). These are shown on the left hand side of the facing page.

In the following exercises, the health states in the upper boxes show the CERTAIN outcome of NOT having treatment, but differ in every exercise.

The health states in the lower two boxes differ in only a selection of exercises.

From now on, imagine that you yourself are in these states, and that they would last for 10 years without change.

N.B. Remember, there are no right or wrong answers - we are asking you to make value judgements.

Suppose you were in a state of ill-health shown immediately below. The doctor tells you that you will remain in this condition for ten years unless you have treatment. However, this treatment does not have a certain outcome. If it succeeds, it will result in a better state of health. If it fails, you will shortly die. The choice is therefore between:

FOR CERTAIN

E

Your health limits you in climbing one flight of stairs or in walking half a mile.

You have problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems interfere quite a bit with your normal social activities.

You have moderate bodily pain.

You feel tense or downhearted and low most of the time.

You feel worn out or tired most of the time.

OR

IF TREATMENT SUCCEEDS

O

Your health does not limit you in vigorous activities (eg. running, lifting heavy objects, participating in strenuous sports).

You have no problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems do interfere at all with your normal social activities.

You have no bodily pain.

You feel tense or downhearted and low a little or none of the time.

You feel worn out or tired a little or none of the time.

IF TREATMENT FAILS

M

Unconsciousness followed shortly by death

Suppose you were in a state of ill-health shown immediately below. The doctor tells you that you will remain in this condition for ten years unless you have treatment. However, this treatment does not have a certain outcome. If it succeeds, it will result in a better state of health. If it fails, you will shortly die. The choice is therefore between:

FOR CERTAIN

Q

Your health limits you in climbing several flights of stairs or in walking more than a mile.

You have problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems interfere moderately with your normal social activities.

You have moderate bodily pain.

You feel tense or downhearted and low some of the time.

You feel worn out or tired some of the time.

OR

IF TREATMENT SUCCEEDS

O

Your health does not limit you in vigorous activities (eg. running, lifting heavy objects, participating in strenuous sports).

You have no problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems do interfere at all with your normal social activities.

You have no bodily pain.

You feel tense or downhearted and low a little or some of the time.

You feel worn out or tired a little or none of the time.

IF TREATMENT FAILS

M

Unconsciousness followed shortly by death

Please put a ✓ against all cases where you are CONFIDENT that you would CHOOSE the risky treatment.

Please put an X against all cases where you are CONFIDENT that you would REJECT the treatment and accept the certain health state.

Please put a = against the case where you think it would be most difficult to choose between having the risky treatment and not having the treatment.

Outcome of treatment:

Chances of success			Chances of failure			
100	in	100*	0	in	100*	
99	in	100*	1	in	100*	
98	in	100	2	in	100	
97	in	100	3	in	100	
96	in	100	4	in	100	
95	in	100	5	in	100	
90	in	100	10	in	100	
85	in	100	15	in	100	
80	in	100	20	in	100	
75	in	100	25	in	100	
70	in	100	30	in	100	
60	in	100	40	in	100	
50	in	100	50	in	100	
40	in	100	60	in	100	
30	in	100	70	in	100	
20	in	100	80	in	100	
10	in	100	90	in	100	
Immediate death preferred						

* You may be willing to accept the treatment but only if it has a chance of failure less than 1 in 100 (i.e. a chance of success which is higher than 99 in 100). If so, at what level of failure would you accept treatment?

Now do the same thing again, but this time you will remain in a different state of ill-health for ten years unless you have treatment. The choice is therefore between:

FOR CERTAIN

P

Your health does not limit you in vigorous activities (eg. running, lifting heavy objects, participating in strenuous sports).

You have no problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems do not interfere at all with your normal social activities.

You have mild bodily pain.

You feel tense or downhearted and low a little or none of the time.

You feel worn out or tired a little or none of the time.

OR

IF TREATMENT SUCCEEDS

O

Your health does not limit you in vigorous activities (eg. running, lifting heavy objects, participating in strenuous sports).

You have no problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems do not interfere at all with your normal social activities.

You have no bodily pain.

You feel tense or downhearted and low a little or none of the time.

You feel worn out or tired a little or none of the time.

IF TREATMENT FAILS

M

Unconsciousness followed shortly by death

Please put a ✓ against all cases where you are CONFIDENT that you would CHOOSE the risky treatment.

Please put an X against all cases where you are CONFIDENT that you would REJECT the treatment and accept the certain health state.

Please put a = against the case where you think it would be most difficult to choose between having the risky treatment and not having the treatment.

Outcome of treatment:

Chances of success			Chances of failure			
100	in	100*	0	in	100*	
99	in	100*	1	in	100*	
98	in	100	2	in	100	
97	in	100	3	in	100	
96	in	100	4	in	100	
95	in	100	5	in	100	
90	in	100	10	in	100	
85	in	100	15	in	100	
80	in	100	20	in	100	
75	in	100	25	in	100	
70	in	100	30	in	100	
60	in	100	40	in	100	
50	in	100	50	in	100	
40	in	100	60	in	100	
30	in	100	70	in	100	
20	in	100	80	in	100	
10	in	100	90	in	100	
Immediate death preferred						

* You may be willing to accept the treatment but only if it has a chance of failure less than 1 in 100 (i.e. a chance of success which is higher than 99 in 100). If so, at what level of failure would you accept treatment?

Now do the same thing again, but this time you will remain in a different state of ill-health for ten years unless you have treatment. The choice is therefore between:

FOR CERTAIN

S

Your health limits you in bathing and dressing yourself.

You have problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems interfere quite a bit with your normal social activities.

You have moderate bodily pain.

You feel tense or downhearted and low a little or none of the time.

You feel worn out or tired all of the time.

OR

IF TREATMENT SUCCEEDS

O

Your health does not limit you in vigorous activities (eg. running, lifting heavy objects, playing in strenuous sports).

You have no problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems do not interfere at all with your normal social activities.

You have no bodily pain.

You feel tense or downhearted and low a little or none of the time.

You feel worn out or tired a little or none of the time.

IF TREATMENT FAILS

M

Unconsciousness followed shortly by death

Please put a ✓ against all cases where you are CONFIDENT that you would CHOOSE the risky treatment.

Please put an X against all cases where you are CONFIDENT that you would REJECT the treatment and accept the certain health state.

Please put a = against the case where you think it would be most difficult to choose between having the risky treatment and not having the treatment.

Outcome of treatment:

Chances of success			Chances of failure			
100	in	100*	0	in	100*	
99	in	100*	1	in	100*	
98	in	100	2	in	100	
97	in	100	3	in	100	
96	in	100	4	in	100	
95	in	100	5	in	100	
90	in	100	10	in	100	
85	in	100	15	in	100	
80	in	100	20	in	100	
75	in	100	25	in	100	
70	in	100	30	in	100	
60	in	100	40	in	100	
50	in	100	50	in	100	
40	in	100	60	in	100	
30	in	100	70	in	100	
20	in	100	80	in	100	
10	in	100	90	in	100	
Immediate death preferred						

* You may be willing to accept the treatment but only if it has a chance of failure less than 1 in 100 (i.e. a chance of success which is higher than 99 in 100). If so, at what level of failure would you accept treatment?

Now do the same thing again, but this time you will remain in a different state of ill-health for ten years unless you have treatment. The choice is therefore between:

FOR CERTAIN

T

Your health limits you in climbing one flight of stairs or in walking half a mile.

You have problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems interfere slightly with your normal social activities.

You have moderate bodily pain.

You feel tense or downhearted and low a good bit of the time.

You feel worn out or tired most of the time.

OR

IF TREATMENT SUCCEEDS

O

Your health does not limit you in vigorous activities (eg. running, lifting heavy objects, participating in strenuous sports).

You have no problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems do not interfere at all with your normal social activities.

You have no bodily pain.

You feel tense or downhearted and low a little or none of the time.

You feel worn out or tired a little or none of the time.

IF TREATMENT FAILS

M

Unconsciousness followed shortly by death

Please put a ✓ against all cases where you are CONFIDENT that you would CHOOSE the risky treatment.

Please put an X against all cases where you are CONFIDENT that you would REJECT the treatment and accept the certain health state.

Please put a = against the case where you think it would be most difficult to choose between having the risky treatment and not having the treatment.

Outcome of treatment:

Chances of success			Chances of failure			
100	in	100*	0	in	100*	
99	in	100*	1	in	100*	
98	in	100	2	in	100	
97	in	100	3	in	100	
96	in	100	4	in	100	
95	in	100	5	in	100	
90	in	100	10	in	100	
85	in	100	15	in	100	
80	in	100	20	in	100	
75	in	100	25	in	100	
70	in	100	30	in	100	
60	in	100	40	in	100	
50	in	100	50	in	100	
40	in	100	60	in	100	
30	in	100	70	in	100	
20	in	100	80	in	100	
10	in	100	90	in	100	
Immediate death preferred						

* You may be willing to accept the treatment but only if it has a chance of failure less than 1 in 100 (i.e. a chance of success which is higher than 99 in 100). If so, at what level of failure would you accept treatment?

Now do the same thing again, but this time you will remain in a different state of ill-health for ten years unless you have treatment. The choice is therefore between:

FOR CERTAIN

U

Your health limits you in vigorous activities (eg. running, lifting heavy objects, participating in strenuous sports).

You have problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems interfere slightly with your normal social activities.

You have moderate bodily pain.

You feel tense or downhearted and low a good bit of the time.

You feel worn out or tired some of the time.

OR

IF TREATMENT SUCCEEDS

O

Your health does not limit you in vigorous activities (eg. running, lifting heavy objects, participating in strenuous sports).

You have no problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems do not interfere at all with your normal social activities.

You have no bodily pain.

You feel tense or downhearted and low a little or none of the time.

You feel worn out or tired a little or none of the time.

IF TREATMENT FAILS

M

Unconsciousness followed shortly by death

Please put a ✓ against all cases where you are CONFIDENT that you would CHOOSE the risky treatment.

Please put an X against all cases where you are CONFIDENT that you would REJECT the treatment and accept the certain health state.

Please put a = against the case where you think it would be most difficult to choose between having the risky treatment and not having the treatment.

Outcome of treatment:

Chances of success			Chances of failure			
100	in	100*	0	in	100*	
99	in	100*	1	in	100*	
98	in	100	2	in	100	
97	in	100	3	in	100	
96	in	100	4	in	100	
95	in	100	5	in	100	
90	in	100	10	in	100	
85	in	100	15	in	100	
80	in	100	20	in	100	
75	in	100	25	in	100	
70	in	100	30	in	100	
60	in	100	40	in	100	
50	in	100	50	in	100	
40	in	100	60	in	100	
30	in	100	70	in	100	
20	in	100	80	in	100	
10	in	100	90	in	100	
Immediate death preferred						

* You may be willing to accept the treatment but only if it has a chance of failure less than 1 in 100 (i.e. a chance of success which is higher than 99 in 100). If so, at what level of failure would you accept treatment?

Now do the same thing again, but this time you will remain in a different state of ill-health for ten years unless you have treatment. The choice is therefore between:

FOR CERTAIN

V

Your health limits you in walking 100 yards.

You have problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems interfere extremely with your normal social activities.

You have no bodily pain.

You feel tense or downhearted and low a little or none of the time.

You feel worn out or tired some of the time.

OR

IF TREATMENT SUCCEEDS

O

Your health does not limit you in vigorous activities (eg. running, lifting heavy objects, participating in strenuous sports).

You have no problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems do interfere at all with your normal social activities.

You have no bodily pain.

You feel tense or downhearted and low a little or none of the time.

You feel worn out or tired a little or none of the

IF TREATMENT FAILS

M

Unconsciousness followed shortly by death

Please put a ✓ against all cases where you are CONFIDENT that you would CHOOSE the risky treatment.

Please put an X against all cases where you are CONFIDENT that you would REJECT the treatment and accept the certain health state.

Please put a = against the case where you think it would be most difficult to choose between having the risky treatment and not having the treatment.

Outcome of treatment:

Chances of success			Chances of failure		
100	in	100*	0	in	100*
99	in	100*	1	in	100*
98	in	100	2	in	100
97	in	100	3	in	100
96	in	100	4	in	100
95	in	100	5	in	100
90	in	100	10	in	100
85	in	100	15	in	100
80	in	100	20	in	100
75	in	100	25	in	100
70	in	100	30	in	100
60	in	100	40	in	100
50	in	100	50	in	100
40	in	100	60	in	100
30	in	100	70	in	100
20	in	100	80	in	100
10	in	100	90	in	100
Immediate death preferred					

* You may be willing to accept the treatment but only if it has a chance of failure less than 1 in 100 (i.e. a chance of success which is higher than 99 in 100). If so, at what level of failure would you accept treatment?

Now do the same thing again, but this time you will remain in a different state of ill-health for ten years unless you have treatment. The choice is therefore between:

FOR CERTAIN

W

Your health does not limit you in vigorous activities (eg. running, lifting heavy objects, participating in strenuous sports).

You have problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems interfere quite a bit with your normal social activities.

You have no bodily pain.

You feel tense or downhearted and low most of the time.

You feel worn out or tired a good bit of the time.

OR

IF TREATMENT SUCCEEDS

O

Your health does not limit you in vigorous activities (eg. running, lifting heavy objects, participating in strenuous sports).

You have no problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems do not interfere at all with your normal social activities.

You have no bodily pain.

You feel tense or downhearted and low a little or none of the time.

You feel worn out or tired a little or none of the time.

IF TREATMENT FAILS

M

Unconsciousness followed shortly by death

Please put a ✓ against all cases where you are CONFIDENT that you would CHOOSE the risky treatment.

Please put an X against all cases where you are CONFIDENT that you would REJECT the treatment and accept the certain health state.

Please put a = against the case where you think it would be most difficult to choose between having the risky treatment and not having the treatment.

Outcome of treatment:

Chances of success			Chances of failure			
100	in	100*	0	in	100*	
99	in	100*	1	in	100*	
98	in	100	2	in	100	
97	in	100	3	in	100	
96	in	100	4	in	100	
95	in	100	5	in	100	
90	in	100	10	in	100	
85	in	100	15	in	100	
80	in	100	20	in	100	
75	in	100	25	in	100	
70	in	100	30	in	100	
60	in	100	40	in	100	
50	in	100	50	in	100	
40	in	100	60	in	100	
30	in	100	70	in	100	
20	in	100	80	in	100	
10	in	100	90	in	100	
Immediate death preferred						

* You may be willing to accept the treatment but only if it has a chance of failure less than 1 in 100 (i.e. a chance of success which is higher than 99 in 100). If so, at what level of failure would you accept treatment?

Now do the same thing again, but this time you will remain in a different state of ill-health for ten years unless you have treatment. The choice is therefore between:

FOR CERTAIN

X

Your health limits you in vigorous activities (eg. running, lifting heavy objects, participating in strenuous sports).

You have problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems interfere quite a bit with your normal social activities.

You have very mild bodily pain.

You feel tense or downhearted and low most of the time.

You feel worn out or tired most of the time.

OR

IF TREATMENT SUCCEEDS

O

Your health does not limit you in vigorous activities (eg. running, lifting heavy objects, participating in strenuous sports).

You have no problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems do not interfere at all with your normal social activities.

You have no bodily pain.

You feel tense or downhearted and low a little or none of the time.

You feel worn out or tired a little or none of the time.

IF TREATMENT FAILS

M

Unconsciousness followed shortly by death

Please put a ✓ against all cases where you are CONFIDENT that you would CHOOSE the risky treatment.

Please put an X against all cases where you are CONFIDENT that you would REJECT the treatment and accept the certain health state.

Please put a = against the case where you think it would be most difficult to choose between having the risky treatment and not having the treatment.

Outcome of treatment:

Chances of success			Chances of failure		
100	in	100*	0	in	100*
99	in	100*	1	in	100*
98	in	100	2	in	100
97	in	100	3	in	100
96	in	100	4	in	100
95	in	100	5	in	100
90	in	100	10	in	100
85	in	100	15	in	100
80	in	100	20	in	100
75	in	100	25	in	100
70	in	100	30	in	100
60	in	100	40	in	100
50	in	100	50	in	100
40	in	100	60	in	100
30	in	100	70	in	100
20	in	100	80	in	100
10	in	100	90	in	100
Immediate death preferred					

* You may be willing to accept the treatment but only if it has a chance of failure less than 1 in 100 (i.e. a chance of success which is higher than 99 in 100). If so, at what level of failure would you accept treatment?

Now do the same thing again, but this time you will remain in a different state of ill-health for ten years unless you have treatment. The choice is therefore between:

FOR CERTAIN

Y

Your health limits you in bathing and dressing yourself.

You have problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems interfere extremely with your normal social activities.

You have severe bodily pain.

You feel tense or downhearted and low all of the time.

You feel worn out or tired all of the time.

OR

IF TREATMENT SUCCEEDS

O

Your health does not limit you in vigorous activities (eg. running, lifting heavy objects, participating in strenuous sports).

You have no problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems do not interfere at all with your normal social activities.

You have no bodily pain.

You feel tense or downhearted and low a little or none of the time.

You feel worn out or tired a little or none of the time.

IF TREATMENT FAILS

M

Unconsciousness followed shortly by death

Please put a ✓ against all cases where you are CONFIDENT that you would CHOOSE the risky treatment.

Please put an X against all cases where you are CONFIDENT that you would REJECT the treatment and accept the certain health state.

Please put a = against the case where you think it would be most difficult to choose between having the risky treatment and not having the treatment.

Outcome of treatment:

Chances of success			Chances of failure			
100	in	100*	0	in	100*	
99	in	100*	1	in	100*	
98	in	100	2	in	100	
97	in	100	3	in	100	
96	in	100	4	in	100	
95	in	100	5	in	100	
90	in	100	10	in	100	
85	in	100	15	in	100	
80	in	100	20	in	100	
75	in	100	25	in	100	
70	in	100	30	in	100	
60	in	100	40	in	100	
50	in	100	50	in	100	
40	in	100	60	in	100	
30	in	100	70	in	100	
20	in	100	80	in	100	
10	in	100	90	in	100	
Immediate death preferred						

* You may be willing to accept the treatment but only if it has a chance of failure less than 1 in 100 (i.e. a chance of success which is higher than 99 in 100). If so, at what level of failure would you accept treatment?

Now do the same thing again, but this time you will remain in a different state of ill-health for ten years unless you have treatment. The choice is therefore between:

FOR CERTAIN

R

Your health limits you in climbing several flights of stairs or in walking more than a mile.

You have no problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems do not interfere at all with your normal social activities.

You have very mild bodily pain.

You feel tense or downhearted and low a little or none of the time.

You feel worn out or tired a little or none of the time.

OR

IF TREATMENT SUCCEEDS

O

Your health does not limit you in vigorous activities (eg. running, lifting heavy objects, participating in strenuous sports).

You have no problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems do not interfere at all with your normal social activities.

You have no bodily pain.

You feel tense or downhearted and low a little or none of the time.

You feel worn out or tired a little or none of the time.

IF TREATMENT FAILS

M

Unconsciousness followed shortly by death

Please put a ✓ against all cases where you are CONFIDENT that you would CHOOSE the risky treatment.

Please put an X against all cases where you are CONFIDENT that you would REJECT the treatment and accept the certain health state.

Please put a = against the case where you think it would be most difficult to choose between having the risky treatment and not having the treatment.

Outcome of treatment:

Chances of success			Chances of failure			
100	in	100*	0	in	100*	
99	in	100*	1	in	100*	
98	in	100	2	in	100	
97	in	100	3	in	100	
96	in	100	4	in	100	
95	in	100	5	in	100	
90	in	100	10	in	100	
85	in	100	15	in	100	
80	in	100	20	in	100	
75	in	100	25	in	100	
70	in	100	30	in	100	
60	in	100	40	in	100	
50	in	100	50	in	100	
40	in	100	60	in	100	
30	in	100	70	in	100	
20	in	100	80	in	100	
10	in	100	90	in	100	
Immediate death preferred						

* You may be willing to accept the treatment but only if it has a chance of failure less than 1 in 100 (i.e. a chance of success which is higher than 99 in 100). If so, at what level of failure would you accept treatment?

This time, you are in the same state of ill-health as before (i.e. R) but the outcome of treatment failure has changed. Instead of dying, you will end up in the condition described below (i.e. S). The choice is therefore between:

FOR CERTAIN

R

Your health limits you in climbing several flights of stairs or in walking more than a mile.

You have no problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems do not interfere at all with your normal social activities.

You have very mild bodily pain.

You feel tense or downhearted and low a little or none of the time.

You feel worn out or tired a little or none of the time.

OR

IF TREATMENT SUCCEEDS

O

Your health does not limit you in vigorous activities (eg. running, lifting heavy objects, participating in strenuous sports).

You have no problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems do not interfere at all with your normal social activities.

You have no bodily pain.

You feel tense or downhearted and low a little or none of the time.

You feel worn out or tired a little or none of the time.

IF TREATMENT FAILS

S

Your health limits you in bathing and dressing yourself.

You have problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems interfere quite a bit with your normal social activities.

You have moderate bodily pain.

You feel tense or downhearted and low a little or none of the time.

You feel worn out or tired all of the time.

Please put a ✓ against all cases where you are CONFIDENT that you would CHOOSE the risky treatment.

Please put an X against all cases where you are CONFIDENT that you would REJECT the treatment and accept the certain health state.

Please put a = against the case where you think it would be most difficult to choose between having the risky treatment and not having the treatment.

Outcome of treatment:

Chances of success			Chances of failure		
100	in	100*	0	in	100*
99	in	100*	1	in	100*
98	in	100	2	in	100
97	in	100	3	in	100
96	in	100	4	in	100
95	in	100	5	in	100
90	in	100	10	in	100
85	in	100	15	in	100
80	in	100	20	in	100
75	in	100	25	in	100
70	in	100	30	in	100
60	in	100	40	in	100
50	in	100	50	in	100
40	in	100	60	in	100
30	in	100	70	in	100
20	in	100	80	in	100
10	in	100	90	in	100
Immediate death preferred					

* You may be willing to accept the treatment but only if it has a chance of failure less than 1 in 100 (i.e. a chance of success which is higher than 99 in 100). If so, at what level of failure would you accept treatment?

Now do the same thing again but the outcome of treatment failure has changed again. The choice is therefore between:

FOR CERTAIN

T

Your health limits you in climbing one flight of stairs or in walking half a mile.

You have problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems interfere slightly with your normal social activities.

You have moderate bodily pain.

You feel tense or downhearted and low a good bit of the time.

You feel worn out or tired most of the time.

OR

IF TREATMENT SUCCEEDS

O

Your health does not limit you in vigorous activities (eg. running, lifting heavy objects, participating in strenuous sports).

You have no problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems do not interfere at all with your normal social activities.

You have no bodily pain.

You feel tense or downhearted and low a little or none of the time.

You feel worn out or tired a little or none of the time.

IF TREATMENT FAILS

Y

Your health limits you in bathing and dressing yourself.

You have problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems interfere extremely with your normal social activities.

You have severe bodily pain.

You feel tense or downhearted and low all of the time.

You feel worn out or tired all of the time.

Please put a ✓ against all cases where you are CONFIDENT that you would CHOOSE the risky treatment.

Please put an X against all cases where you are CONFIDENT that you would REJECT the treatment and accept the certain health state.

Please put a = against the case where you think it would be most difficult to choose between having the risky treatment and not having the treatment.

Outcome of treatment:

Chances of success			Chances of failure			
100	in	100*	0	in	100*	
99	in	100*	1	in	100*	
98	in	100	2	in	100	
97	in	100	3	in	100	
96	in	100	4	in	100	
95	in	100	5	in	100	
90	in	100	10	in	100	
85	in	100	15	in	100	
80	in	100	20	in	100	
75	in	100	25	in	100	
70	in	100	30	in	100	
60	in	100	40	in	100	
50	in	100	50	in	100	
40	in	100	60	in	100	
30	in	100	70	in	100	
20	in	100	80	in	100	
10	in	100	90	in	100	
Immediate death preferred						

* You may be willing to accept the treatment but only if it has a chance of failure less than 1 in 100 (i.e. a chance of success which is higher than 99 in 100). If so, at what level of failure would you accept treatment?

Now do the same thing again, but this time you will remain in the state of ill-health for **TWO** years unless you have treatment. The choice is therefore between:

FOR CERTAIN

Q

Your health limits you in climbing several flights of stairs or in walking more than a mile.

You have problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems interfere moderately with your normal social activities.

You have moderate bodily pain.

You feel tense or downhearted and low some of the time.

You feel worn out or tired some of the time.

OR

IF TREATMENT SUCCEEDS

O

Your health does not limit you in vigorous activities (eg. running, lifting heavy objects, participating in strenuous sports).

You have no problems with your work or other regular daily activities as a result of your physical health or any emotional problems.

Your physical health or emotional problems do not interfere at all with your normal social activities.

You have no bodily pain.

You feel tense or downhearted and low a little or none of the time.

You feel worn out or tired a little or none of the time.

IF TREATMENT FAILS

M

Unconsciousness followed shortly by death

Please put a ✓ against all cases where you are CONFIDENT that you would CHOOSE the risky treatment.

Please put an X against all cases where you are CONFIDENT that you would REJECT the treatment and accept the certain health state.

Please put a = against the case where you think it would be most difficult to choose between having the risky treatment and not having the treatment.

Outcome of treatment:

Chances of success			Chances of failure		
100	in	100*	0	in	100*
99	in	100*	1	in	100*
98	in	100	2	in	100
97	in	100	3	in	100
96	in	100	4	in	100
95	in	100	5	in	100
90	in	100	10	in	100
85	in	100	15	in	100
80	in	100	20	in	100
75	in	100	25	in	100
70	in	100	30	in	100
60	in	100	40	in	100
50	in	100	50	in	100
40	in	100	60	in	100
30	in	100	70	in	100
20	in	100	80	in	100
10	in	100	90	in	100
Immediate death preferred					

* You may be willing to accept the treatment but only if it has a chance of failure less than 1 in 100 (i.e. a chance of success which is higher than 99 in 100). If so, at what level of failure would you accept treatment?

Many thanks for your co-operation. This research is at an early stage and we would welcome any comments you may have on the questionnaire.

Comments:

Length/duration

Contents

Other

Appendix 5

Explanation given to respondents by the researcher about the valuation exercise

Introduction

The aim of the Health Service is to help people have longer health lives. Medical treatments can achieve great improvements in people's health, but can also have negative consequences. It is important to know not only whether a treatment brings about benefit, but the value of any benefit. But different people place different values on the various aspects of health. The purpose of the survey is to find out about these values.

- This research is being carried out on behalf of the University of Sheffield (Medical Care Research Unit and Department of General Practice) and is funded by the Department of Health.
- The whole exercise will take about three quarters of an hour.
- It involves you completing a questionnaire. I will explain each part of the questionnaire before you start and you will be free to ask questions both before and whilst you are completing the questionnaire.
- Many thanks for agreeing to participate.

Part A and B

Would you now please turn to the first page of the questionnaire.

Background Information - here are a few simple questions. We guarantee your answers will be treated with anonymity.

On the next two pages, there are some questions about your health today. There are 6 questions, one for each dimensions of health - for each group. We would like you to tick the level which best describes your health.

In the next two pages, there are some questions about your health today. There are 6 questions, one for each dimension of health - for each group. We would like you to tick the level which best describes your health.

In the exercises which follow, states of health will be described in terms of statements selected from these 6 dimensions.

For example - show over head - here is a health state where: read. Note how the first statement relates to physical functioning, statement 2 role limitation, and so on. There are many different states like this - we want you to value 12 for us.

There are three ways in which these states are valued.

Part C - Ranking

The first part is simply a question of ranking the health states.

Attached to the questionnaire are two envelopes. Please open the envelope marked 1 and remove the contents. There should be six cards, each describing a state of health (show the group). The cards are in no particular order. You will see that one card has 'unconsciousness, followed shortly by death' written on it. Rank this card along with the others.

Please read through each card carefully in your own time.

When you do this, imagine you yourself are in these states and that they would last for 10 years without any change.

Please sort the cards into an order so that the one you think is the best health state is at the top and the one you think is the worst is at the bottom. If you think any are the same, you can place them alongside each other.

When you have ranked them, please list them below in order of severity, starting with the least severe at the top. You may rank two or more health states equally.

.....
.....
.....
.....
.....
.....

Rating

We would now like you to indicate how good or bad you think each health state on the scale opposite, by a cross and the corresponding letter. Show scale on overhead.

It may be helpful to mark your ratings of the best and worst states first, followed by the intermediate states - thus (show on an overhead). Please locate the remaining injuries/health states on the scale so that the distance between any two on the scale reflects how much worse you judge one compared with the other. You may choose to change the order in which you place the states.

There is a second envelope of states for you to repeat the exercise.

When you have completed this exercise, then you are asked to value the same states but using another method.

Part D - Standard Gamble exercises

You are going to be asked to make choices between the health states you have just ranked. One choice will involve a risk and the other will be a certainty.

The doctor explains to you that you have the two choices shown opposite: one choice is to stay in the health state shown in the upper box and the second choice is a treatment which may succeed or fail. The first choice means remaining in a state of ill-health for certain, whereas the treatment choice is risky, since the treatment doesn't always work (e.g. a hip replacement). If the treatment does work, you will be in the health state shown in the lower left hand box. But if the treatment does not

work, your health will deteriorate and may result in death (as shown in this example). In this example, treatment failure results in a worse state of health. In some, it is death.

The first choice is fairly simple because it describes only one state of health, which is certain to occur. If something is certain, it is equal to 100% chance or probability.

The second choice is more complicated because if it is chosen there are two possible results, success and failure. There are a range of chances of a successful treatment (from 99 in 100 down to 10 in 100) and corresponding chances of dying from the treatment (1 in 100 up to 90 in 100). These are shown on the left hand side of the facing page. You are asked to consider whether or not you would have the treatment at different levels of risk.

Please put a \checkmark against all cases you are confident that you would choose the risky treatment. (SHOW OVERHEAD). Start at the top with 100 in 100 chance of success, i.e. no chance of failure. If you would have the treatment, indicate with a \checkmark . Then consider 99 in 100 and so on, until you are not sure and then leave the box opposite blank.

You may be willing to accept the treatment but only if it has a chance of failure less than 1 in 100. If so, you can indicate the level at which you would accept treatment at the bottom of the page. (INDICATE).

In the same way, put an X against all cases you are confident that you would reject the treatment and accept the certain health state, starting from the bottom with 100 in 100 chance of failure, i.e. where treatment failure is preferred. Continue putting an X against each case until you are not sure, and then leave the box blank.

Finally, put a = against the cases where you think it would be most difficult to choose between having the risky treatment and not having the treatment.

In considering these choices, imagine that you are in these states, and that they would last for 10 years without change.

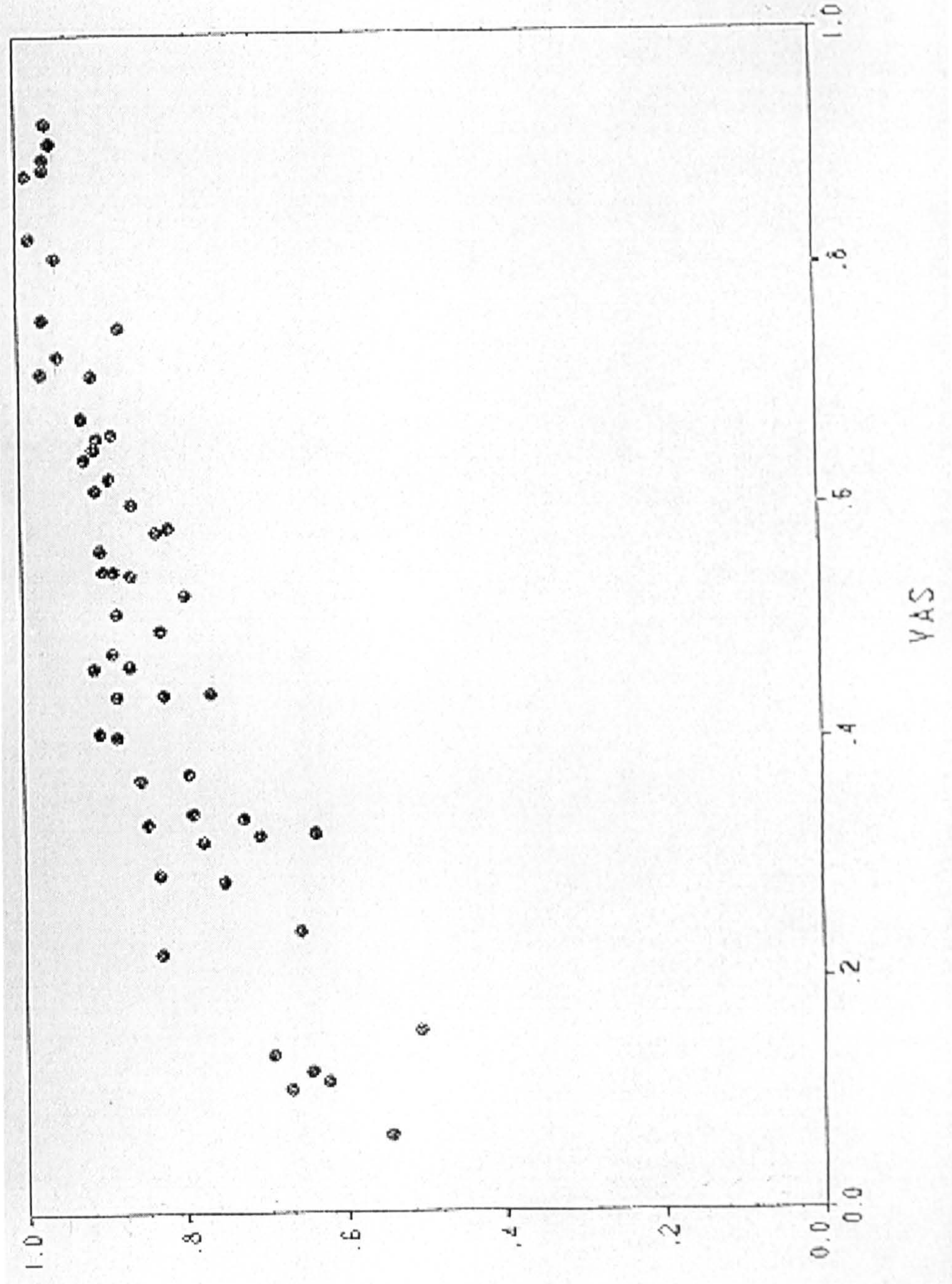
Remember, there are no right or wrong answers - we are asking you to make value judgements.

Please read each question carefully. The health states in the gambles do change between the questions.

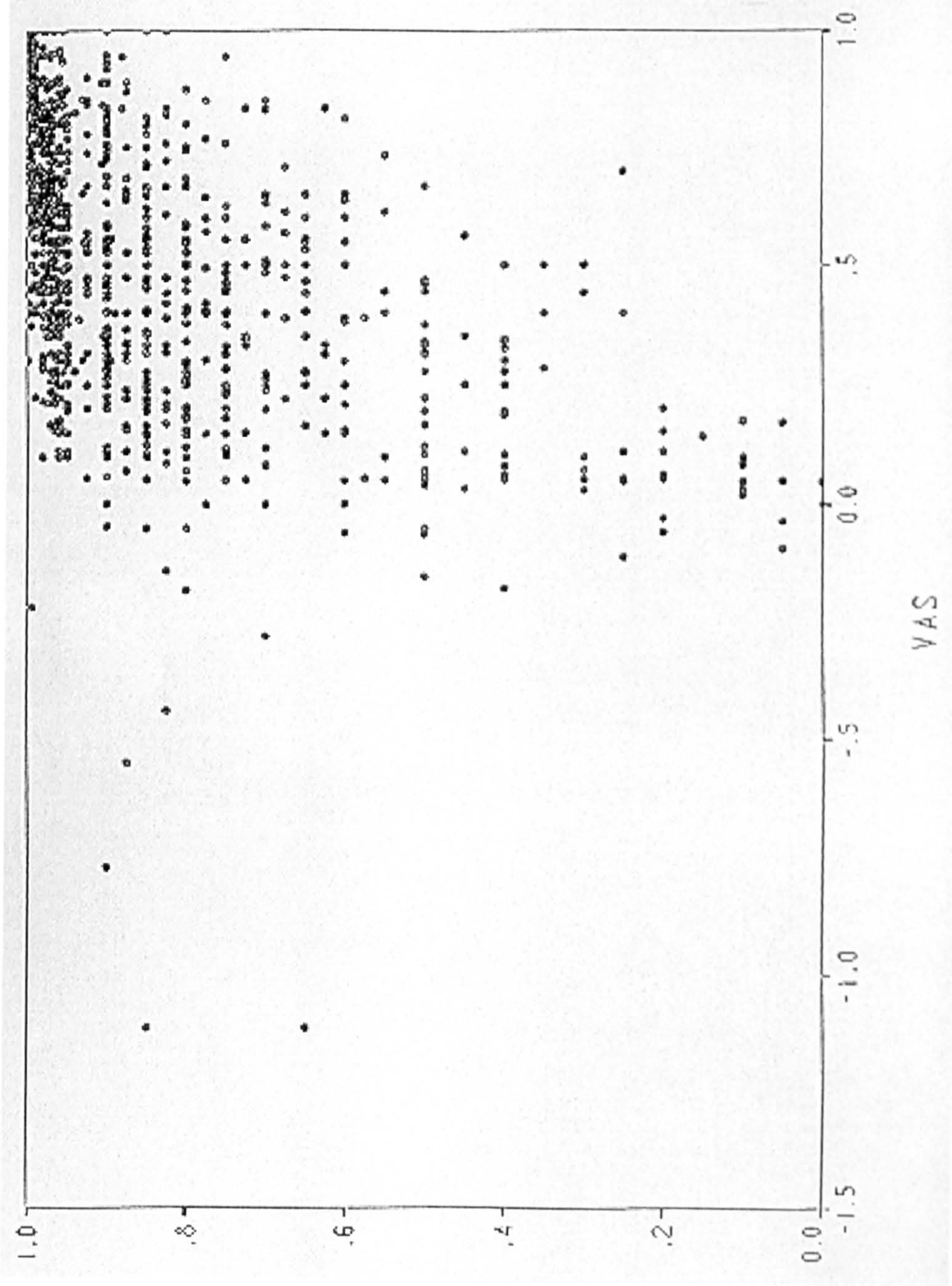
Appendix 6

Plots of VAS against SG

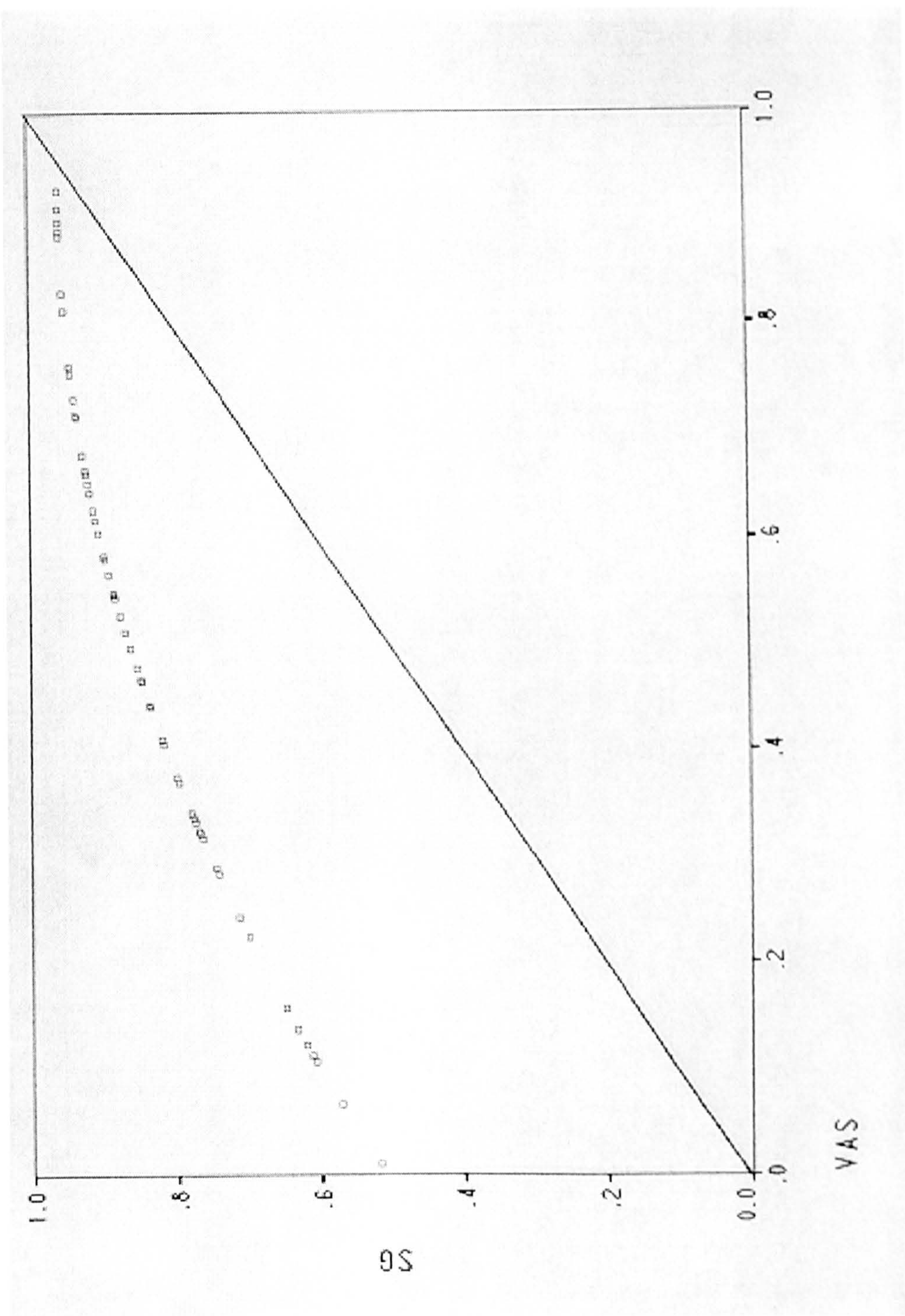
Plot A6.1: SG against VAS - Mean health state values



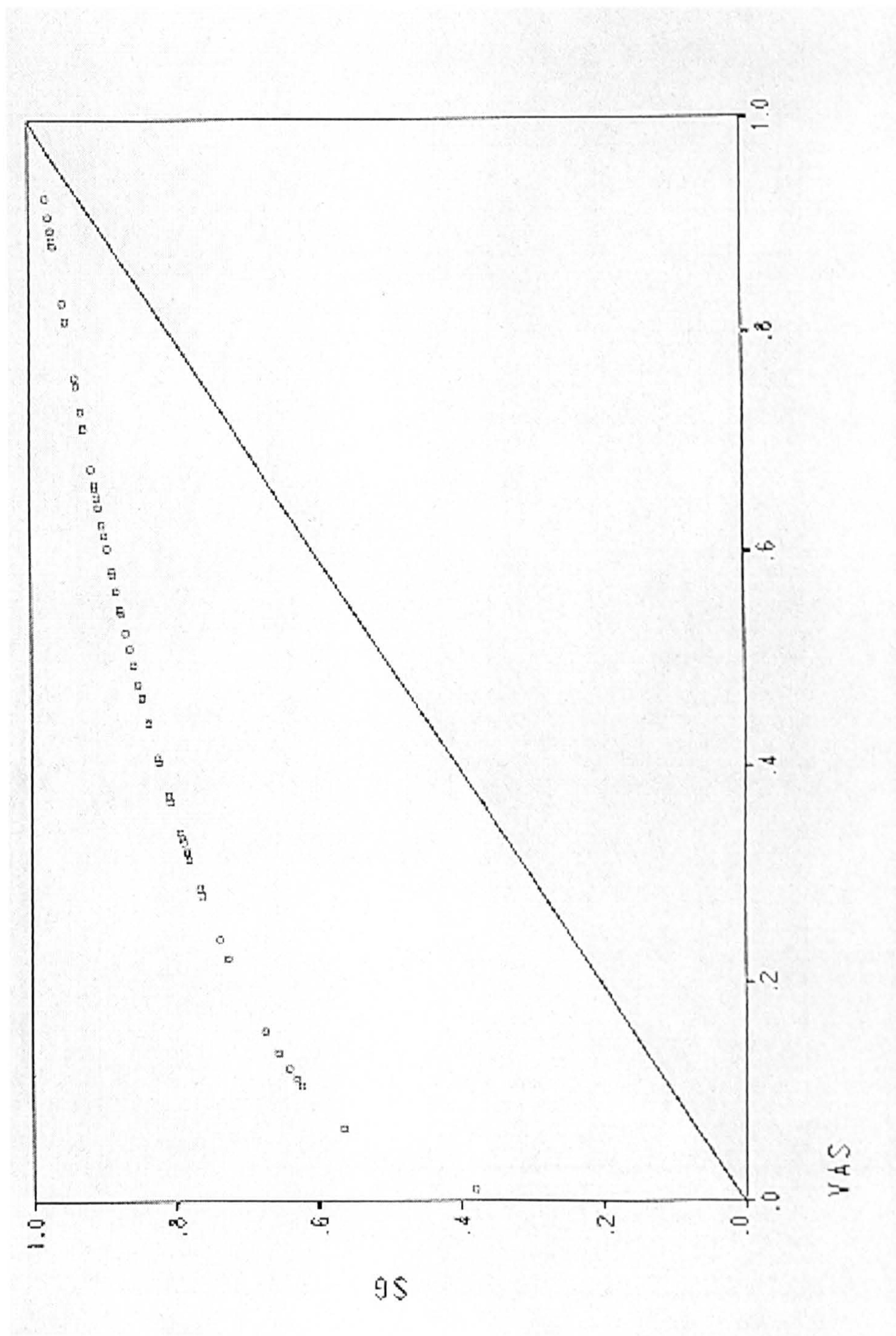
PlotA6.2: SG against VAS - individual values



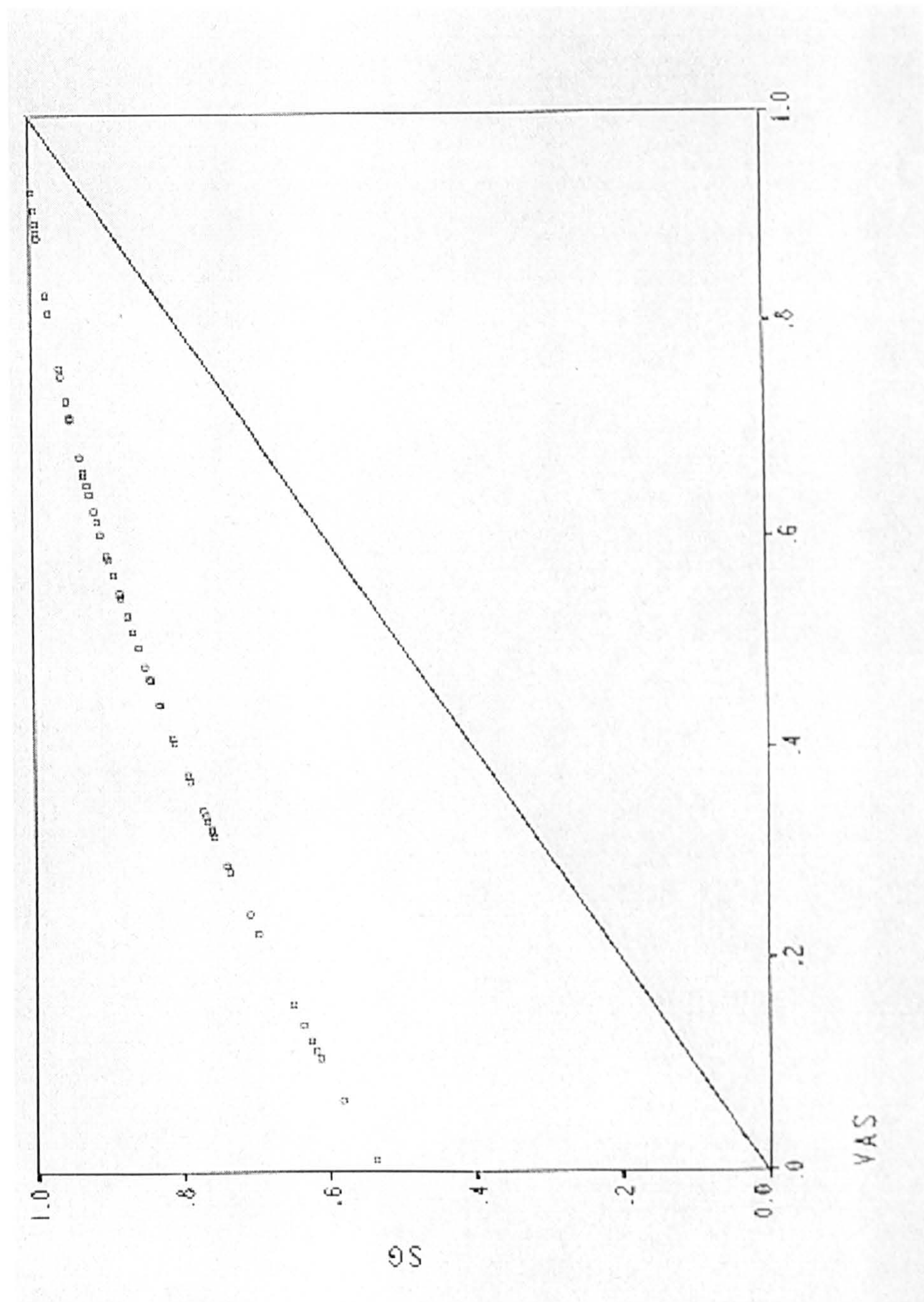
Plot A6.3: Predicted mean against VAS - Quadratic function



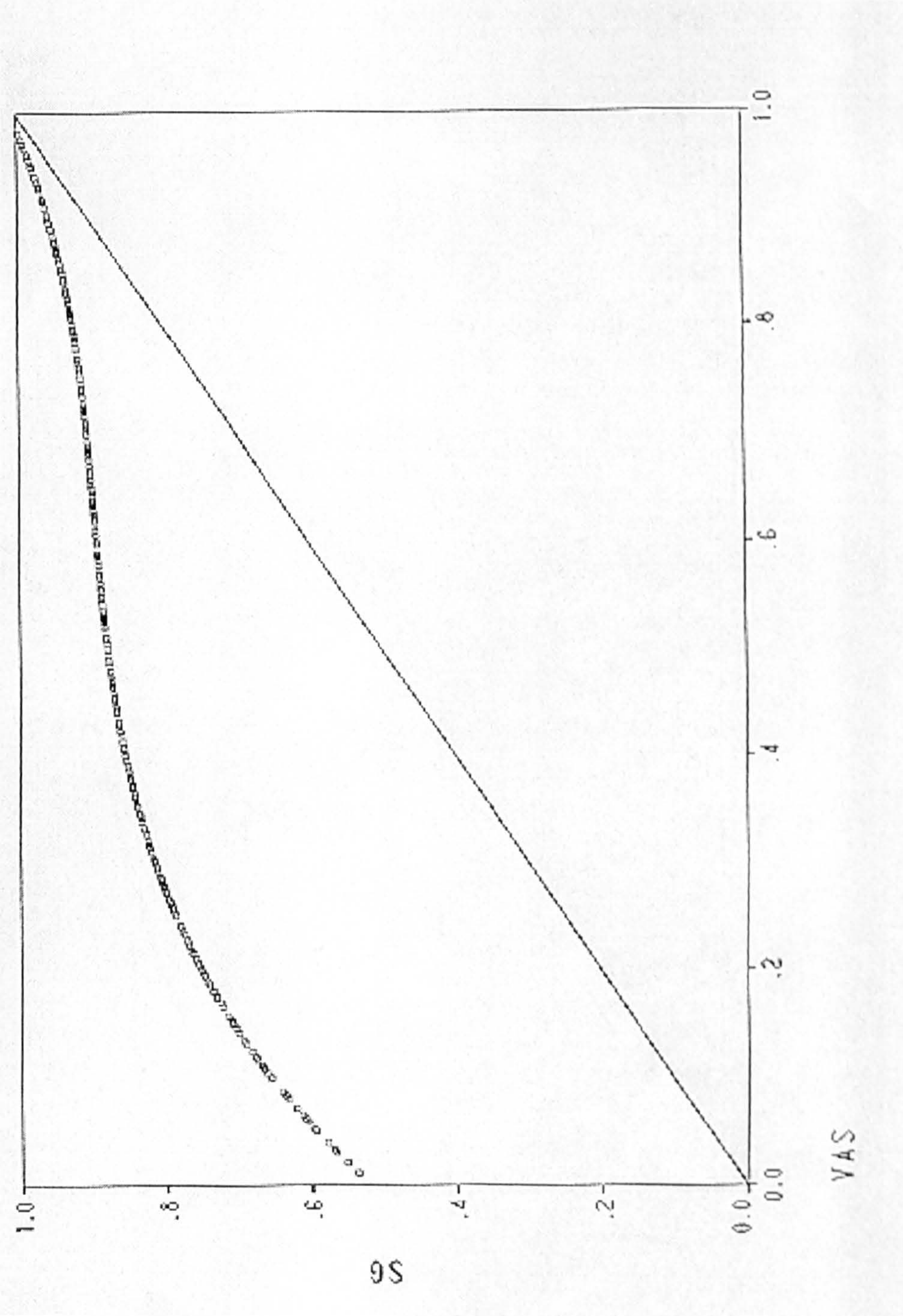
Plot A6.4: Predicted mean SG against VAS
- Power function (2c)



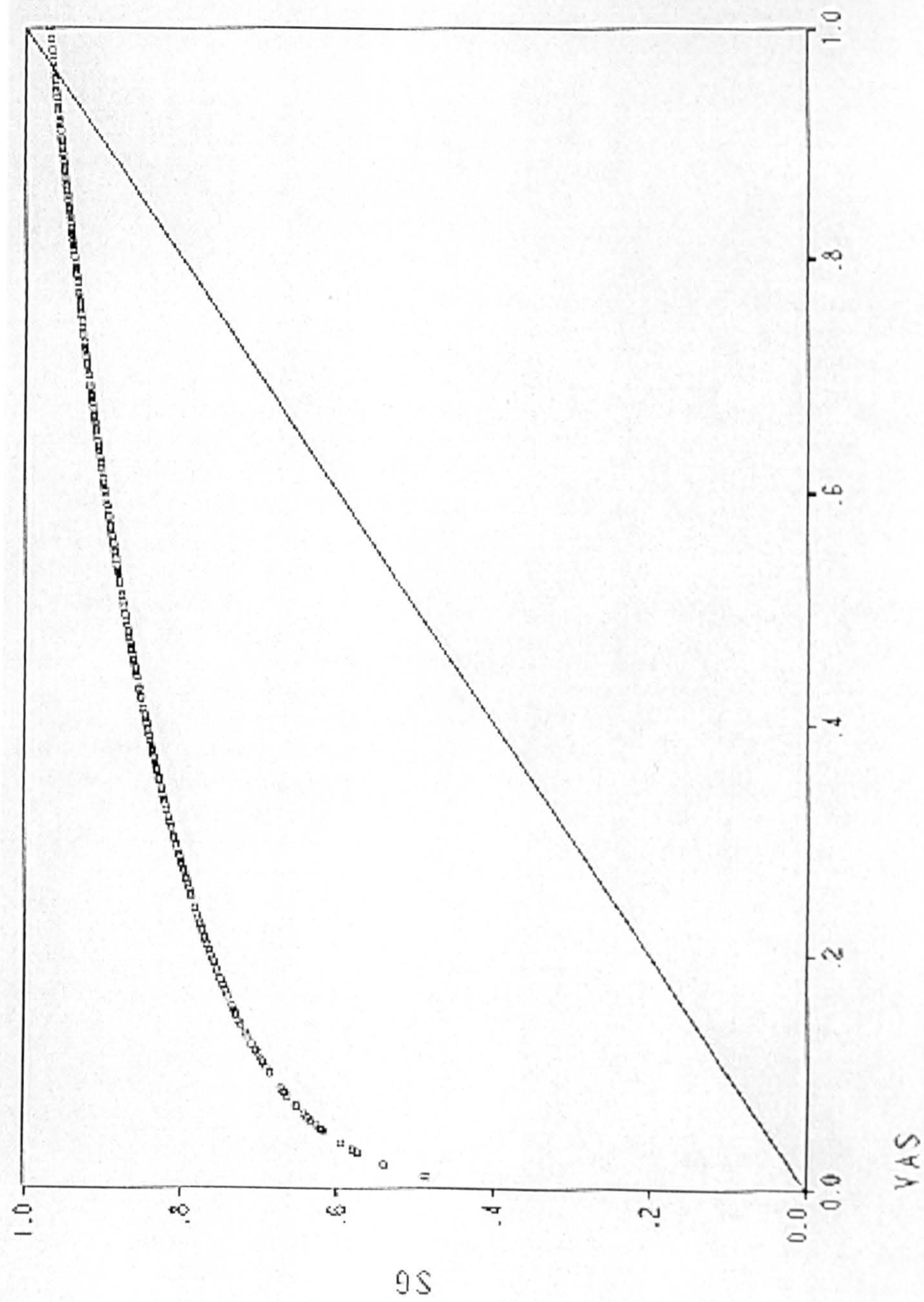
Plot A6.5: Predicted mean SG against VAS
- Torrance's power function (3c)



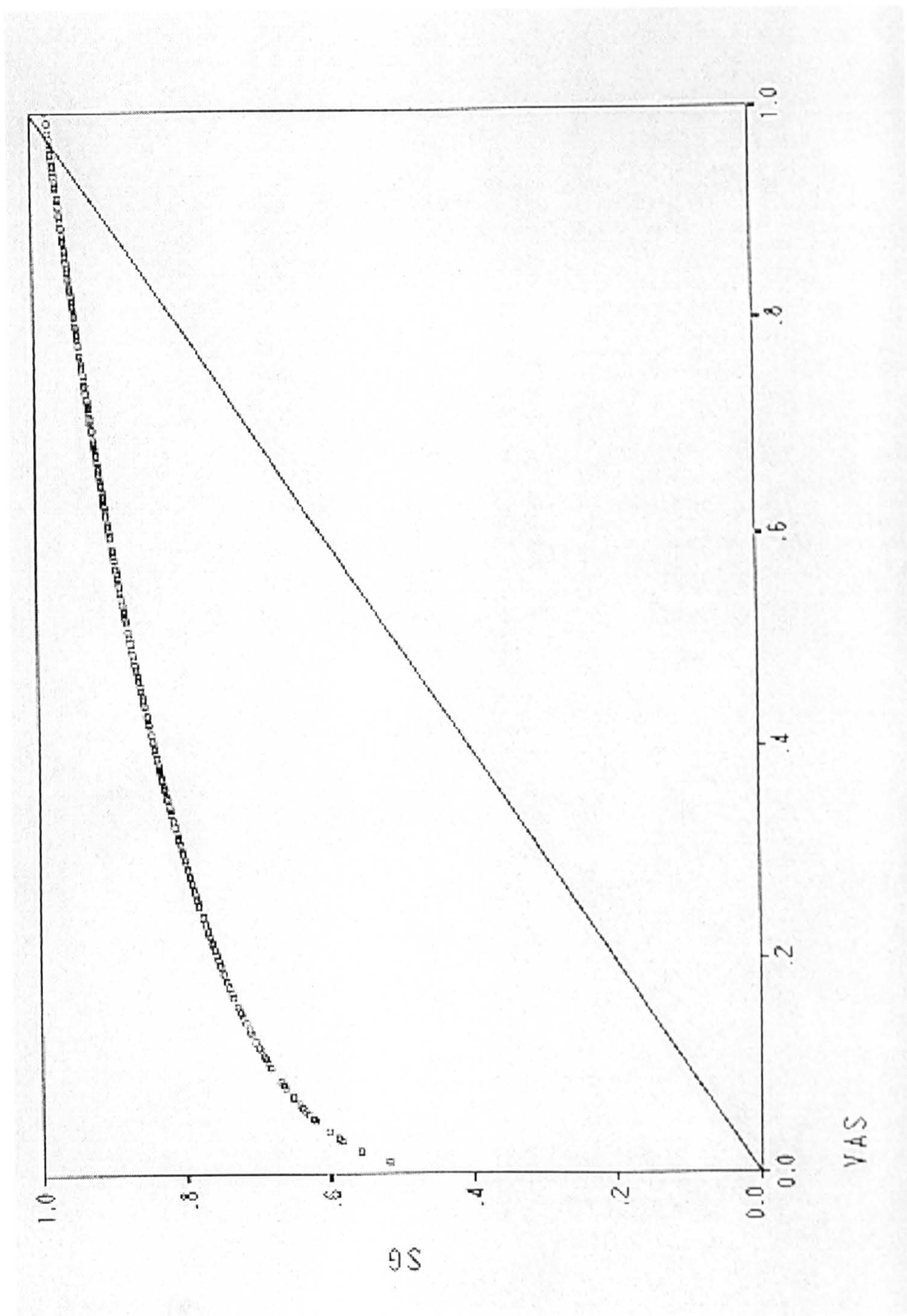
Plot A6.6: Predicted Individual SG against VAS
- Cubic function



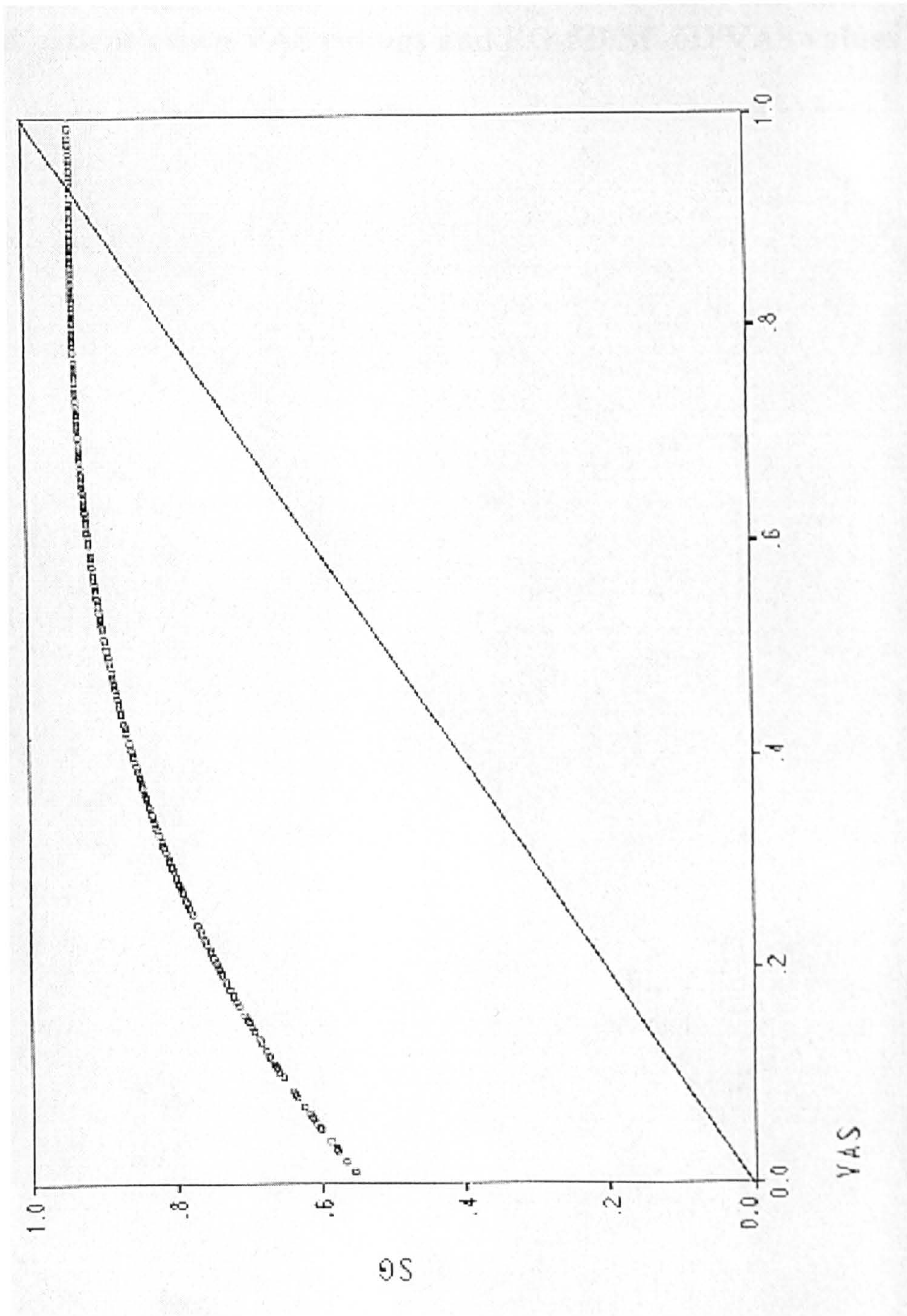
Plot A6.7: Predicted individual SG against VAS
- Power function (2b)



Plot A6.8: Predicted individual SG against VAS
Power function (2c)



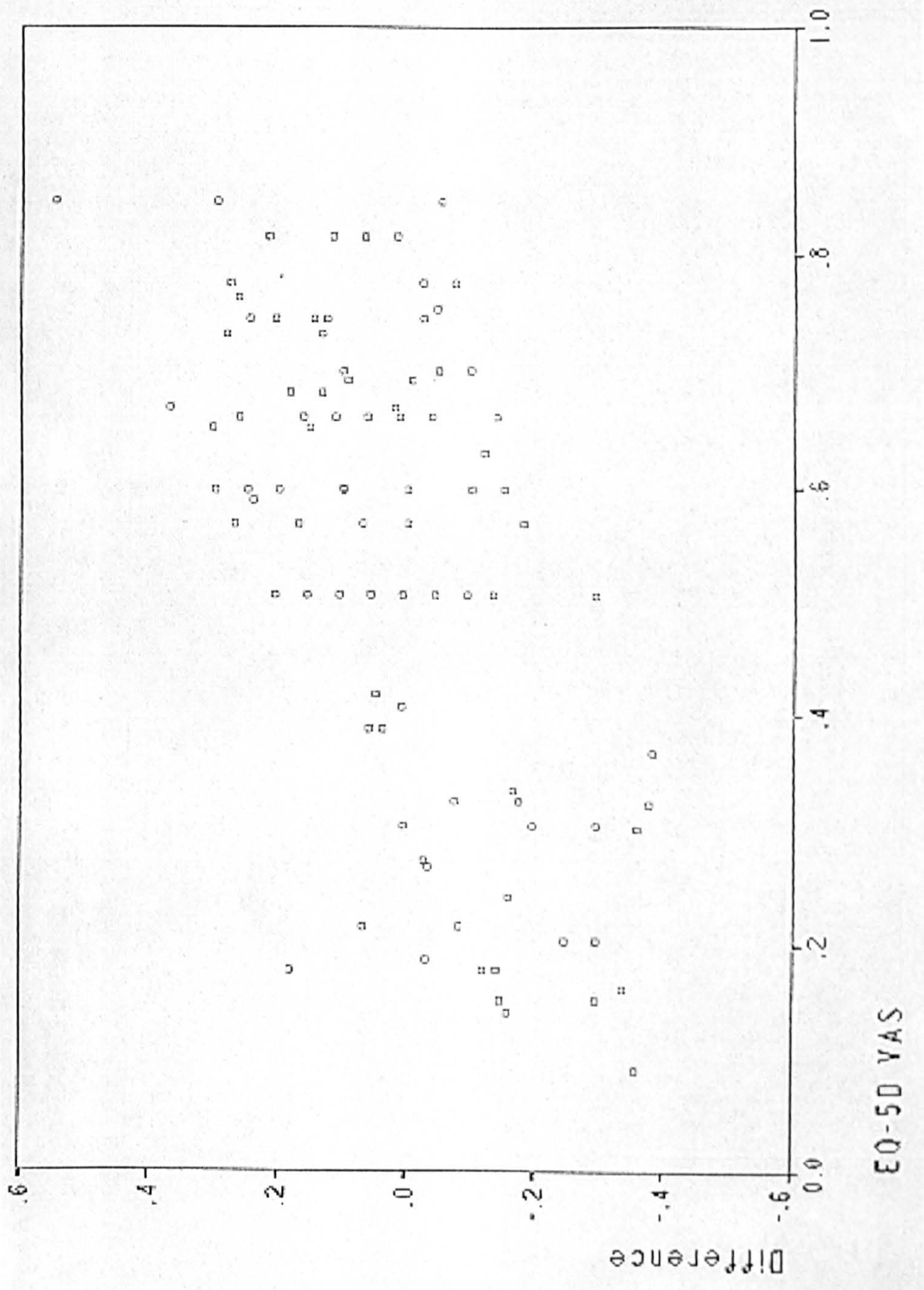
Plot A6.9: Predicted individual SG against VAS
- Torrance's power function (3c)



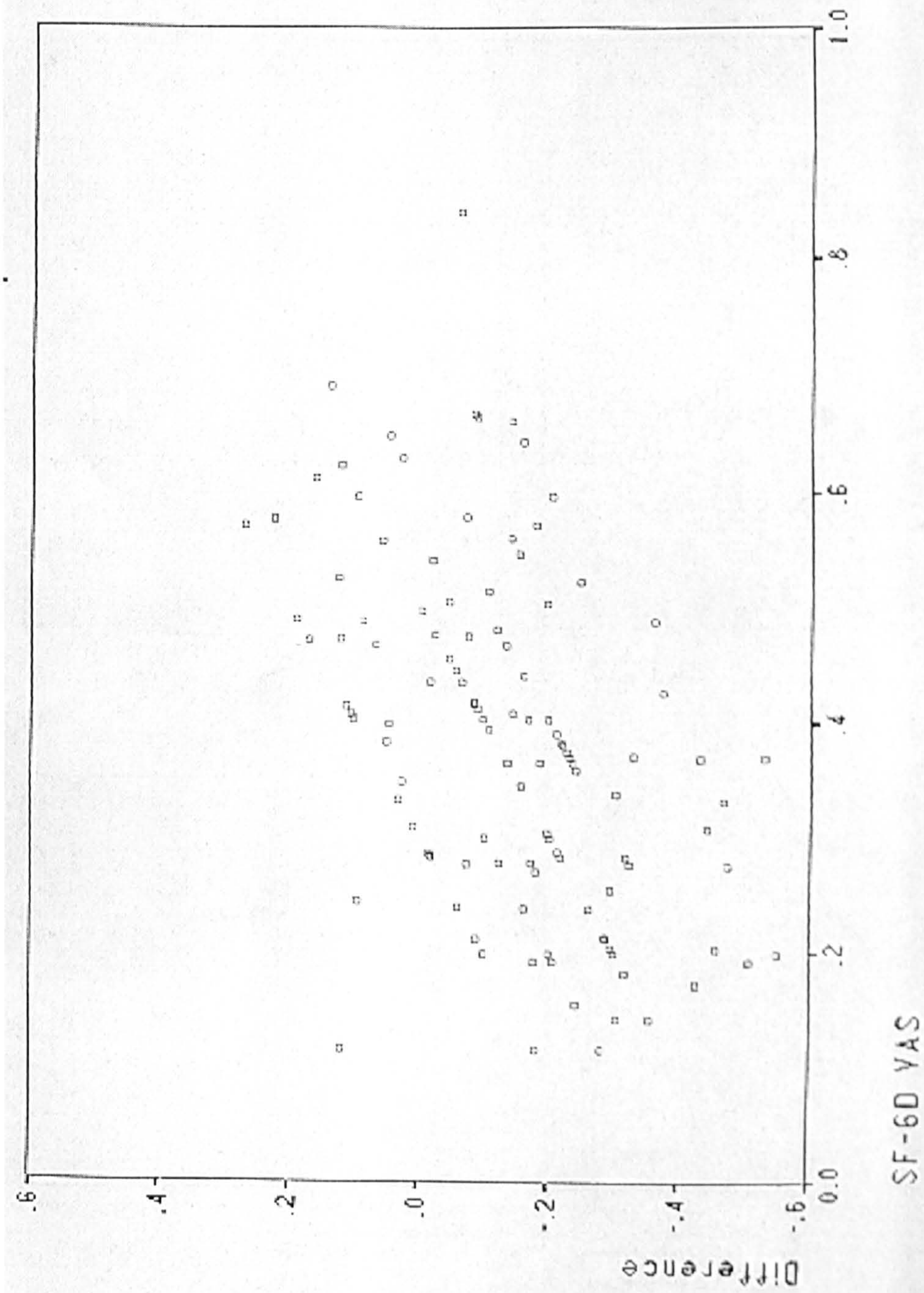
Appendix 7

Plots of the differences between EQ-5D/SF-6D VAS values and patient's own VAS ratings and EQ-5D/SF-6D VAS values

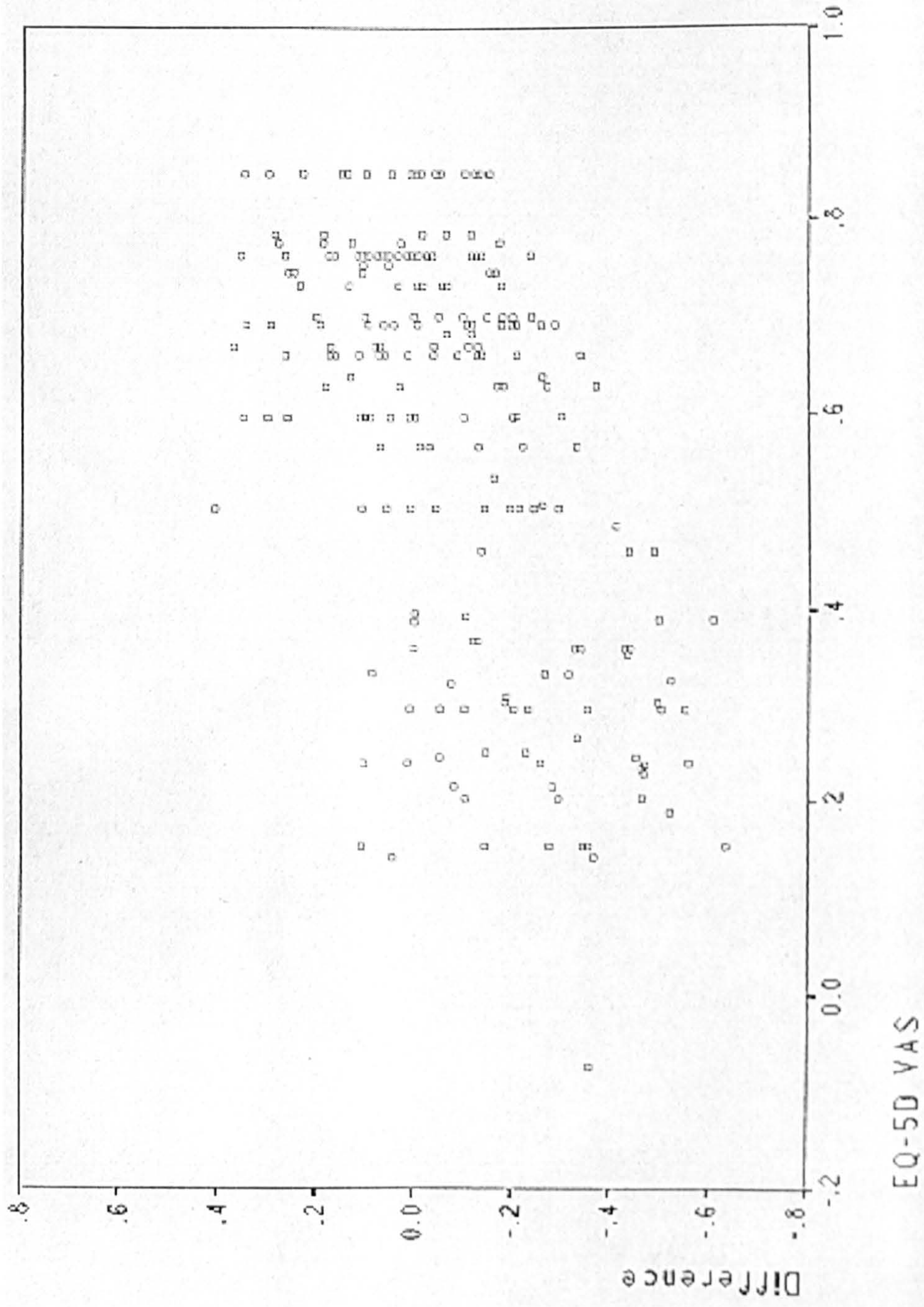
Plot A7.1a: Difference between EQ-5D VAS and own VAS rating against EQ-5D VAS
- COPD patients



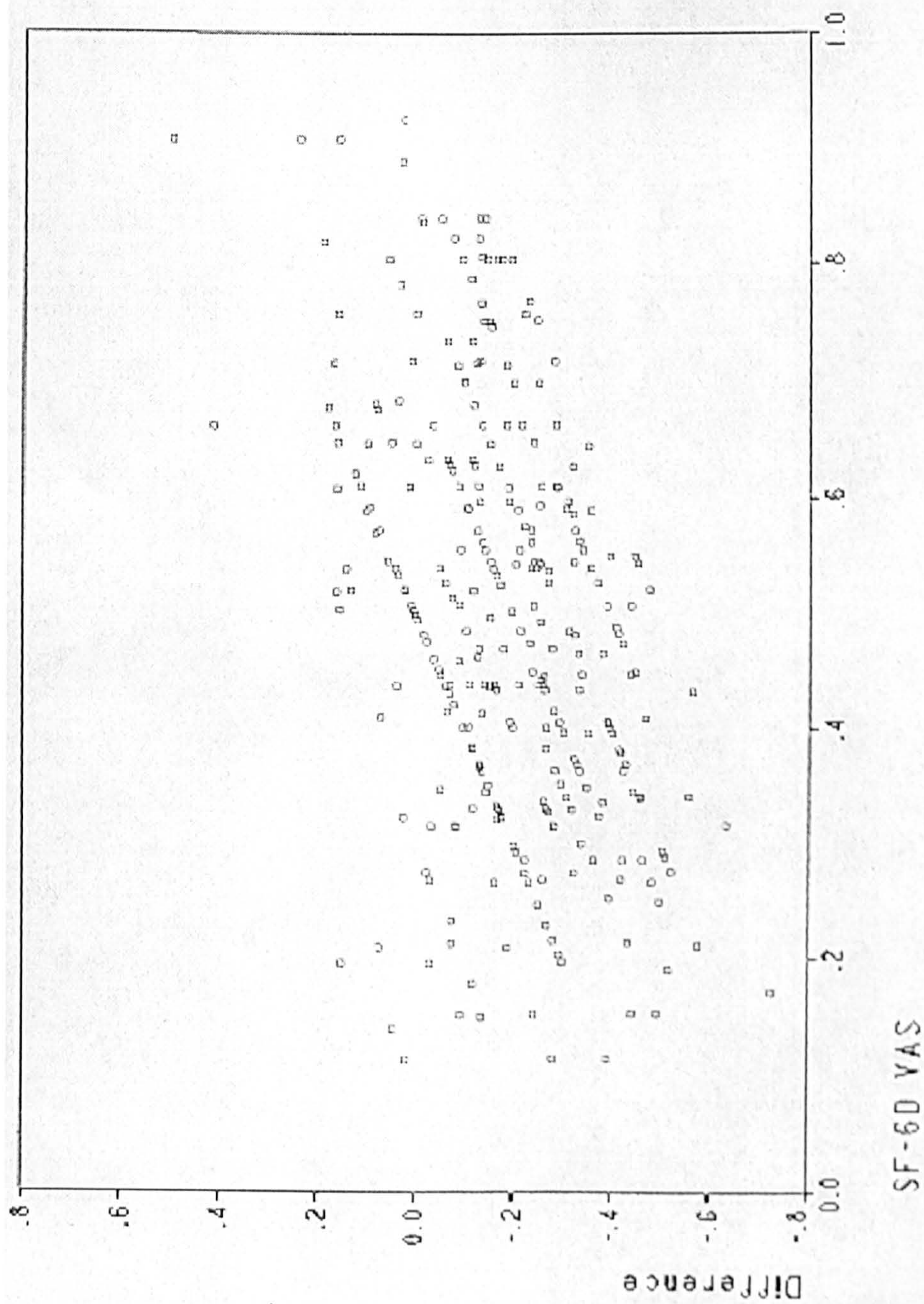
Plot A7.1b: Difference between SF-6D VAS and own VAS rating against SF-6D VAS
- COPD patients



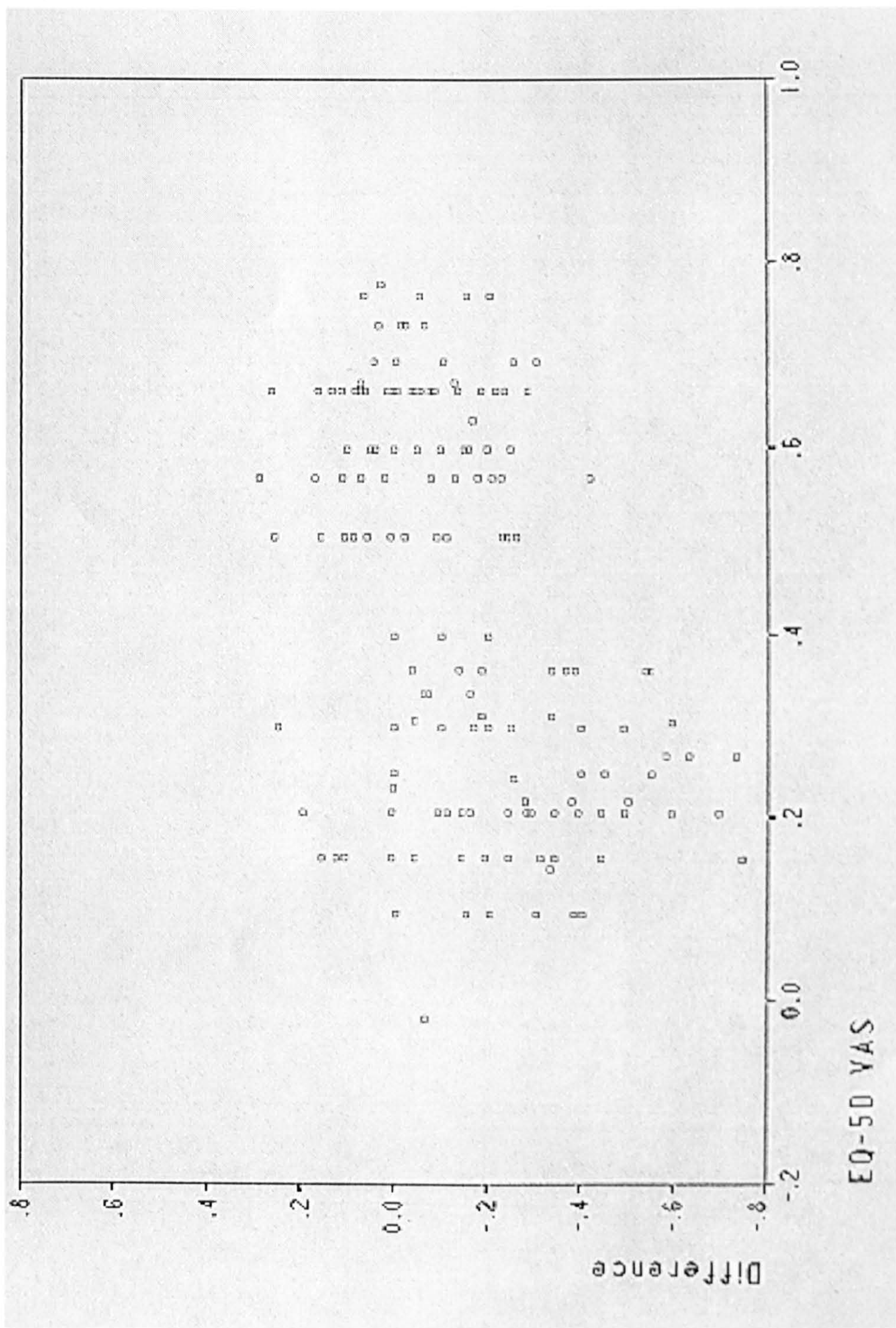
Plot A7.2a: Difference between EQ-5D VAS and own VAS rating against EQ-5D VAS
- Elderly patients



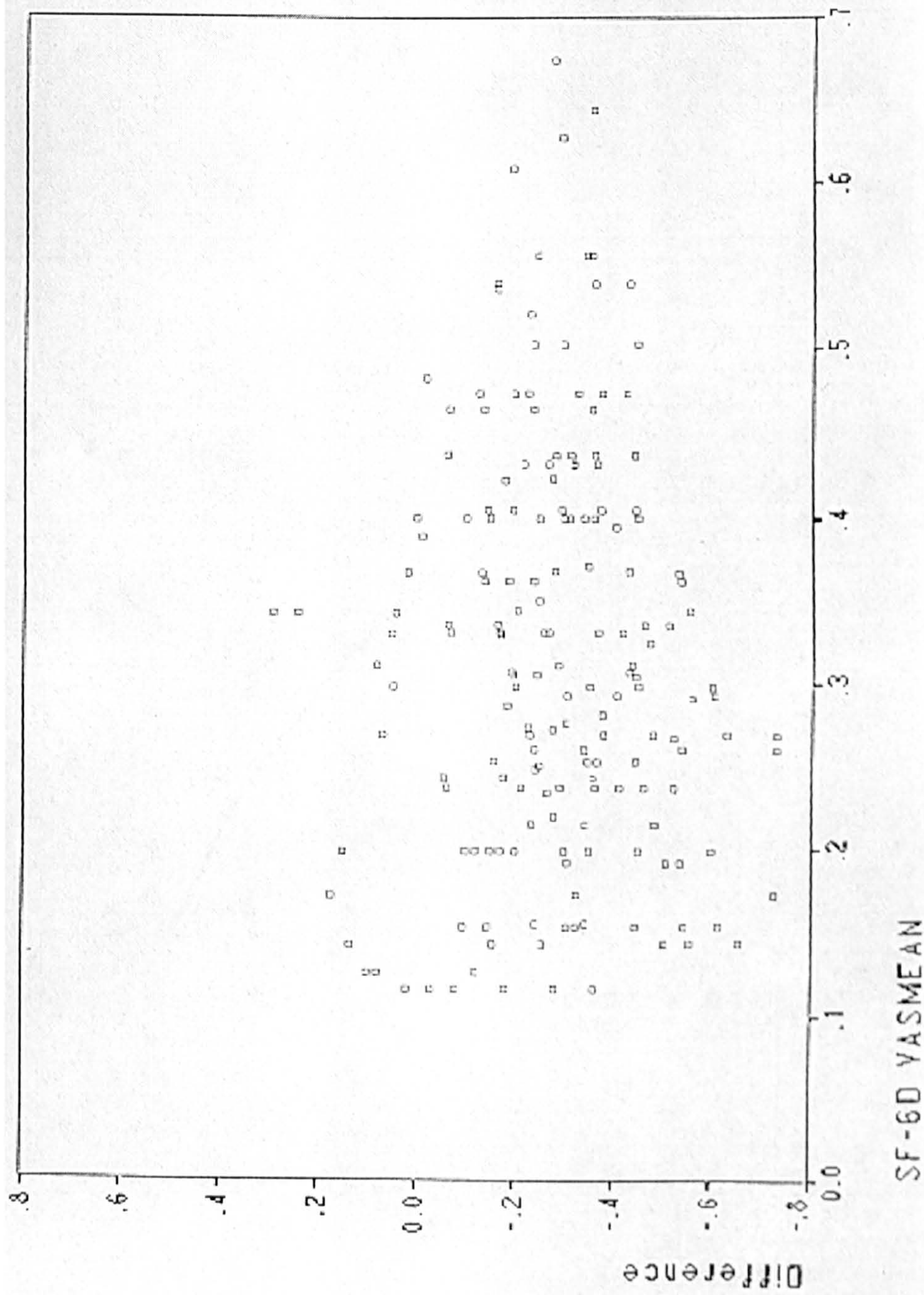
Plot A7.2b: Difference between SF-6D VAS and own VAS rating against SF-6D VAS
- Elderly patients



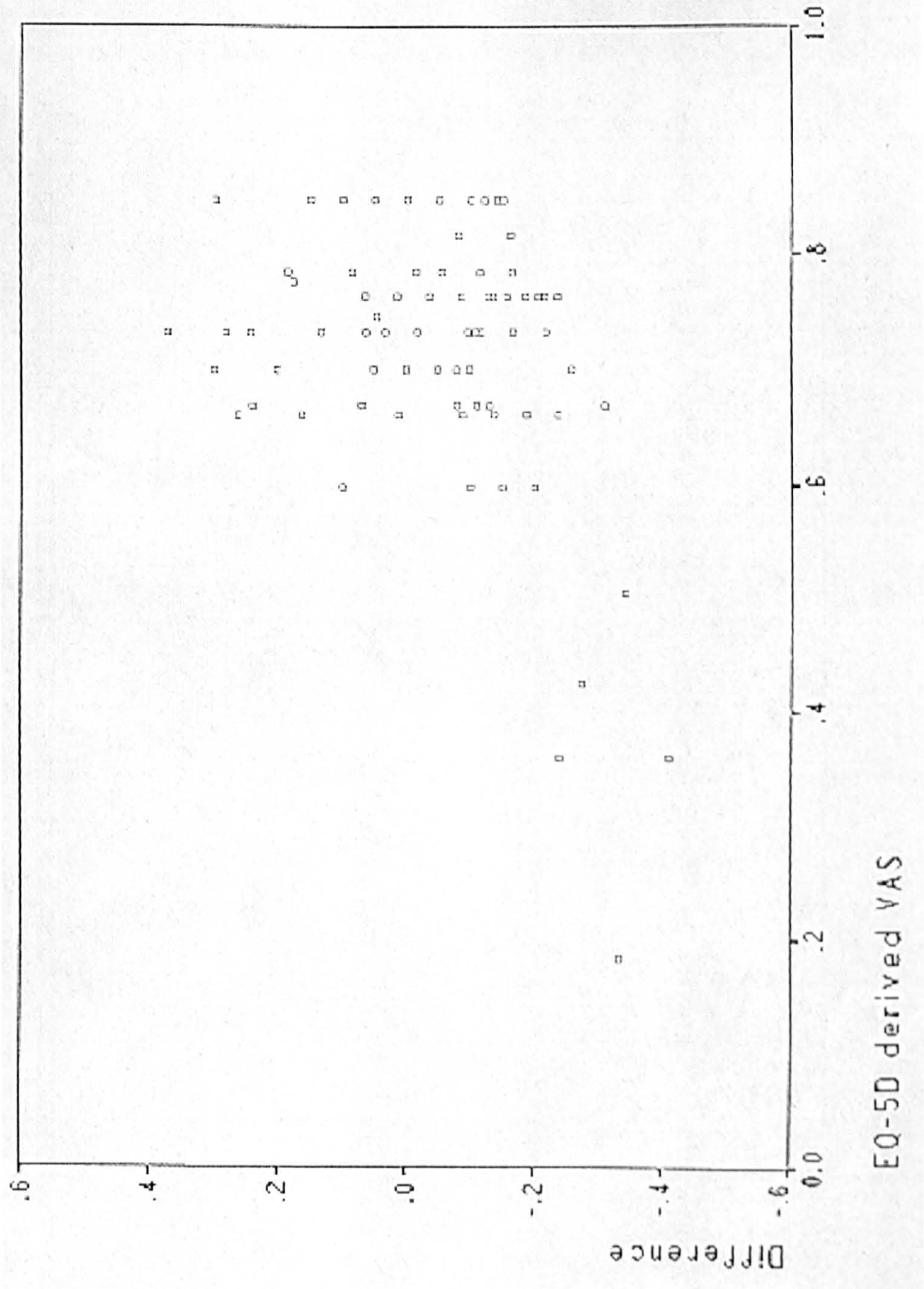
Plot A7.3a: Difference between EQ-5D VAS and own VAS rating against EQ-5D VAS
- OA patients



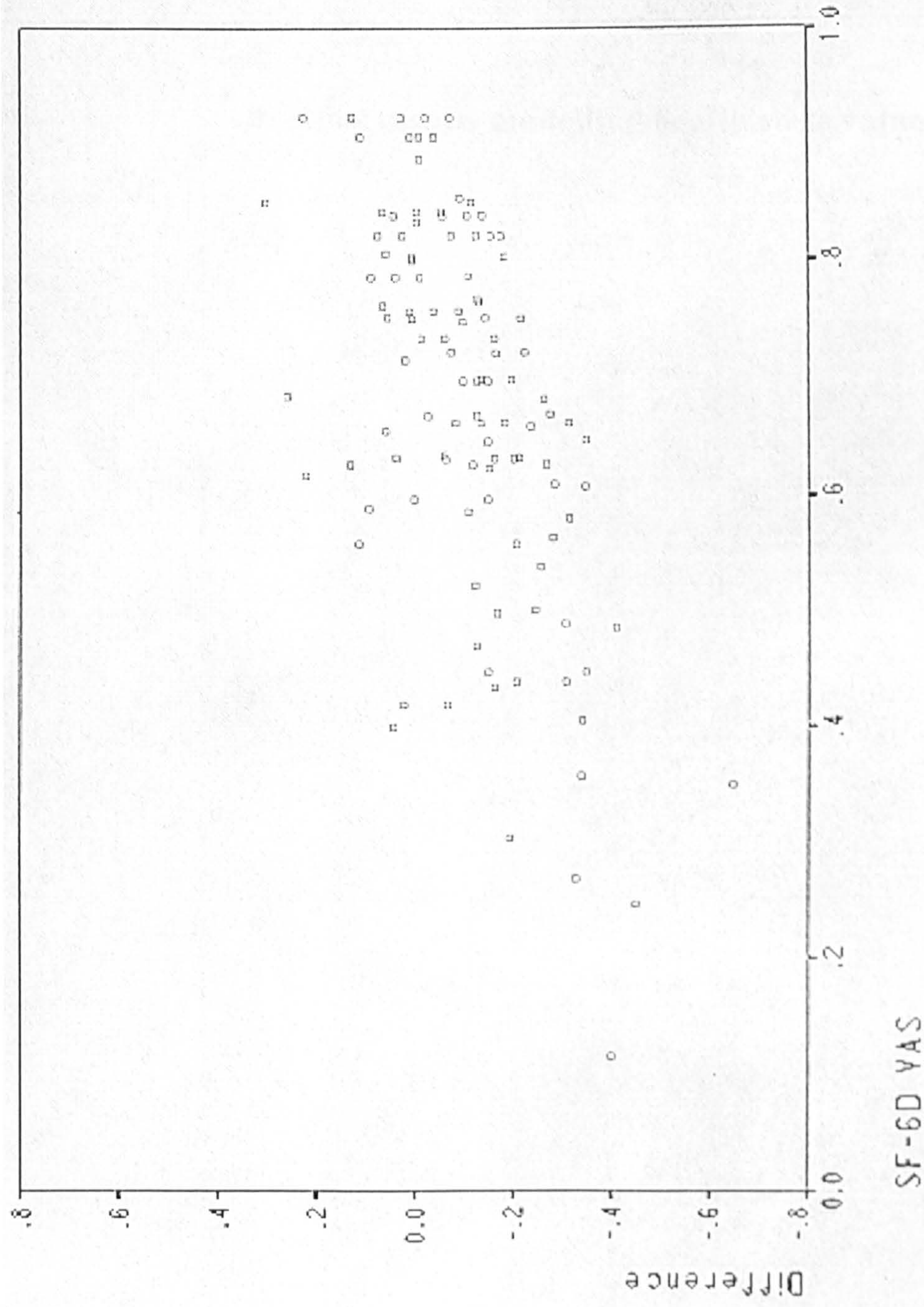
Plot A7.3b: Difference between SF-6D Vas and own VAS rating against SF-6D VAS
- OA patients



Plot A7.4a: Difference between EQ-5D VAS and own VAS rating against EQ-5D VAS
- Hernia patients



Plot A7.4b: Difference between SF-6D VAS and own VAS rating against SF-6D VAS
- Hernia patients



Appendix 8

Further results modelling health state values

Table A8.1 Alternative specifications of VAS median model

(1) Logit VAS			(2) Inclusion of extreme variables (1)	
	B	T	B	T
Constant	2.284	14.6***	.820	5.2***
PH2	-.234	1.6	-.034	.7
PH3	-.726	4.7***	-.077	1.5
PH4	-.945	5.1**	-.134	2.6*
PH5	-.974	4.2**	-.105	1.3
PH6	-1.573	7.0***	-.230	3.2**
R2	-.703	3.3**	-.109	1.1
S2	-.863	.3	-.009	.0
S3	.002	.0	-.034	.5
S4	-.154	.6	-.063	.9
S5	-.905	2.9**	-.212	2.4*
PAIN2	-.353	1.9	-.059	1.2
PAIN3	-.043	.3	-.023	.6
PAIN4	-.443	2.7*	-.040	2.2*
PAIN5	-.508	2.0	-.128	1.5
PAIN6	-.013	.0	-.059	.6
M2	-.450	3.2**	-.040	.7
M3	-.983	5.0***	-.139	2.1*
M4	-1.245	5.7***	.122	1.3
M5	-.700	2.0	-	-
V2	-.020	.1	.026	.4
V3	.040	.2	.054	.7
V4	-.022	.1	-.029	.4
V5	-.562	2.0	-.099	1.2
LT1			.020	.4
LT2				
LT3			.062	.8
LT4			.084	.9
LT5			.108	.7
LBT1			-.002	.2
LBT2			-.003	.5
LBT3				
LBT4			.050	.5
LBT5			-.020	.2
LBT6			-.007	.0
df	33		25	
Adj. R2	0.957		0.951	

1. M5, LT2 and LBT3 were not tolerated by model.

Table A8.2a: Alternative specifications of individual VAS model

(1) Logit VAS			(2) Inclusion of extreme variables	
	B	T	B	T
Constant	-.184	8.8***	.427	4.8***
PH2	-.030	3.6***	.087	3.3***
PH3	-.046	5.6***	.115	4.0***
PH4	-.073	7.3***	.165	5.9***
PH5	-.093	7.4***	.232	5.0***
PH6	-.199	9.8**	.304	7.5***
R2	-.046	4.0***	.025	.5
S2	.008	.6	.024	.6
S3	-.008	.7	.032	.9
S4	-.026	1.9	.076	1.9
S5	-.050	2.9**	.177	3.5***
PAIN2	-.022	2.2*	.050	1.9
PAIN3	-.005	.5	.017	.9
PAIN4	-.041	4.6***	.085	3.6***
PAIN5	-.064	4.7***	.174	3.6***
PAIN6	-.054	3.2**	.148	2.7***
M2	-.032	4.2***	.061	2.0*
M3	-.056	5.3***	.099	2.6**
M4	-.063	5.3***	.127	2.4*
M5	-.025	1.3	-	-
V2	-.009	1.1	.026	.8
V3	-.030	3.0**	.078	1.9
V4	-0.26	2.0*	.118	2.6**
V5	-.047	3.1**	.143	2.9**
LT1			.006	.2
LT2				
LT3			.035	.8
LT4			.000	.0
LT5			.007	.1
LBT1			.079	1.7
LBT2			.079	2.5*
LBT3				
LBT4			.006	.1
LBT5			.004	.1
LBT6			.010	.1
df	1330		1325	
Adj. R ²	0.656		0.682	

1. M5, LT2 and LBT3 were not tolerated by model.

Table A8.2a: (Continued)

3) Inclusion of First Order interaction terms^{1,2,3}

	B	T
Physical	-.057	-14.7
R2	-.112	-7.2
S45	-.103	-6.7
Pain23	-.035	-2.6
Pain4	-.117	-7.6
Pain56	-.134	-6.6
M2	-.097	-8.4
M3	-.156	-9.9
M45	-.271	-7.2
Pain4V2	.054	3.2
S45M45	.119	2.9
(Constant)	.468	29.9
Variables not in the equation ⁴		
S2	.027594	1.340
S3	-.033525	-1.326
V2	-.015221	-.663
V34	-.008724	-.343
V5	-.028408	-1.004
and 46 interaction terms		
df	1345	
Adj R ²	0.682	

1. Main effects restricted to significant terms in the consistent version of the individual VAS model.
2. For ease of completion, the physical levels were replaced by a single variable PHYSICAL (1-6). This was not found to alter significantly the model.
3. This model was estimated by a stepwise procedure and excludes all terms not significant at the 5% level.
4. The interaction Pain4V2 has resulted in V2 no longer being significant.

Table A8.2b: Individual VAS model - split test

Sample (1)			Sample (2)	
	B	T	B	T
PH2	-.087	-3.3***	-.060	-2.5*
PH3	-.112	-4.4***	-.108	-4.2***
PH4	-.200	-6.2***	-.149	-5.0***
PH5	-.195	-4.9***	-.242	-6.4***
PH6	-.305	-8.0***	-.261	-6.9***
R2	-.106	-2.9**	-.103	-2.9**
S2	.040	.9	.010	.2
S3	-.003	.1	-.030	-.8
S4	-.035	-.8	-.083	-1.9
S5	-.080	-1.5	-.147	-2.9**
PAIN2	-.040	-1.4	-.060	-1.9
PAIN3	-.020	.6	-.046	-1.6
PAIN4	-.070	-2.4*	-.121	-4.4***
PAIN5	-.127	-3.1**	-.160	-3.6***
PAIN6	-.054	-1.1	-.173	-3.4***
M2	-.046	-2.0	-.106	-4.5***
M3	-.098	-3.0	-.162	-4.9***
M4	-.101	-2.9	-.187	-5.2***
M5	-.054	-1.0	-.073	-1.2
V2	-.060	-2.2*	.016	.5
V3	-.128	-4.0***	-.018	-.6
V4	-.089	-2.3	-.024	-.6
V5	-.164	-3.8***	-.052	-1.0
Constant	.417	16.5***	.434	16.0***
df	642		667	
Adj R ²	.675		.690	
Normality test	NS		*	
Het. test	NS		NS	
RESET test	NS		NS	
Chow test			NS	

Table A8.2c: Individual VAS model - excluding outliers ($\pm 2.5\%$)

	B	T
PH2	-.056	3.3**
PH3	-.108	6.3***
PH4	-.167	8.2***
PH5	-.207	8.1***
PH6	-.275	11.0***
R2	-.098	4.2***
S2	.014	.5
S3	-.015	.6
S4	-.055	1.9
S5	-.115	3.4***
PAIN2	-.042	2.0*
PAIN3	-.003	.2
PAIN4	-.085	4.7***
PAIN5	-.128	4.5***
PAIN6	-.097	2.8**
M2	-.074	4.8***
M3	-.135	6.3***
M4	-.147	6.0***
M5	-.048	1.3
V2	-.015	.9
V3	-.060	2.8**
V4	-.049	1.8
V5	-.106	3.4***
Constant	.403	22.7***
df	1270	
Adj R ²	.687	
Normality test	NS	
Het. test	NS	
RESET test	NS	

Table A8.3 Alternative specifications of SG median model

(1) Logit SG			(2) Inclusion of extreme variables	
	B	T	B	T ¹
Constant	4.952	20.1***	1.049	9.9***
PH2	-.499	2.0	-.030	.9
PH3	-1.027	4.2***	-.045	1.3
PH4	-1.530	5.5***	-.099	3.1**
PH5	-1.872	5.4***	-.159	2.6*
PH6	-1.720	5.3***	-.126	2.2*
R2	.146	.4	.057	1.0
S2	-.335	.9	-.022	.5
S3	-.511	1.5	-.048	1.1
S4	-1.022	2.6*	-.110	2.3
S5	.587	1.2	-.041	.6
PAIN2	.084	.3	.001	.0
PAIN3	-.243	.9	-.017	.7
PAIN4	-.239	.9	-.013	.5
PAIN5	-.753	2.0	-.169	2.8**
PAIN6	-.984	2.0	-.251	3.3**
M2	-.287	1.3	-.021	.6
M3	-.142	.5	.004	.1
M4	-.146	.5	.031	.5
M5	-2.468	4.5***	-	-
V2	-.634	2.6*	.048	1.2
V3	-.944	3.3**	.077	1.6
V4	-.554	1.5	-.067	1.0
V5	-.467	1.1	-.050	.8
LT1			.001	.5
LT3			.044	.9
LT4			-.015	.2
LT5			-.038	.4
LBT1			-.020	.5
LBT2			.020	.4
LBT4			.119	1.1
LBT5			.086	.7
LBT6			-.236	1.7
df	33		25	
Adj. R2	0.877		0.892	

1. M5, LT2 and LBT3 were not tolerated by the model.

Table A8.4a: Alternative specifications of individual SG model

(1) Inclusion of extreme variables ¹			(2) Inclusion of 1st order interaction terms ^{2,3}		
	B	T		B	T
Constant	.112	1.5	Constant	.107	15.1***
PH2	-.006	.3	Ph6	-.189	10.6***
PH3	-.017	.7	R2	-.070	8.0***
PH4	-.063	2.8**	M5	-.194	9.0***
PH5	-.059	1.4	Ph3M34	-.071	4.4***
PH6	-.94	2.3*	Ph45Pain5	-.126	5.0***
R2	-.24	.6	Ph45V35	.048	3.4***
S2	.014	.5	Ph6Pain4	-.093	4.7***
S3	-.015	.5	Pain6M34	-.073	2.4*
S4	-.039	1.2			
S5	-.008	.1	Variables not in the equation		
PAIN2	-.024	1.0	Ph2	-.012	.5
PAIN3	-.019	1.0	Ph3	-.006	.2
PAIN4	-.017	.9	Ph45	-.036	1.1
PAIN5	-.127	3.0**	PAIN23	-.000	.0
PAIN6	-.156	2.9**	PAIN4	.006	.2
M2	-.016	.7	PAIN5	-.053	.9
M3	-.037	1.1	PAIN6	-.034	.7
M4	-.005	.1	M2	-.029	1.2
M5	-	-	M34	-.019	.7
V2	.017	.6	V345	-.033	1.1
V3	-.006	.2			
V4	.001	.0	PLUS 23 interacton terms		
V5	.005	.1			
LT1	.004	.2			
LT3	.034	.9			
LT4	.027	.6			
LT5	.025	.4			
LBT1	-.005	.2			
LBT3	-.005	.1			
LBT4	.028	.4			
LBT5	-.022	.2			
LBT6	-.213	2.2*			
df	1005				
Adj. R ²	0.489				

1. M5, LT2 and LBT2 have not been tolerated by the model.
2. Main effects restricted to significant terms in the consistent version of the SG model.
3. This model was estimated by a stepwise procedure and excludes all terms not significant at the 5% level.

Table A8.4c: Individual SG model - split test

Sample (1)			Sample (2)	
	B	T	B	T
PH2	-.027	-1.1	-.023	1.1
PH3	.29	-1.3	-.030	1.4
PH4	-.088	-3.4***	-.067	2.6*
PH5	-.36	-1.1	-.097	3.0**
PH6	-.139	-4.4***	-.091	3.0**
R2	-.014	-.4	.050	1.7
S2	-.024	-.6	.036	1.1
S3	-.032	-1.0	.001	.1
S4	-.050	-1.3	-.027	.8
S5	-.054	-1.3	-.004	.1
PAIN2	-.017	-.6	-.025	1.0
PAIN3	-.021	-.8	-.028	1.2
PAIN4	-.022	-.9	-.025	1.1
PAIN5	-.107	-3.0**	-.127	3.7***
PAIN6	-.282	-5.6***	-.096	2.1*
M2	-.007	-.3	-.036	1.9
M3	-.006	-.2	-.059	2.1*
M4	-.017	-.5	-.030	1.0
M5	-.218	-4.3***	-.178	3.6***
V2	.016	.7	-.008	.3
V3	-.018	-.7	.026	.9
V4	.013	.4	-.027	.8
V5	.053	1.4	-.060	1.5
Constant	.131	5.5***	.176	7.7***
df	508		481	
Adj R ²	.508		.488	
Normality test	***		***	
Het. test	***		***	
RESET test	NS		NS	

Table A8.4d: Individual SG model excluding outliers

1) For SG \geq .50			2) For SG \geq .25 only	
	B	T	B	T
PH2	-.019	-2.0*	-.013	-1.0
PH3	.26	-2.8**	-.024	-1.9
PH4	-.053	-5.0***	-.050	-3.4***
PH5	-.035	-2.8*	-.051	-2.8**
PH6	-.074	-5.7***	-.065	-3.7***
R2	-.033	-2.6*	-.016	-.9
S2	.009	.6	.003	.2
S3	-.005	-.4	-.023	-1.3
S4	-.012	-.8	-.041	-2.0*
S5	-.026	-1.4	-.059	-2.3*
PAIN2	-.011	-1.0	-.014	-.9
PAIN3	-.015	-1.5	-.019	-1.4
PAIN4	-.018	-1.8	-.031	-2.3*
PAIN5	-.054	-3.5***	-.102	-5.1***
PAIN6	-.064	-2.9**	-.116	-4.2***
M2	-.026	-3.2**	-.033	-2.9**
M3	-.030	-2.6**	-.035	-2.3*
M4	-.038	-2.9**	-.029	-1.7
M5	-.065	-2.8**	-.088	-3.0**
V2	.008	.9	.013	1.0
V3	-.007	-.6	-.012	-.8
V4	.009	.6	-.017	-.9
V5	-.003	-.2	-.025	-1.2
Constant	.094	10.1***	.121	9.4***
df		921		984
Adj. R ²		.388		.431
Normality test		***		***
Het. test		***		***
RESET test		***		NS

Table A8.4e: A re-run of the individual SG model assuming a value of 1.0 in place of a mid-point value of 0.995

	B	T
Constant	.149	9.4***
PH2	-.014	.9
PH3	-.027	1.7
PH4	-.071	4.0***
PH5	-.063	2.8**
PH6	-.103	4.9***
R2	-.037	1.7
S2	.015	.6
S3	-.012	.6
S4	-.031	1.2
S5	-.028	.9
PAIN2	-.027	1.5
PAIN3	-.026	1.6
PAIN4	-.026	1.6
PAIN5	-.126	5.3***
PAIN6	-.163	5.1***
M2	-.028	2.0
M3	-.043	2.3*
M4	-.031	1.5
M5	-.200	5.8***
V2	.012	.8
V3	-.013	.7
V4	-.001	.0
V5	-.005	.2
df	1345	
Adj R ²	0.682	

Note: 41 observations were assumed to be 1.0 rather than 0.995.

Table A8.5a: Entering a constant term into the random part of the model - VAS

	Single level		Two level	
	B	SE	B	SE
Fixed part	.910	.024***	.915	.022***
Constant				
PH2	-.057	.023*	-.053	.019**
PH3	-.103	.024***	-.101	.019***
PH4	-.148	.028***	-.144	.023***
PH5	-.162	.036***	-.177	.030***
PH6	-.259	.035***	-.264	.028***
R2	-.129	.033***	-.128	.027***
S2	.014	.039	.007	.032
S3	-.001	.035	-.005	.028
S4	-.056	.040	-.045	.033
S5	-.189	.048***	-.176	.041***
PAIN2	-.058	.028*	-.062	.024**
PAIN3	-.016	.026	-.019	.022
PAIN4	-.112	.025***	-.101	.021***
PAIN5	-.136	.039***	-.159	.033***
PAIN6	-.062	.047	.120	.039**
M2	-.084	.022***	-.084	.018***
M3	-.167	.030***	-.146	.025***
M4	-.164	.034***	-.164	.028***
M5	-.019	.053	.006	.045
V2	.006	.025	.011	.021
V3	-.018	.029	-.033	.020
V4	-.015	.037	-.029	.032
V5	-.106	.043*	-.094	.036**
Random part				
Level 1 Variance	3.720	.143***	2.309	.191***
Level 2 Variance	-	-	1.407	.094***
-2*log likelihood		11882		11519

Table A8.5b: Entering dimension levels into the random part of the model - VAS

	Physical		Role	
	B	SE	B	SE
Fixed part	.915	.021***	.910	.020***
Constant				
PH2	-.054	.020**	-.052	.018**
PH3	-.108	.019***	-.111	.019***
PH4	-.155	.024***	-.148	.022***
PH5	-.186	.029***	-.178	.028***
PH6	-.272	.027***	-.271	.027***
R2	-.118	.027***	-.121	.027***
S2	.001	.032	.003	.031
S3	-.006	.028	-.003	.027
S4	-.054	.033	-.044	.032
S5	-.177	.041***	-.178	.040***
PAIN2	-.060	.023**	-.054	.022*
PAIN3	-.021	.021	-.017	.022
PAIN4	-.104	.021***	-.095	.020***
PAIN5	-.167	.033***	-.157	.032***
PAIN6	-.127	.039***	-.121	.038***
M2	-.081	.017***	-.083	.017***
M3	-.140	.025***	-.141	.025***
M4	-.170	.028**	-.169	.027***
M5	-.001	.044	.008	.044
V2	.008	.020	.017	.020
V3	-.030	.025	-.032	.024
V4	-.029	.030	-.033	.030
V5	-.084	.034*	-.093	.034**
Random part				
Level 1 variance	1.884	.106	2.188	.0095***
Level 2 variance				
Cons/Cons	.954	.207	0.370	.153*
Level 2/Cons	.491	.187**	0.506	.134***
Level 2/Level 2	1.068	.337**	0.556	.218*
Level 3/Cons.	.193	.158		
Level 3/Level 3	.207	.213		
Level 4/Cons.	.175	.201		
Level 4/Level 4	.988	.382**		
Level 5/Cons	-.156	.210		
Level 5/level 5	.728	.372		
Level 6/Cons.	.370	.142**		
Level 6/Level 6	.293	.190		
-2* log-likelihood	11457		11462	

Table A8.5b (continued): Entering dimension levels into the random part of the model - VAS

	Social		Pain	
	B	SE	B	SE
Fixed part	.916	.021***	.915	.022***
Constant				
PH2	-.054	.018**	-.054	.019**
PH3	-.104	.018***	-.101	.019***
PH4	-.145	.022***	-.143	.023***
PH5	-.176	.028***	-.175	.029***
PH6	-.263	.027***	-.263	.028***
R2	-.128	.026***	-.129	.029***
S2	.004	.031	.006	.032
S3	-.007	.027	-.005	.028
S4	-.044	.032	-.044	.033
S5	-.182	.039***	-.177	.041***
PAIN2	-.063	.022	-.064	.024
PAIN3	-.022	.021	-.020	.021
PAIN4	-.103	.020***	-.100	.021***
PAIN5	-.163	.032***	-.160	.032***
PAIN6	-.117	.038**	-.121	.039**
M2	-.087	.017***	-.084	.018***
M3	-.145	.025***	-.146	.025***
M4	-.171	.027***	-.165	.028***
M5	.003	.043	.007	.045
V2	.012	.021	.010	.022
V3	-.029	.025	-.034	.026
V4	-.025	.031	-.031	.032
V5	-.090	.035**	-.096	.030**
Random part				
Level 1 variance	2.057	.0939***	2.266	.097***
Level 2 variance				
Cons/Cons	1.515	.178***	1.489	.206***
Level 2/Cons	.127	.173	-.252	.174
Level 2/Level 2	.255	.270	.290	.244
Level 3/Cons.	0	0	0	0
Level 3/Level 3	0	0	0	0
Level 4/Cons.	.433	.155	0	0
Level 4/Level 4	1.066	.269***		
Level 5/Cons	0	0	0	0
Level 5/level 5	0	0	0	0
Level 6/Cons.			0	0
Level 6/Level 6			0	0
-2* log-likelihood	11476		11516	

Table A8.5b (continued): Entering dimension levels into the random part of the model - VAS

	Vitality	
	B	SE
Fixed part	.914	.021***
Constant		
PH2	-.058	.019**
PH3	-.107	.019***
PH4	-.142	.023***
PH5	-.181	.029***
PH6	-.262	.027***
R2	-.127	.027***
S2	.002	.031
S3	-.005	.028
S4	-.047	.033
S5	-.170	.039***
PAIN2	-.052	-.023*
PAIN3	-.017	.021
PAIN4	-.100	.021***
PAIN5	-.163	.031***
PAIN6	-.127	.039***
M2	-.087	.017***
M3	-.142	.025***
M4	-.167	.027***
M5	.001	.044
V2	.007	.021
V3	-.029	.026
V4	-.029	.031
V5	-.091	.035**
Random part		
Level 1 variance	2.220	.101***
Level 2 variance		
Cons/Cons	1.745	.256***
Level 2/Cons	-.550	.163
Level 2/Level 2	.029	.158
Level 3/Cons.	-.076	.140
Level 3/Level 3	.359	.201
Level 4/Cons.	0	0
Level 4/Level 4	0	0
Level 5/Cons	0	0
Level 5/level 5	0	0
-2* log-likelihood	11492	

Table A8.6a: Multi-level modelling of health state values - SG

	Single level		Two level	
	B	SE	B	SE
Fixed part				
Constant	.998	.022***	.984	.020***
PH2	-.029	.021	.015	.016
PH3	-.034	.022	.029	.017
PH4	-.075	.025**	.063	.019***
PH5	-.099	.031**	.058	.024*
PH6	-.102	.030***	.099	.022***
R2	-.001	.030	.039	.023
S2	.014	.033	.019	.025
S3	-.035	.031	.004	.024
S4	-.048	.035	.014	.027
S5	.055	.044	.028	.035
PAIN2	.011	.027	.014	.021
PAIN3	-.001	.023	.016	.018
PAIN4	-.005	.023	.016	.018
PAIN5	-.131	.033***	.128	.026***
PAIN6	-.202	.045***	.171	.035***
M2	-.015	.019	.038	.015*
M3	-.013	.026	.047	.021*
M4	.007	.029	.035	.023
M5	-.259	.048***	.193	.038***
V2	-.048	.022	.017	.018
V3	-.072	.025	.014	.021
V4	-.064	.032	.008	.026
V5	-.038	.036	.013	.029
Random part				
Level 1 variance	2.476	.109	1.170	.180***
Level 2 variance	-	-	1.407	.094***
-2*log likelihood	8659		8263	

Table A8.6b: Models with dimension levels in the random part of the model - SG

	Physical		Role	
	B	SE	B	SE
Fixed part	.979	.017***	.993	.016
Constant				
PH2	.016	.014	.022	.015
PH3	.032	.014*	.036	.015
PH4	.061	.018***	.062	.018
PH5	.063	.023**	.069	.022
PH6	.101	.023***	.103	.021
R2	.026	.020	.010	.022
S2	.012	.023	.006	.024
S3	.004	.021	.019	.021
S4	.019	.024	.031	.025
S5	.015	.035	.029	.032
PAIN2	.005	.018	.001	.018
PAIN3	.007	.016	.011	.016
PAIN4	.011	.016	.011	.016
PAIN5	.129	.024***	.128	.024
PAIN6	.167	.033***	.160	.033
M2	.030	.014*	.024	.014
M3	.044	.018*	.041	.020
M4	.032	.020	.038	.021
M5	.214	.038***	.201	.036
V2	.008	.016	.014	.015
V3	.021	.018	.034	.018
V4	.020	.023	.038	.023
V5	.021	.026	.039	.026
Random part				
Level 1 variance	.942	0.53	1.211	.059***
Level 2 variance				
Cons/Cons	.633	.110***	.059	.074
Level 2/Cons	0	0	5.100	.181
Level 2/Level 2	0	0	6.523	0.180
Level 3/Cons.	0	0		
Level 3/Level 3	0	0		
Level 4/Cons.	.267	.101**		
Level 4/Level 4	.414	.198		
Level 5/Cons	-.033	.120		
Level 5/level 5	.904	.275**		
Level 6/Cons.	.617	.135***		
Level 6/Level 6	1.537	.299***		
-2* log-likelihood	8098		8148	

**Table A8.6b (continued) : Models with dimension levels in the random part
- SG**

	Social		Pain	
	B	SE	B	SE
Fixed part	.988	.016***	.984	.015***
Constant				
PH2	-.019	.014	.013	.013
PH3	-.031	.014*	.028	.013*
PH4	-.059	.017***	.063	.015***
PH5	-.055	.022**	.048	.020*
PH6	-.101	.020***	.117	.019***
R2	-.036	.020	.040	.018
S2	.016	.023	.011	.020
S3	.001	.021	.004	.019
S4	-.017	.025	.013	.023
S5	-.019	.038	.028	.028
PAIN2	-.013	.018	.014	.016
PAIN3	-.011	.016	.013	.014
PAIN4	-.020	.016	.010	.015
PAIN5	-.131	.023***	.145	.036***
PAIN6	-.170	.033***	.165	.046***
M2	-.028	.014*	.031	.012*
M3	-.033	.018*	.061	.017
M4	-.032	.020	.042	.021
M5	-.203	.039***	.185	.038***
V2	.004	.015	.010	.014
V3	-.023	.018	.010	.017
V4	-.016	.023	.004	.022
V5	-.017	.026	.010	.025
Random part				
Level 1 variance	1.105	.060***	.835	.040***
Level 2 variance				
Cons/Cons	.448	.102***	.630	.108***
Level 2/Cons	0	0	0	0
Level 2/Level 2	0	0	0	0
Level 3/Cons.	.470	.081***	0	0
Level 3/Level 3	.038	.107	0	0
Level 4/Cons.	.360	.079***	.336	.068***
Level 4/Level 4	.197	.113	.224	.091*
Level 5/Cons	.221	.183	.544	.230*
Level 5/level 5	2.320	.558***	4.713	.913***
Level 6/Cons.			1.158	.342***
Level 6/Level 6			3.914	1.306**
-2* log-likelihood	8137		7983	

Table A8.6b (continued): Models with dimension levels in the random part - SG

	Mental	
	B	SE
Fixed part	.979	.017***
Constant		
PH2	-.017	.014
PH3	-.028	.014**
PH4	-.068	.016***
PH5	-.045	.022**
PH6	-.110	.019***
R2	-.049	.020*
S2	.019	.022
S3	.014	.020
S4	-.009	.023
S5	-.031	.029
PAIN2	-.013	.017
PAIN3	-.011	.015
PAIN4	-.017	.015
PAIN5	-.132	.023***
PAIN6	-.163	.032***
M2	-.038	.013**
M3	-.049	.019**
M4	-.039	.021
M5	-.200	.047***
V2	.021	.016
V3	-.001	.018
V4	.005	.022
V5	.009	.025
Random part		
Level 1 variance	.903	.048***
Level 2 variance		
Cons/Cons	.975	.156***
Level 2/Cons	0	0
Level 2/Level 2	0	0
Level 3/Cons.	.400	.137**
Level 3/Level 3	.539	.202*
Level 4/Cons.	-.049	.104
Level 4/Level 4	.380	.135*
Level 5/Cons	.437	.373
Level 5/level 5	6.077	1.362***
-2* log-likelihood	8074	

Table A8.7: Mean VAS model for non-patients

	B	T
Constant	.429	21.4
PH2	-.067	-3.4
PH3	-.105	-5.3
PH4	-.165	-7.3
PH5	-.212	-7.6
PH6	-.279	-10.4
R2	-.107	-4.1
S2	.023	.8
S3	-.027	-1.0
S4	-.069	-2.2
S5	-.124	-3.3
PAIN2	-.044	-1.9
PAIN3	.001	.1
PAIN4	-.084	-4.1
PAIN5	-.123	-4.0
PAIN6	-.132	-3.3
M2	-.076	-4.4
M3	-.140	-5.9
M4	-.150	-5.7
M5	-.084	-1.9
V2	-.029	-1.5
V3	-.081	-3.5
V4	-.070	-2.4
V5	-.107	-3.3
df	1045	
Adj. R ²	0.694	