Monica Eriksson, Bengt Lindström Appendix

Validity of Antonovsky's Sense of Coherence Scale – a systematic review.

9 V 9	
Number of papers	
Total hits of the search	
1	

Corrected for double listing in doctoral thesis (table 10)

Included papers published in McCubbin et al. Stress, coping, and health in families.

Sense of coherence and resiliency. Thousand Oaks 1998 Papers excluded because of double publishing (table 9: 208, 235, 390)

Papers not used the Life Orientation Questionnaire to measure coherence

Papers excluded because of missing the words "salutogenesis" and/or "sense of coherence" and the translations in the heading, abstract and/or key word (table 9: 64, 263, 268, 270)

(table 9: 25, 26, 30, 33, 50, 58, 82, 131, 156, 234, 299, 315, 328, 349, 354, 355, 360, 398,

463

1215

1193

509

519

516

512

488

458

458

Papers excluded because of insufficient validity (table 9: 24, 27, 70, 89, 97, 110, 136, 141, 145, 182, 189, 277, 278, 279, 320, 346, 366, 373, 376, 378, 380, 443, 446, 447, 473)

1

1 Papers excluded because of no references to Antonovsky's SOC concept

429, 457, 471, 474, 496, 480)

(table 9: 265, 266, 267, 504, 505)

The total number of included papers

Corrected for double listing in the databases (table 9)

Table 1. Description of the material – a flow chart.

Table 2. Statistical data from studies using the SOC-29 questionnaire published 1992-2003.

Sweden	South-Africa	Sweden	Sweden	Singapore	USA		Sweden	Sweden	Israel	Israel	Israel		Germany	USA	1	Country USA
Students	Patients with essential hyptertension	psychoanalysis and healthy people Patients with breast cancer	Obese patients and controls	Singaporean subjects	College students and patients with		Patients with Ehlers-Danlos syndrome	Schizophrenic patients aged 18-81 years	College students	Immigrants (Ethiopians)	College students aged 16-29 years		Patients with postmenopausal osteoporosis	Adolescents with Cystic Fibrosis		Sample College students and general population
Sotho	Afrikaans	Swedish	Swedish	English	English		Swedish	Swedish	Hebrew	Hebrew	Hebrew		German	English		Language English
102 Afrikaans 94 Sotho 328 all 160 women 168 men	115 group 2 196 all	345 controls 29 group 1	33 patients 145 controls	31 patients 186	133 students	69 women 8 men	77	120	46 Ethiopians	40 families	294	30 group A	50 total	189 all	52 students 75 general population	N 116 students
142.50 162.00	149.00	139.00	134.00		137.10	142.00 women 150.00 men	134.00 men 123.00 women 143.00 total	129.00 total	136.82	140.47	128.80	136.00		134 90	133.44	Mean 133.38
21.40 21.00	21.00 20.40	24.00	22.00 18.00		24.10	24.00 21.00	13.00 53.00 24.00	26.60	23.31	18.35	17.70	43.00		24.00	21.07	SD 21.91
.91	.78	.92	3	.74			.90		.87	.87	.87	.89		92		Ω
Bothmer von M. 2003 ¹⁶	Botha K. 2002 ¹⁵	Boman L. 1999 ¹⁴	Björvell H. 1994 ¹²	Bishop G.D. 1993 ¹¹	Bigler M. 2001 ¹⁰	C	Berglund B. 2003 ⁹	Bengtsson-Tops A. 2000 ⁸	Ben-David A. 1999 ⁷	Ben-David A. 19976	Ben-David A. 1996 ⁵	(Begerow B. 1999 ⁴	Atroshi I. 2002		First author Amirkhan J.H. 2003

Israel Poland Poland USA	Bulgaria Israel Israel	Israel Israel Israel	New Zealand South Africa	Sweden	Thailand Thailand	USA South Africa Sweden	USA Sweden United
Male Israeli patients Women staying in hospital after delivery Fire fighters Students	Nuclear operators Women with disabilties Cancer patients and healthy people	Women and men Married and divorced mothers Divorced Muslim Arabs	Older patients before and after a surgery operation General nurses	HIV-infected patients and control group	Children and youths aged 7-18 Adult family members	Patients with rheumatoid arthritis Patients with major depressive disorder Control group Subjects at high risk for mental illness	Native Americans and Anglo Americans Occupational therapy students Control group of Swedish women Patients with rheumatoid arthritis
Hebrew Polish Polish Enlish	Bulgarian Hebrew Hebrew	Hebrew Hebrew Arabic	Swedish	Swedish	Thai Thai	English Swedish	English Swedish English
209 523 464 202	159 men 159 men 15 88 48 patients 46 controls	74 74 306 all	adherent group non-adherent group 57	179 mothers 200 fathers 77 grandparents 189 patients 145 controls	483 456 families	828 50 patients 50 controls 148	81 NA 105 AA 71 students 651 Swedes 89
133.90 148.46 137.30	121.80 124.37 144.80 138.58-153.08 149.15-139.04	137.17° divorced 156.60° married	139.00 _{th} 139.00 _c 140.00 _{th} 141.00 _c 133.00 _{th} 127.00 _c	144.01 142.57 144.00 133.00 women 134.00 men 151.00 women 152.00 men	139.30-148.60 143.38	146.50 100.56 137.24 152.60	134.40 134.50 142.00
48.90 19.58 20.90	23.32 21.03 19.01 19.52-20.30 23.80-23.60	3	25.00, 27.00 24.00, 25.00 30.00, 30.00	24.67 22.96 25.48 20.00 23.00 17.00	24.03	29.40 22.98 24.39 22.00	24.60 21.60 16.00 27.90
.91	.90	.89	.85	.86	.80	.93	.91
Drory Y. 2002 ³⁹ Dudek B. 1993 ⁴⁰ Dudek B. 2000 ⁴¹ Ebert S. 2002 ⁴²	Dalbokova D. 1995 ³⁶ Dangoor N. 1994 ³⁷ Delbar V. 2001 ³⁸	Cohen O. 1997 ³³ Cohen O. 2000 ³⁴ Cohen O. 2003 ³⁵	Cederfjäll C. 2002** Chamberlain K. 1992 ³¹ Cilliers F 2003 ³²		Dahlin I., 1993 ²⁰ Cederblad M. 2001 ²⁷ Cederblad M. 2003 ²⁸	Callahan L. 1995 ²⁰ Carstens J. 1997 ²¹ Cederblad M 1995 ²²⁻²⁶	Bowman B.J. 1996 ¹⁷ Bränholm I-B. 1998 ¹⁸ Büchi S. 1998 ¹⁹

Sweden	Sweden	Israel	Russia	Denmark	Sweden					Israel	USA	USA	Canada	NSN	USA	Israel		Israel	Kingdom	United	France		Delgium	Relaium	Germany	Norway	COL	ASII	Israel		USA	USA	Carrada	Canada
Cancer patients and healthy controls	Nurses, patients and general population	Patients with coronary heart disease	Juvenile delinquents		Patients after coronary artery bypass grafting					Kibbutz members	Students	spouses Students	Patients attending home dialysis and their	College students	Patients with rheumatic disorders	Women referred to a breast health clinic	healthy women	Daughters of women with breast cancer and		Open university students	French adults	q	nondementing chronically ill family membergs	Drimary Caracivars to damenting and	Traffic accident victims	Patients and controls	Wolffer and likeli	Women and men	Israeli Jewish women with physical disabilities	with children	Young homeless and substance-abusing women	Production workers	Olliversity mider-graduates	The Committee of the Co
Swedish	Swedish	Hebrew	Russia	Danish	Swedish					Hebrew	English	English	English	English	English	Hebrew			9	English	French	(0)	(Dutch)	Elemich		Norwegian	CIE ISI	English	Hebrew	(English	English	PISHSII	Jane
22 group 2 20 group 3 166 group 4 145 group 5 42 patients	35 group 1	164	159	102 Danes	111 Swedes		209 secular		228 religious	437 total	193	1116	28 couples	150	1333	314	51	45		306	647	71 healthy	55 nationts	136	51	376	4	374	94 disabled		72	74	270	200
143.00° 160.00-161.00° 151.00 ^b 151.00 150.00 total 137.00 women	152.00 ^b		123.10			142.30 women	147.10 men	146.40 women	150.80 men		137.30		143.50	131.00	148.00	113.68°	114.84°	109 62°			133.66	139.03	137.04	71 821	144.00	110.78	10000	142.30	115.78			133.70-135.20	133.21 men	139 01
17.00 14.00-19.00 21.00 18.00 22.00 22.00	17.00		18.90			20.00	19.10	22.90	19.80		22.52		28.10	28.20	29.66	-	. '	1,			20.36	17.56	26.73	21.06	26.00	. '	F	20.43	28.18			25.90-28.90	20 35	10.03
.8590 .88 .88	.83	.88	.89							.88	.91	.91	.92	.93	.95						.88		.07	84		.94	2	93	.90		.85	-	00 c	00
Langius A. 1994 ⁶⁶	Langius A. 199264, 199365	Kravetz S 1993 ⁶³	Koposov R. 2003 ⁶²	Χ,	Karlsson I. 2002 ⁶¹					Kark J.D. 199660	Kaiser C. 1996 ³⁹	Jorgensen R.S. 1999 ⁵⁸	Horsburgh M. 19983	Hittner J.B. 2000 ⁵⁶	Hawley D. 1992 ⁵⁵	Gilbar O. 2003 ³⁴		Gilbar O. 1998 ⁵³		Gibson L.M. 1997 ⁵²	Gana K. 2001 ⁵¹		Carragnes 1.5. 1577	Gallaghar T I 199450	Frommberger U. 1999 ⁴⁹	Friborg O. 2003	11012 0. 1773	Franz A 199347	Florian V. 1994 **	46	Flick L.H. 1998 ⁴⁵	Fiorentino L.M. 1998 ⁴⁴	Edwards M.J. 2001	F1

Sweden Patients wit			USA Post-liver tr	USA Older women	Japan Male office workers				Japan Male office workers			USA Women with	Join			USA Japanese-A			Control families	Israel Parents of				Israel Youths from			Sweden Patients wit	USA Female coll	USA College stud	USA Older people	USA Nephrology			USA Dialysis nurses		Sweden Pentecostal			Sweden Patients	
Patients with indigestion			Post-liver transplant recipients	en	workers				workers			women with IBS and nearthly controls	marvidual with dementia	Primary carer participants caring for an		Japanese-American and Anglo-American			nilies	Parents of handicapped children				Youths from disadvantaged neighbourhoods			Patients with non-specific musculosceletal	Female college students	College students with disabilities	le	Nephrology nurses in dialysis settings			rses		Pentecostalists and reference group				
Swedish			English	English	Japanese				Japanese			EUSIISII	English	English		English				Hebrew				Hebrew			Swedish	English	English	English	English			English		Swedish			Swedish	
18	122 working	72 non-working	230 all	137	101	24 ex-smoker	26 never smoker	75 present smoker	125 total	89 controls	235 IBS	524 all	224 all	25 service users		59		83 controls		78 handicapped	42 uninvolved	37 beginning volunt	57 experienced volunt	137 all	26 TAU	22 FK	23 BAT	145	89	128	49	14 male	224 female	238 all	145 controls	37 pentecostalists	25 patients	28 overweight patients	165 breast ca patients	
142.33	157.01	142.85	152.81	157.21	127.30	132.00	133.00	124.00	128.00	148.94	131.73	171 75	140.00	113.10	146.00, 149.00 J	152.00, 151.00 A	151.96° fathers	146.16e mothers	147.61° fathers	139.49° mothers	130.50	124.41	136.30		140.00-142.00	132.00-135.00	134.00-141.00	146.50	136.20	158.90	148.70	137.90	143.90	143.10	151.00	152.00	144.00	134.00	148.00	
	29.96	35.21	33.33	24.82	19.70	20.50	16.40	15.40	17.00	21 38	21.73	2 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	21.00	28 40	20.78-26.33	21.07-24 33	-		'-		5				17.00-16 00	24.00-21.00	25.00-23.00	22.10	29.40	22.90	24.20	26.00	22.40	23.00	18.00	16.00	29.00	22.00	21.00	
				.91																.86				.81				.91	.93											
Nilsson B. 199784	0.2		Newton S. 199983	Nesbitt B.J. 200082	Nakamura H. 2003°°	V1			Nakamura H. 2001	20.000		MOIZEL Additis 3, 2003	Motzar Adams C 2002	Mockler D. 1998"	200	Milanesi L.C. 1998	1			Margalit M. 1992 ⁷⁶	4			Magen Z. 1992/5	76	2002^{74}	Malmgren-Olsson E-B	Lustig D. 2002'3	Lustig D. 2000'-2	Lewis J.S. 1996''	Lewis S.L. 1994.0	70		Lewis S. 1992 ⁰⁷	60	Langius A. 2001 on	8.9		Langius A. 1996°	2

Finland	Israel Israel Finland	Sweden	Israel Israel Sweden	USA Sweden	Sweden	Finland	Sweden New Zealand	United Kingdom South Africa	Thailand Sweden
Psychiatric outpatients and community controls	Retirees and their spouses Retirees University students	Employees Paring and their courses	Handicapped and their relatives Handicapped and their spouses Elderly people	Patients with morbid obesity Patients with cancer	District nurses	Middle-aged working men	Patients with cancer Hospitalized parasuicides	Patients with total spinal cord transaction and healthy controls Trained non-professional counselors	Nursing students Patients with ostomy surgery
Finnish	Hebrew Hebrew Finnish	Swedish	Hebrew Swedish	English Swedish	Swedish	Finnish	Swedish English	English English	Thai Swedish
28 clients 44 psychology student 45 technology student 441 total 53 neurotics	572 total 286 retirees 286 spouses 89 117 all	107 all 60 women 47 men 194	80 152 58	21 supervisory group 12 comparison group 181	33 total	102 group 1 48 group 2 4405	16 150	9 continent ostomy 20 patients 20 controls 130	132 26 total
124.93 140.40 145.04 117.00	151.02 154.50 147.53 148.67	142.60 154.60 145.00 female 151.00 male		148.00-151.00 154.00-153.00 140.00 150.00	146.00 white coll 142.80 blue coll 143.00 smokers 143.70 non-smokers 142.70 alc users 144.30 alc non-users	113.80 1100.50 143.50 total	160.90	147.70 151.30 123.90 115.80 151.52 ^d	131.18-136.33
24.92 21.73 20.11 20.30	21.89 20.62 22.58 37.23	24.30 16.80 18.00 17.00		17.50-16.60 13.60-17.30 26.00 19.00	20.30 20.70 20.30 20.90	28.50 28.50 20.60	13.50	30.90 ns 15.00 23.10 19.84	18.68-21.20
.93	.92		·8 ·8	.87	.89	.91	.80	.92	.85 .7990
Sammallahti P 1996 ¹⁰⁵	Sagy S. 1992*** Sagy S. 2000 ¹⁰³ Salmela-Aro K. 1992 ¹⁰⁴	Richardson A. 2001 Runeson, R. 2003 101	Rena F. 1996" Rena F. 1998 ⁹⁸ Rennemark M. 1999 ⁹⁹	Ray E. 2003 ⁹⁵ Ramfelt E. 2000 ⁹⁶	Poppius E. 2003 ⁹³ Pálsson M-B. 1996 ⁹⁴	Poppius E. 1999 ⁹²	Persson L. 2001 ⁸⁹ Petrie K. 1992 ⁹⁰	O'Carrol R.E. 2003 ⁸⁷ Ortlepp K. 2002 ⁸⁸	Nintachan P. 2000 ⁸⁵ Nordström G. 1995 ⁸⁶

South-Africa	Sweden Australia	USA Sweden Sweden Sweden	Sweden Iceland Iceland	USA South Africa Sweden	Switzerland Switzerland Netherlands China USA USA	Sweden	Sweden
Multicultural group of subjects	Nursing students Women with perinatal bereavment	Patients with chronic fatigue syndrome Carriers of haemophilia and their spouses Carriers of haemophilia	Middle-aged women Parents of children with asthma Parents of children with asthma	College students Nursing students, insurance employees and male artisan employed Middle-aged women	Patients with rheumatoid arthritis and traffic accident victims Accident victims aged 18-68 years Dutch adults Public health nurses College students Students	Treatment terminated patients Injured accident victims	Patients and healthy controls
Afrikaans	Swedish	English Swedish Swedish Swedish	Swedish Icelandic Icelandic	English English Afrikaans Swedish	English German Dutch Chinese English English	Swedish	Swedish
550 total 306 women 244 men 292 White	50 prenatal diagnosis 55 carriers 262 controls 95	76 American 14 29 women 23 men 367 total	136 76 families 103 Icelandie	156 118 students 88 insuranse employee 117 artisans employed 450	112 AV 89 RA 121 153 20 270 270	427 waiting-list group 146 norm group 181 student group 156	54 personal disorder 334 controls 915 all
136.52 134.07 139.57 139.18	150.00 146.00 143.00 128.76°	127.00 150.00 158.00	150.90	1146.47 [1]39.36 ^d 1145.82 139.65 150.90	144.10 155.30 155.30 135.75 129.80 women 132.30 men 134.30	130.50° 153.41° 142.39° 129.34° 132.24° 135.43°	115.00 149.00
21.68 21.83 21.18 21.91	20.00 23.00 13.00 _r	27.50 17.00 17.00	23.40	22.14 23.64 22.60 18.16 23.40	20.70 27.90 20.50 12.27 20.70 21.10 22.77	- r - r - r - r - r - r - r - r - r - r	32.80 21 80
.85	.70	.90	.92	.91 .90 .91	.89 .76	.90	.91
Wissing M. 2002 ¹²⁵	Thorell-Ekstrand I. 1993 ¹²⁴ Uren T.H. 2002 ¹²⁵	Söderberg S. 2001 ¹²¹ Tedgård U. 1999 ¹²² Tedgård U. 1999 ¹²³	Svartvik L. 2002 ¹¹⁸ Svavarsdottir E.K. 2000 ¹¹⁹ Svavarsdottir E.K. 2003 ¹²⁰	Sträuser D. 2003 Strümpfer D.J.W. 1998 Strümpfer D.J.W. 1998 Svartvik L. 2000 Strümpfer D.J.W. 1998 Strümpfer D.J.W. 1998 Strauser D. 2003 Strümpfer D.J.W. 1998 Strauser D. 2003 Strauser D. 200	Schnyder U. 2000 ¹¹⁰ Schnyder U. 2000 ¹¹⁰ Van Selm M. 1998 ¹¹¹ Shiu A.T-Y. 1998 ¹¹² Skirka N. 2000 ¹¹³ Smith T.L. 1997 ¹¹⁴ Smith T.L. 1997 ¹¹⁴	Sandell R. 2002 ¹⁰⁷ Schnyder U. 2001 ¹⁰⁸	Sandell R 1998 ¹⁰⁶

Sweden	Canada Sweden	USA	Sweden	Germany	Switzerland	Country	Table 3. St		communica	a) vicual anala					USA					USA		USA									USA
Employees and	Canadians aged 20-24 years Managers and controls	College students aged 16-58 years	Pregnant women	Addits aged Jords Jems	Adults aged 55-65 years	Sample	Table 3. Statistical data from studies using the SOC-13 questionnaire published 1992-2003		communication with the author; e) here multiplied by 29; f) SD cannot be corrected, t = time	25.03 (NAS) 100 mm b) visual analogue scale (VAS) 60 mm c) visual analogue scale (VAS) 60 mm and 7 moint I ibed scale. (b) arinter's error corrected by nerconal					Asian American students				3	Chinese American undergraduate students		Chinese Americans									Nondiabetic older adults
Swedish	English Swedish	English	Swedish	CCI	Cerman	anguage	SOC-13 que		SD cannot be co	10 12 V/V elec					English				(English		Chinese								(English
47 employees	managers	112	395 total	211	1119 Swice	Z	estionnaire publish		rrected , t = time	56 Multiracial	67 Hispanic	20 African	197 White	291 Asian	642 all	110 Late immigrants	121 Early immigrants	231 Immigrants	122 American-born	353 all		15				60 controls				73 spouses	258 Black 142 total
72.70	54.18 72.30 71.30	62.40	71.80	50.00	ST 30	Mean	ed 1992-2003		re (1110) oo min mee	132.80 mm and	131.31	129.40	133.47	125.43	129.35	ints 128.06				127.55	153.10	146.70	161. /0 men	164.50 men	159.90 women	160.50 women	158.90 men	158.60 men	141.20 women	141.90 women	133.49
1.36	12.42 1.00 1.50	10.89	10.90		SD	SD			bount timer.	23.05 7_noint Libert st	23.07	19 80	22.34	20.28	21 74	22.01	21.97	21.98	20.15	21.37	21.80	24.30	10.50	17.10			17 80			n 26.30	21.10
.82		.85			۶	C C			Time.	O printer	7	0	4	8		_	7			7 (٠ د				0	0	0	0	0		
A	> >	>	'n		> *	<u> </u>			6	C SPECIF					.90			.90	.89												.80
Anderzén I. 1999 ¹³⁷	Allisson K.R. 1999 ¹³⁵ Anderzén I. 1997 ¹³⁶	Adams T.B. 2000 ¹³⁴	Abrahamsson A. 2002 133	1041	Abel T 1999 ¹³²	First author				corrected by personal					Ying Y-W. 2001 131					Ying Y-W. 2000 129, 130		Ying Y-W. 19991-8	178								Zhang J. 2001 ¹²⁷

Brazil	Sweden		Canada			Finland	Finland	Finland	Finland		Sweden		Sweden	South Africa	Denmark	USA	USA	United Kingdom			USA	USA	China	Switzerland		Switzerland	USA			Norway	United Kingdom			Israel		Israel		Israel	Norway	
15-year-olds schoolchildren and	Patients with cancer	old-old (80+) people	Young old (65-79) and		technical designers	25-29-year-aged and 35-40 year-aged	Employees	Technical designers	Older population > 75 years old		Elderly people and healthy controls		Patients with schizophrenia	Sawmill workers	General population	Elderly people	Clinic patients (elderly Veterans)	Adults with cleft lip		individuals	Family caregivers of memory-impaired	Patients with rheumatoid arthritis	Han Chinese adults	Patients with SLE		Adolescents aged 16-20 years	Older males			Substance abusers	Social workers			Kibbutz members		Patients with mild hypertension	civilians	Women married to army members and	Patients with multiple trauma	controls
Portuguese	Swedish		English			Finnish	Finnish	Finnish	Finnish		Swedish		Swedish	Afrikaans	Danish	English	English	English			English	English	Chinese	German		German	English			Norwegian	English			Hebrew		Hebrew		Hebrew	Norwegian	
664	79	406 old-old	2006 young-old	211 older age	141 younger age	352 total	219	989	348	94 controls	94 patients		74	51	2352	152	194	51	94 male	211 female	305 all	828	197	60		341	199	18 non-compl	43 completers	61 all	78	125 nonreligious	105 religious	230 total		238	53 civilians	44 married	69	35 controls
57.50		63.92	63.48	61.00-65.70	61.70-65.30		63.90-64.50	63.10	71.50°	73.60			45 50f employed	61.66	65.00	62.00	69.10	60.17	67.50	69.30	68.70	65.30		65.00	61.62	60.71	70.60	35.49	40.30°		64.00	66.43	68.67		58.90 women	67.90 men	71.90	68.10	60.00	71.90
		11.01	10.99	11.80-10.80	12.40-11.20			11.90	1,5	8.70	8.90	· 17	, h	12.10	11.00	9.80	17.49	12.50	13.20	12.50	12.70	14.80		11.00	1 3		10.70	0.10	0.14^{j}		11.00	10.00	9.90				8.20	13.30	13.00	1.58
-81				.80, .86	.82, .87		.84, .85	.82	.89						.85	.87					.75	89	74			.8287	82									.74				
Freire M.C. 2001 ¹⁶¹	Forsberg C. 1996 160	*	Forbes D A. 2001 (5)			Feldt T. 2003 ¹⁵⁸	Feldt T. 2000 ¹⁵	Feldt T. 2000 ¹⁵	Elovainio M. 2000 ¹⁵⁶	100	Ekman I. 2002 155		Eklund M 2001 154	Edwards D. 2001 153	Due E.P. 1998 ¹⁵²	Coward D.D. 1996 151	Coc R.M. 1992 ¹⁵⁰	Cochrane W. 1999 149			Chumbler N. 2003 148	Callahan L. 1995 ²⁰	Cai D. 1998 ¹⁴⁷	Büchi S. 2000 148		Buddeberg-Fischer B. 200119	Brooks J. 1998 ¹⁴⁴			Berg J.E. 1998 ¹⁴³	Baker M. 1997 142			Anson O 1993 141		Anson O. 1993 140		Anson O. 1993 139	Anke A. 2003158	1,00

Finland	Sweden	Sweden	Sweden	Canada USA	Sweden Sweden		Norway Finland Finland Sweden	Greece USA Canada	USA	Brazil France Australia
Unemployed with disabilities and controls	Ambulance personnel	Former workers at Volvo Kalmar plant	Men with prostate cancer and men with	Healthy people Homeless women and low-income	Employed women aged 18-64 years Patients with Ménière's disease and	controls	Patients with angina pectoris Nurse educators General population Parents with Down Syndrom-children and	Male conscripts Single mothers of disabled children Persons aged 65 or older	controls Field-workers	15-year-olds schoolchildren and their mothers French adults Patients with arthritis and healthy
Finnish	Swedish	Swedish	Swedish	English English	Swedish Swedish			Greek English English	English	Portuguese (Brazilian) French English
events 223 traumatic events 88 disabl 88 contr	362	344	71 cancer patient	16291 113 homeless	1075 112 patients	86 mothers 79 fathers 169 controls 87 mothers 82 fathers	589 477 3403 334 total	400 nurses 40 soc workers 1098 152 826	116 Al-V-support 93 without supp 166 controls 158 home health 55 nurses	664 647 375 total
70.54 women 65.57 men 66.30 women 45.34 45.52	67.72	66 50 women	75.10 76.50	50.45	68.70 66.00	67.30 69.20 68.70 69.10	71.16 ^g 66.90 ^a	70.03 73.80 59.75 59.90 79.30	60.30 62.90 67.10 65.06 70.18	63.90 mothers 63.40
9.72 10.30 9.93	8 57	12.05	13.20	14.34	13.80	12.00 ns 10.30 ns 11.80 ns 10.00 ns	21.20 0.47	10.05 8.91 10.80 14.00	17.40 15.50 13.10 12.80 11.79	13.40
		.87	8,85	.83	.87		.88	.68	.82	79
Juvonen-Posti P. 2002 ¹⁸⁰	Jonsson A. 2003 179	Johansson Hanse J. 1999 ¹⁷⁸	Jakobsson L 2002 ¹⁷⁷	Hood S.C. 1996 ¹⁷⁵ Ingram K. 1996 ¹⁷⁶	Hensing G. 2000 Hessén Söderman A-C. 2001, 2002, 173, 174		Guldvog B. 1999 ¹⁶⁸ Harri M. 1998 ¹⁶⁹ Hassmén P. 2000 ¹⁷⁰ Hedov G. 2002 ¹⁷¹	Giotakos O. 2003 ¹⁶⁵ Gottlicb A. 1998 ¹⁶⁶ Graham K. 1998 ¹⁶⁷	George V. 1996 ¹⁶⁴	Freire M.C. 2002 ¹⁶² Gana K. 2001 ⁵¹ Germano D 2001 ¹⁶³

Sweden	Sweden	Sweden			Sweden	Sweden	Finland	Australia	Lithuania	Sweden	Sweden				Sweden	Colombia			Sweden		Sweden			Sweden	Switzerland		Finland	Finland	Denmark	Sweden		Sweden	Sweden		Finland	Finland
Swedish battalion in Bosnia	General population	General population			Healthy individuals and patients	Nurses, patients and general population		Drivers	and James Classification	50-year-old men	Swedish women aged 40-50			ischaemia and healthy controls	Patients with chronic lower limb	Detained offenders			Uraemic patients and controls	reference group	Predialytic uremic patients and healthy			Patients with chronic renal failure	Accident victims		Municipal employees	Male industrial managers	grafting	Patients after coronary artery bypass		Patients with coronary heart disease	Patients attended cardiac rehabilitation		Employees	Employees
Swedish	Swedish	Swedish			Swedish	Swedish	Finnish	English	Lithuanian	Swedish	Swedish				Swedish	Spanish			Swedish		Swedish			Swedish	German		Finnish	Finnish	Danish	Swedish		Swedish	Swedish		Finnish	Finnish
510	1906	2003	19 cancer patients	38 kidney disease	268 controls	145	203	201	159	150	397	102 controls	93 claudicants	75 ischaemia	270 all	223	28		28	268 reference group	38 patients	23 dialysis	25 predialvere	48 all	323		2991	750	102			111	79	87 serious burnout	174 all	2144
65.31 65.13 poor mental	65.04 men 64.52	64.00	67.00	67.00	66.00	61.00			62.50	68 80		75.00	72.00	71.00			65.00 dialysis	71.00 dialysis	66.00 predialysis	65.70	66.80	71.40	66 00		66.30 ^f	64.09 ^f men	64.61 ^f women	67.99 ^t	66.00	65.00	66.00 ₁₂	69.50 _{t1}	62.40	53.17, 49.27, 2	67 00f 70 8 × f	63.96 ^t ₁₁ , 67.73 ^t ₁₂
10.64	10.39	11 26	12.00	11.00	12.00	9.00			0.90	0.90		10.50	13.60	13.80			10.00	12.00	13.00	12.00	11.20	13.60	0.5 0.1			1	1	1 1	14.00	13.00			12 60			_
.ss. 0 .S.	. % 22	.82	.79	.76	.86	.77									.87		.88		.82		.76			.76				.83	.75	.8488	.88	.84				.8487
Larsson G. 2000 ¹⁹⁸	Larsson G. 1999 ¹⁹⁷	Larsson G. 1996	102		Langius A. 1996°	Langius A. 199365		Lajunen T. 1998 ¹⁹⁵	THE COMPTION OF THE PARTY	Kristenson M 1998 194	Krantz G. 2000 ¹⁹³				Klevsgård R. 1999 ¹⁹²	Klevens J. 2000 191	5		Klang B. 1999 (50)	1400	Klang B. 1996 ¹⁸⁹		o	Klang B 1996 ¹⁸⁸	Kjaer Fuglsang A. 2002 187		Kivimäki M. 2002 186	Kivimäki M. 1998 ¹⁸³	104	Karlsson I. 2002 ⁶¹		Karlsson I. 2000 184	Kamwendo K. 1998 183		Kalimo R. 2003	Kalimo R. 2002 181

Australia					Sweden			Sweden		Sweden			Japan			Japan			USA	USA		Sweden	Sweden	Norway	Japan		Sweden	USA		USA	South Africa			USA	Sweden		
General population				disabilities and controls	Parents with children with intellectual			General population		General population			Civil servants			Civil servants			Women with IBS and healthy controls	Persons with CHD survived cardiac arrest	disorder and controls	Patients with peripheral vestibular	Unemployed with a somatic disorder	Male conscripts	Patients with Scleroderma	invasive home mechanical ventilation	Patients treated with noninvasice and	Employees		Older adults and controls	Psychiatric nurses			Chinese, Japanese and American adults	Patients		
English					Swedish			Swedish		Swedish			Japanese			Japanese			English	English		Swedish	Swedish	Norwegian	Japanese		Swedish	English		English	English	Chinese	Japanese	English	Swedish		
439 all 255 women	381	109	100	259	755			1254	1	1802	736 men	564 women	1300 all	897 men	698 women	1595 all	89 controls	235 IBS	324 all	149	268 controls	99 patients	109	663	50	60 NIV	31 trach	728	28 controls	30 adults	94	136 Chinese	323 Japanese	160 Americans	1056		
60.80	69.10 mothers 69.50 fathers	65.20 fathers	69.10 fathers	64.40 mothers	67.00	70 73 ₁₁ 68.70 ₁₂ men	70 92, 69 04 a women	70.83, 68.87,	70 50 men	70.80 women	54.70	53.10		54.70	52.80		67.36	61.58		69.21	66.00	71.00	57.00	59.50	67.70	66.80	70.70	62.50	75.30	75.43	60.61					70.04 no poor mental health	health
11.70 12.05	10.80	12.00	11.90	14.50	13.00			3	9 90	10.40	10.40	10.20		10.40	10.20		12.33	13.00		12.95	12.00	12.00		11.60	13.40	13.80	15.50	12.56	9.53	8.55	12.40					8.91	
.84	.8287	.0007	86 87	.7885									.83			.83				.87		.85						.79		.74	75	.75°, .78°, .78	.85°, .77°, .86	.82°, .84°, .85	.84		
Pallant J. 2002 ²¹⁴					Olsson M.B. 2002 ²¹⁵			Nilsson B. 2003 ²¹²		Nilsson B. 2000 ⁸⁴			Nasermoaddeli A 2003 ²¹¹			Nasermoaddeli A. 2002 ²¹⁰			Motzer Adams S. 2003 19	Motzer S. 1996 ²⁰⁹	300	Mendel B. 2001 ²⁰⁸	Melin R. 2003 ²⁰⁷	Mehlum L. 1998 ²⁰⁰	Matsuura E. 2002 ²⁰³	304	Markström A. 2002 ²⁰⁴	Mackie K.S. 2001 ²⁰³		Lutgendorf S.K. 1999 ²⁰²	Levert T. 2000 ²⁰¹				Larsson Wilde B. 1999199		

Canada		USA	Sweden			Israel		Israel		Norway		Canada	USA	Sweden					Switzerland	Finland	Israel	Finland	Finland			Sweden		Israel			Israel		Sweden	USA	USA	Sweden	
Population aged 18 and older		Older people	Unemployed people		(IBS)	Patients with irritable bowel syndrome	Soviet Union	Mothers/immigrants from the former		Patients with severe multiple trauma		Canadian labour force	Later life family units	Patients with chronic pain		patients with RA			Accident victims and	Older population > 75 years old	Female students	Adult patients	Adult patients			Patients with type-2 diabetes		Israeli Jewish adolescents			School children and their parents	epilepsy and controls	Adolescents and young adults with	High school students	Outpatients with solid tumors	Survivors of acute leukemia and highly	
English		English	Swedish			Hebrew		Russian		Norwegian		English	English	Swedish				German	English	Finnish	Hebrew	Finnish	Finnish			Swedish		Hebrew			Hebrew		Swedish	English	English	Swedish	
19818	50 controls	414	1249	72 controls	79 IBS	151 all	241 couple	221 single		26		6790	184	84		60			96	300	54	85	80			88	448 without a s	266 acute stress	91 Galilee	107 Golan	201	282 controls	158 epilepsy	338	38	54	184 men
	72.60	77.60	55.19 women	65.70	59.60		63.40	60.60	65.00° E	63.00'11	57.65" ₁₁ 61.70" ₁₂ women 59.08 ^h ₁₁ 62.27 ^h ₁₂ men	58.43 ^h 11 62.01 ^h 22		58.00	68.89 _C	66.87 _{t1}	65.90 _{ts}	65.330	68.22 _{t1}	65.00	61.26	64.60	65.00	73.90 men	71.00 women	72.60	58.11 ^f	56.16 ^f	54.92	55.32		63.73	64.05		63.00-66.50		61.37
	13.60	13.80	14.26	1.20	1.10		12.30	12.50			12.00 10.92			14.00	13,47	11.59	12.66	11.87	11.57		8.96	14.20	15.00	12.10	11.70	11.90		_ h	10.11	9.30		12.07	13.15				11.23
	.78	.77						.77		.8689		.83	.78	.80						.78	.75	.92	.90				. 73	.74			.74		.83	.84			
Stephens T. 1999 ^{2,54}		Steiner A. 1996 ²³³	Starrin B. 2001	717		Sperber A. 1999 ²³¹		Soskolne V. 2001 ²³⁰		Snekkevik H. 2003	220	Smith P. 2003 ²²⁸	Smith S.D. 1997 ²²⁷	Schult M-L. 2000 ²²⁶					Schnyder U. 2000 ¹¹⁰	Sarvimäki A. 1994 ²²⁵	Sarid O. 2003 ²²⁴	Santavirta N. 1996 ²²³	Santavirta N. 1996 ²²²			Sandén-Eriksson B. 2000 ²²¹		Sagy S. 2002 ²²⁰			Sagy S. 1998 ²¹⁹		Räty L. 2003 ²¹⁸	Ryland E.K. 1998 ²¹⁷	Post-White J. 1998 ²¹⁶	Persson L. 1997 ²¹²	214

Hong Kong	Canada		Finland	Sverige	Australia	Australia	Norway			Greece	Norway	Finland		USA			Finland		Sweden	Norway						Finland	South Africa
Critical care nurses	General population		Physicians and architects	Cancer patients	Retired individuals	Older people	Patients			Nurses	Students	Industrial design personnel		Chinese bilingual students			Elderly people	insurance agencies	Employees of social-welfare and social-	Patients with Gallbladder Stones disease						General population	Working adults
Chinese	English		Finnish	Swedish	English	English	Norwegian			Greek	Norwegian	Finnish	Chinese	English			Finnish		Swedish	Norwegian						Finnish	English
35	17626	638 physians	189 architects	20	363	556	5305	62 female	17 male	79 all	4731	422		70	299	182	78		103	28	171 poor health	688 fairly poor h	3185 mediocre h	7802 fairly good h	9151 good health	20101 total	152
	59.00	62.60-67.50	61.40-62.50	67.00		70.47	67.00	62.63	67.10	63.60		64.87 ^f	60.70	60.90	69.90-71.90		67.70-69.10	67.00 men	66.00 women	46.10	52.92	56.34	59.84	62.91	67.08		60.02
	12.00	9.20- 9.90	9.90-11.30	11.90		14.54	13.00	11.56	12.00	11.70		-	10.70	10.80	9.45-10.13		10.42-11.35			19.80							12.15
.79	.83			.79								.83	.89	.88	.79		.70										.84
Yam B. 2003 ²⁵⁰	Wolff A C. 1999 ²⁴⁹	***	Virtanen P. 2001 ²⁴⁸	Wettergren L. 1997 ²⁴⁷	Wells Y.D. 1999 ²⁴⁶	Wells Y.D. 1997 ²⁴⁵	Veenstra M. 2002 ²⁴⁴			Tselebis A. 2001 243	Torsheim T. 2001 ²⁴²	Toppinen-Tanner S. 2003-41		Tang S.T. 2002 ²⁴⁰			Takkinen S. 2001 ²³⁹		Söderfeldt M. 2000 ²⁵⁸	Svebak S. 2000-257						Suominen S. 2002 ²³⁶	Strümpfer D. 2001 ²³⁵

completed information by personal communication with the author, $^{1)}$ median, $^{1)}$ SD cannot be corrected, t = time

Table 4. Statistical data from studies using modified versions of the SOC questionnaire published 1992-2003.

Norway	Sweden	Denmark	Country
Substance abusers	Healthy middle-aged women	Employees	Sample
Norwegian	Swedish	Danish	Language
9	دی	9	Items
3-5-point Likert	3 choices	3 choices	Scales
60	4821	2053	Z
2.58 all		80.99	Mean
0.60		13.23	SD
		.77	Q
Andersen S. 2001 ²⁵³	Agardh E. 2003 ²⁵²	Albertsen K. 2001 ²⁵¹	First author

NSU	Sweden	Norway Sweden Iceland Sweden	Denmark Finland	Sweden	New Zealand Sweden	Iceland USA	Norway Sweden Denmark Norway	Norway Norway	Finland Denmark Sweden
Families with subjects diagnosed with a serious illness	Patients with chronic pain	Older patients with chronic pain Patients who had undergone elective surgery and controls	Children aged 2-17 years	disaster Nursing staff	Cambodians Survivors of the m/s Estonia	Students	Drug addicts Schoolchildren aged 7-12 years and their parents	Drug addicts Drug addicts	Adolescent girls Older adults /74/75 and 80 years) Immigrants/refugees Swedes
English	Swedish	Norwegian Swedish Icelandic Swedish	Danish Finnish	Swedish	Cambodian Swedish	Icelandic English	Norwegian Swedish Danish Norwegian	Polish Norwegian Norwegian	Finnish Danish Farsi Spanish Turkish
26 FSOC	10 The Future	9 9	w	9	coherence) 9 12	9 SOSC (sense	3 9	9	ယ ယ ယ
7-point Likert	7-point Likert	3-point Likert 5-point Likert	6-point scale	3-point Likert	4-point Likert 7-point Likert	3-point Likert	(de Wolfe) 3 choices	(de Wolfe) (de Wolfe)	7-point Likert 3 choices 5-point Likert
78	660	42 100	81 96 9524	177	223 53	665	Abusers 60 10317 803	20 All 61 Completers 43	825 1396 1980 3001
124.56		1.87-2.32	2.79-2.76 2.68-2.65		62.40	19.80	2.58	2.34	2.44 women 2.71 men
25.64		0 33-0.42	030-031		13.00	3.41	0.60	0.70	0.60
.75	.81	.73	.69	.60-	.82	.66			.61
Hoehn Anderson K. 1998 ²⁷⁰	Hellström C 1999 ²⁶⁹	Hall-Lord M-L. 1999 ²⁶⁷ Hall-Lord M-L. 1999 ²⁶⁸	Groholt E-K. 2003 ²⁶⁶	Forsgärde M. 2000 ²⁶⁵	Cheung P. 1995 ²⁶³ Eriksson N-G. 1996 ²⁶⁴	Bowen G. 1998 ²	Berg J.E. 1997 ²⁶⁰ Berntsson L. 2000 ²⁶¹	Berg J.E. 1996 ²⁵⁷ Berg J.E. 1996, 2001 ^{258, 259}	Anttila T. 2000 ²⁵⁴ Avlund K. 2003 ²⁵⁵ Bayard-Burfield L. 2001 ²⁵⁶

USA	QT96	Israel	Sweden	Sweden	Sweden	Sweden		Japan Finland	Finland	Finland	Finland	Finland	,	Norway	Sweden	Norway	Canada
Older adults	Preschool children	Children with learning disorders Children with learning difficulties	General population	General population	White-collar workers	Elderly patients		Japanese population Finnish polytechnic students	Finnish population	Municipal female employees	Municipal employees and male	Government employees		13-15 year-aped schoolchildren	Older patients	Persons with CP and without	Women aged 20-64 years
English	Lohrov	Hebrew	Swedish	Swedish	Swedish	Swedish		Japanese Finnish	Finnish,Swedish	Finnish	Finnish	Finnish	Q	Norwegian	Swedish	Norwegian	English
children 9	children	16+3	· ()	رى ر	9	9		28	12	6	6	9		,	9	Ų	SOC-13
5-point Likert	1 point likes	4-point Likert	3 choices	3 choices	5-point Likert	3-point Likert		7-point Likert	5-point Likert	7-point Likert	7-point Likert			5 choiches	3 choiches	3-point Likert	7-point Likert
	94 65 71	238 all 130 boys 108 girls 230	4390	3949	1140	53	93 health c 128 business 66 techn	741 287 all	647	433	577	763	Grade 8 256 Grade 9 256 Grade 10 273	Group I 25 Group 2 17 Group 3 8 All 785	All 53	406	6748
49.45 52.74 47.77 36.00	48.62 50.03 50.94	49.58 47.83	1.51			2.16-2.15	5.13 _n 5.11 _e 5.28 _e	9.60 5.04 _{bl}	10.50	5.09	5.14 _{t1}	47.27 men 46.12 women	10.77 _{th} , 10.74 _{t2} 10.53 _{th} , 10.54 _{t2} 10.44 _{th} , 10.39 _{t2}	2.27 1.99 2.08	1.51	2.01	57.70
5.48 5.46 5.90 4.40	6.28 6.54 4.83	5.37 5.96				0.35-0.36	0.57 _L 0.53 _C	1.34 0.61 _{bl}	1.74	0.81		7.26 7.32		0.30 0.37 0.31			
.77	i	73			.89	.74-		.88	.83	.76	.761				.74		.83
Midanik L.T. 1992 ²⁸⁸	Margalit NA 1000 ²⁸⁷	Margalit M. 1995*** Margalit M. 1995***	Lundberg (), 1995 ²⁸⁴	Lundberg O. 1994 ²⁸³	Larsson G. 1994 ²⁸¹	Larsson G. 1995 ²⁸⁰		Kuuppelomäki, M. 2003 ²⁷⁹	Kroll Ch. 1998 ²⁷⁸	Kivimäki M. 2002 ²⁷⁷	Kivimäki M. 2000 ²⁷⁶	Kivimäki M. 1997 ²⁷⁵		lohnsen M. 2001 ²⁷⁴	Johansson I. 1994 ²⁷³	Jahnsen R. 2002 ²⁷²	Ing J. 2003 ²⁷¹

Netherlands	Germany	Germany	Germany	Israel	Israel	Israel	USA Israel	NSU	USA		Finland	USA	Israel
Older adults	General population	General population	General population	Israeli Jewish adolescents	Schoolchildren 8 th grade	School children and their parents	Women at risk for HIV infection Retirees and their spouses	Black homeless women	Homeless drug-abusing minority		General population	Students at risk of school failure	Preschool children at risk for developing learning disabilities
Dutch	German	German	German	Hebrew	Hebrew	Hebrew	English Hebrew	English	English		Finnish	English	Hebrew
Π	3 BASOC	ω	29	12 family	12 family	12 family	13 26 family	13	13		sense of school coherence	9	16+3 childen
4 choices	5-point Likert	3 choices	5-point Likert	7-point Likert	7-point Likert	7-point Likert	5-point Likert 7-point Likert	5-point Likert	5-point Likert		4 choices	3-point Likert	4-point Likert
90	3515	3515		266 448	total 226 MC 81 NMC 145	201 107 91	535 214	All 460 High risk 299 Moderate 63 Low 98	581		1861	59 nondisabled 4772	98 all 39 high-risk
12.69 men 35.65 women	12.55 all 12.41 women	4.61 all 4.58 women	113.20 112.47 women	4.49	4.34	57.68 59.24	3.02 151.02	2.97 3.16 3.36	21.07 unemploy 3.02	22.25 women 23.08 employed 21.37 unemploy 22.18 men 23.30 employed	22.20	53.83 1.23	35.60women 36.30men 50.62
5.21	2.13	15.05 1.17 1.14	15.07 15.07	0.84	0.72 0.70	10.00	0.67 18.17	0.66 0.16 0.70	0.36	0.18 0.13 0.34 0.19	0.13	5.07 0.37	4.50 4.30 8.51
.77	71	.45	.91	.74	.76	.81	.88	.76	.76		.72	.65	.72
Smits C. 1995 ²⁹⁷	Schumann A. 2003 ²⁹⁶	Schumann A. 2003 ²⁹⁶	Schumann A. 2003 ²⁹⁶	Sagy S. 2002 ²²⁰	Sagy S. 2001 ²⁹⁵	Sagy S. 1998 ²¹⁹	Nyamathi A. 1993 ⁻⁷⁴ Sagy S. 1992 ¹⁰²	Nyamathi A. 1992 ²⁹³	Nyamathi A. 1992 ²⁹²		Niemelä M. 2002 ²⁹¹	Nash J. 2002 ²⁹⁰	Most T. 2000 ²⁸⁹

									20	22	
	Municipal employees	General population	General population		15-64	General population aged		Foreign-born immigrants	Male farm workers	Male supervisors	
	Finnish	English	Finnish		Swedish	Finnish	Turkish, Polish	Farsi, Spanish,	Afrikaans	Afrikaans	
	9	دپ	16	16		16		w	13	13	
	4 choices	3 choices	4 choices	4-point Likert		4 choices		5 choices	5-point Likert	5-point Likert	
624 232	856	20579	1976	3115		3115		1980	149	79	
46.30		1.84		9.52	9.55men	9.50women			40.90	46.80	36.20 men
7.30 7.30		1.15		1.14	1.17	1.20			6.14	7.90	4.98
	.80	.35		84					.68	.68	
	Vahtera J. 1996 ³⁰⁵	Surtees P. 2003 ³⁰⁴	Suominen S. 2001303	Suominen S. 1999 ³⁰²		Suominen S. 1993 ³⁰¹	201	Sundquist J. 2000 ³⁰⁰	Strumpfer D.JW. 1997 ²⁹⁹	Strümpfer D. 1997 ²⁹⁸	2

South Africa South Africa Sweden

Finland

t = time

USA Finland

Children with asthma and their parents
Working people

English Finnish

16 children 28

4-point Likert

232

Vinson J.A 2002306 Vuori J. 1994³⁰⁷

Finland United Kingdom Finland

Table 5. Correlation of SOC with measures serving as tests of criterion validity from studies published 1992-2003.

Instruments measuring health

Measure/Variable Sample N Coeff First author

Wieasure/ Variable	Sample	13	Coen	First autilor
Brief Psychiatric Rating Scale (BPRS)	Schizophrenic patients	120	44 _S	Bengtsson-Tops A. 2000 ⁸
British Isles Lupus Assessment Group Disease Activity Index (BILAG)	Patients with SLE	60	07 ns	Büchi S. 2000 ¹⁴⁶
General Health Questionnaire (GHQ)	College students	52	39	Amirkhan J.H 2003 ¹
General Health Questionnaire (GHQ)	Students	95	32	Gibson L. 1996 ³⁰⁸
General Health Questionnaire (GHQ)	General population	439	50	Pallant J. 2002 ²¹⁴
General Health Questionnaire (GHQ)	Psychiatric outpatients and community controls	441	66 _P	Sammallahti P. 1996 ¹⁰⁵
General Health Questionnaire (GHQ)	Patients with severe multiple trauma	26	.33 _{t1} ns 71 _{t2} 62 _{t3}	Snekkevik H. 2003 ²²⁹
Gieβener Beschwerdebogen (GBB)	Adolescents aged 16-20 years	341	54 _P	Buddeberg-Fisher B. 2001 ¹⁴⁵
Health Assessment Questionnaire (HAQ)	Patients with rheumatoid arthritis (RA)	89	.19 ns	Büchi S. 1998 ¹⁹
Health Assessment Questionnaire (HAQ)	Patients with RA and traffic accident victims	89 112	19 ns	Schnyder U. 1999 ¹⁰⁹
Health Assessment Questionnaire (HAQ – modified) Global Health Status Scale	Patients with rheumatoid arthritis (RA)	828	27 ^a 25 ^b 37 ^c 34 ^d	Callahan L. 1995 ²⁰
Health Index (HI)	HIV-infected patients and controls	514	.66 _P c .46 _P d	Cederfjäll C. 2001 ²⁹
Health Index (HI)	Patients with cancer	79	$.32_{\rm S}$	Forsberg C. 1996 ¹⁶⁰
Health Index (HI)	Predialytic uremic patients and healthy reference group	38 268	44 _S	Klang B. 1996 ¹⁸⁹
Health Sickness Rating Scale (HSRS)	Middle-aged physiatric high-risk subjects	148	.51 _P	Cederblad M. 1996 ³⁰⁹
Health Utility Index Score	Healthy subjects	16291	.31p	Hood S.C. 1996 ¹⁷⁵
HIV Symptom Scale	HIV-infected patients and controls		42_{P}^{c} 34_{P}^{d}	Cederfjäll C. 2001 ²⁹
Hopkin's Symptom Checklist	Patients and controls	59 276	75	Friborg O. 2003 ⁴⁸
Hopkin's Symptom Checklist	Homeless women and low- income housed women	116	62	Ingram K. 1996 ¹⁷⁶
Leddy Healthiness Scale - power - purpose - connections	Adult volunteers	125	.70 .64 .60 .53	Leddy S. 1996 ³¹⁰
Mental Health Inventory (MHI)	Divorced Muslim Arabs	306	.55 _P	Cohen O. 2003 ³⁵
Mental Health Inventory (MHI)	Women with disabilities	88		Dangoor N. 1994 ³⁷
Mental Health Inventory (MHI)	Students	202	.58	Ebert S. 2002 ⁴²
Mental Health Inventory (MHI)	Israeli Jewish women with physical disabilities and	94 94	.81	Florian V. 1994 ⁴⁶

Schumann A. 2003²⁹⁶

Atroshi I. 2002²

3515 .51-.65

112 -.58

 $-.29_{P}$

-.41p

.22

268

81

105

112

Hessén Söderman A-C. 2001¹⁷³

Bowman B.J. 1996¹⁷

Hessén Söderman A-

189

	musculoskeletal pain			
- bodily pain			$.13_{P}$	
- mental health			$.47_{P}$	42
MOS Short Form 36 (SF-36)	Students	202		Ebert S. 2002 ⁴²
- global health			.51	100
MOS Short Form 36 (SF-36):	Patients with RA and	89	.20 ns	Schnyder U. 1999 ¹⁰⁹
Physical Component Scale (PCS)	traffic accident victims	112		
MOS Short Form 36 (SF-36):	Patients with SLE	60		Büchi S. 2000 ¹⁴⁶
Physical Component Scale (PCS)			.22 ns	
Mental Component Scale (MCS)			.64 _P	
MOS Short Form 12 (SF-12):	Patients with Menier's	112		Hessén Söderman
Physical Component Scale (PCS)	disease and healthy	268		A-C. 2002 ¹⁷⁴
Mental Component Scale (MCS)	controls		54 _P	222
Oswestry low-back Questionnaire	Adult patients		23 _S	Santavirta N. 1996 ²²²
Oswestry low-back Questionnaire	Adult patients		34_{S}	Santavirta N. 1996 ²²³
Pain Scale	Patients with rheumatoid	828	26ª	Callahan L. 1995 ²⁰
	arthritis		25 ^b	
Pain VAS	Patients with rheumatoid arthritis	89	35 _P	Büchi S. 1998 ¹⁹
Pennebaker Inventory of Limbic Languidness (PILL)	Students	202	31	Ebert S. 2002 ⁴²
Rheumatoid Arthritis Disease	Patients with rheumatoid	89	33_{P}	Büchi S. 199819
Activity Index (RADAI)	arthritis			
Self-Illness Separation (SIS)	Patients with SLE	60	.39 _P	Büchi S. 2000 ¹⁴⁶
Self-perceived health	Healthy subjects	16291	.21 _P	Hood S.C. 1996 ¹⁷⁵
Self Report Symptom Check List (SCL)	Adolescents aged 16-20	341	61 _P	Buddeberg-Fisher B. 2001 ¹⁴⁵
Sickness Impact Profile (SIP)	Swedish patients with EDS	77	32	Berglund B. 20039
- physical dimension	500 NO. 100 NO		10 ns	
- psychosocial dimension			46	
Sickness Impact Profile (SIP)	Older males	199	50	Brooks J.D. 1998 ¹⁴⁴
Sickness Impact Profile (SIP)	Cancer patients	25	64 _S	Edman L. 2001 ³¹¹
Sickness Impact Profile (SIP)	Swedish urban population	145	29 _S ^a 30 _S ^b	Langius A. 1993 ⁶⁵
Scale of Psychological Distress	Female students	54	35 _P	Sarid O. 2003 ²²⁴
Symptom Checklist (SCL-90)	Middle-aged physiatric	148		Cederblad M. 1996 ³⁰⁹
	high-risk subjects			
Symptom Checklist (SCL-90)	Traffic accident victims	51	54 _P	Frommberger U.
		10000	66 _P	1999 ⁴⁹
Symptom Checklist (SCL-90)	Psychiatric outpatients and community controls	441	83 _P	Sammallahti P. 1996, 1997 ^{105, 312}
Symptom Checklist (24 items)	Drug addicts	20	74	Berg J.E. 1996 ²⁵⁷
- physical symptoms	C .			
Symptom Checklist-90-R	Women with IBS and	324		Motzer Adams S.
- global severity index	healthy controls		64 _P	2003 ⁷⁹
- somatization	~		31 _P	
Symptom Checklist-90-R	Homeless drug-abusing	581	46 _P	Nyamathi A. 1992 ²⁹²
- somatization	minority women			
Systemic Lupus International	Patients with SLE	60	.12 ns	Büchi S. 2000 ¹⁴⁶
Collaborating Clinic/American				
Callaga of Phaymatalagu				

Patients with Méniére's

Patients with Ménière's

Native and Anglo

disease

Americans

controls

Patients with

General population

musculoskeletal nain

Mental Health Inventory (MHI-5)

MOS Short Form 36 (SF-36)

College of Rheumatology (SLICC/ACR) Damage Score

Wahler Physical Symptom

Inventory (WPS)/

(TSQ)

Tinnitus Severity Questionnaire

Vertigo Symptom Scale (VSS)

disease 268 C. 2001¹⁷³

a) SOC-29 b) SOC-13 c) male d) female ns = not significant r_S = Spearman's rank correlation coefficient r_P = Pearson's product moment correlation coefficient t = time

Instruments measuring generalised perceptions of self and environment

Variable/Measure	Sample	N	Coeff r	First author
Anger Anger Arousal Scale	Patients with CHD	164	37°	Kravets S. 1993 ⁶³
Aliger Albusai Scale	rationts with CTH5	104	37	Klavets 5, 1995
Anxiety Adult Attachment Scale (AAS)	Woman with parinatal	109		Uren T.H. 2002 ¹²⁵
- anxiety	Women with perinatal bereavement	109	44	
Anxiety Scale	Adults with HIV		42	Linn J.G. 1995 ³¹³
Arthritis Impact Measurement Scale (AIMS)	Patients with rheumatic disorders	1333	- 63 _P	Hawley D. 1992 ⁵⁵
Beck Anxiety Inventory (BAI)	Sawmill workers	51	43e	Edwards D. 2001 ¹⁵³
Costello-Comrey Depression and Anxiety Scale (CCDAS) - anxiety	College students	133	45 _P	Bigler M. 2001 ¹⁰
Florida Health and Family Life Instrument	Southeast Asian refugees	2234		Ying Y-W. 1997 ³¹⁴
- anxiety	Adult family members	156	29 29	0 1 11 124 200228
Hopkin's Symptom Checklist - anxiety	Adult family members	430	29	Cederblad M. 2003 ²⁸
Hospital Anxiety and Depression Scale (HADS)	Patients with RA		55 _P	Büchi S. 1998 ¹⁹
Hospital Anxiety and Depression Scale (HADS)	French adults	647	52 ^a 44 ^b	Gana K. 2001 ⁵¹
Hospital Anxiety and Depression Scale (HADS)	French adults	193	51	Gana K. 2001 ³¹⁵
Hospital Anxiety and Depression Scale (HADS)	Patients with Menier's disease and healthy controls	112 268	67 _P	Hessén Söderman A-C. 2002 ¹⁷⁴
Hospital Anxiety and Depression Scale (HADS)			2861 6373	Schnyder U. 2000 ¹¹⁰
Hospital Anxiety and Depression Scale (HADS)	Patients with severe multiple trauma		75 _{S 12} 82 _{S 13}	Snekkevik H. 2003 ²²⁹
Hospital Anxiety and Depression Scale (HADS)	Cancer patients	20	Ns	Wettergren L. 1997 ²⁴⁷
Karolinska Scales of Personality	Obese patients	33		Björvell H. 1994 ¹²
 somatic anxiety muscular tension psychic anxiety psychasthenia 			57 _P 46 _P 83 _P 59 _P	
Karolinska Scales of Personality - somatic anxiety - psychological anxiety	Healthy nurses and patients (overweight, cancer)	80	57 62 4783	Langius A. 1996 ⁶⁷
Sixteen Personality Factor Questionnaire (16PF) - anxiety	Undergraduates	100	52	Mlonzi EN. 1998 ³¹⁶
State Anxiety Questionnaire	Female students	54	70 _P	Sarid O. 2003 ²²⁴
State-Trait Anxiety Inventory (STAI)	Students	193	68	Kaiser C. 1996 ⁵⁹
State-Trait Anxiety Inventory (STAI)	Predialytic uremic patients and healthy reference group	38 268	64 _S	Klang B. 1996 ¹⁸⁹
State-Trait Anxiety Inventory (STAI)	Patients with CHD		53e	Kravets S. 1993 ⁶³
State-Trait Anxiety Inventory (STAI-Form Y-2)	Nursing students	132	7075	Nintachan P 2000 ⁸⁵
State-Trait Anxiety Inventory (STAI)	Handicapped and their spouses	152	82°	Rena F. 1998 ⁹⁸
State-Trait Anxiety Inventory (STAI)	Patients with irritable bowel syndrome and controls	151	60 _P	Sperber A. 1999 ²³¹

				22
Symptom-Checklist-90-R	Women with IBS and healthy	324	53 _P	Motzer Adams S.
- anxiety Taylor Manifest Anxiety Scale	controls Adult college students	105	50	2003 ⁷⁹ Flannery R.B. 1994 ³¹⁷
(TMAS) Well-being Scale: anxiety	HIV-patients and controls	514	71 _P c	Cederíjäll C. 2001 ²⁹
Trier Personality Questionnaire	General population		67 _P ^d .7679	Schumann A. 2003 ²⁹⁶
- mental health	7			
Attachment The Adult Attachment Scale (AAS)	Women with perinatal	109		Uren T.H. 2002 ¹²⁵
- closeness	bereavement		.49 37	
- search for meaning - degree of meaning			.27	
Attributional style	7	51		F
IPC Scale - internal control	Traffic accident victims	51	.22 ns	Frommberger U. 1999 ⁴⁹
- powerful others control - chance control			36 _P	
Burnout				
The Maslach Burnout Inventory (MBI)	Social workers	78	10	Baker M. 1997 ¹⁴²
 emotional exhaustion depersonalisation 			48 25	
- personal achievement	Social workers	81	36	Gilbar O. 1998 ³¹⁸
The Maslach Burnout Inventory (MBI) - emotional exhaustion	Social workers	81	30	Gilbar O. 1998
- depersonalisation			20 ns 34	
- personal accomplishment The Maslach Burnout Inventory (MBI)	Dialysis nurses	238	34	Lewis S. 1992 ⁶⁹
- emotional exhaustion - depersonalisation			57 _P 54 _P	
- personal achievement			.53 _P	/217
The Maslach Burnout Inventory (MBI) - sentimental exhaustion	Nurses	79	55	Tselebis A. 2001 ²⁴³
- depersonalisation			[45] 2	
- personal achievement	71	120	.44	88
The Compassion Satisfaction/Fatigue Test	Counsellors	130		Ortlepp K. 2002 ⁸⁸
- burnout The Burnout Measure	District nurses	2.2	59 69	Pålsson M-B. 1996 ⁹⁴
	District nurses	55	07	Paisson W-B. 1996
Compassion/Empathy The Compassion Satisfaction/Fatigue	Counsellors	130		Ortlepp K. 200288
Test - compassion fatigue			.51	
- compassion satisfaction			56	0.4
The Empathy Construct Rating Scale	District nurses	33	.76	Pålsson M-B. 1996 ⁹⁴
Contentment General Contentment Scale (GCS)	College students	133	.84	Bigler M. 2001 ¹⁰
Demoralisation				
PERI Demoralisation Scale	Adolescents and youths aged		75 _P	Höfer R. 1997 ³¹⁹
	12-24 years and reference group	60 1033		
PERI Demoralisation Scale	Mothers/immigrants		62	Soskolne V. 2001 ²³⁰
Depression				
Allgemaine Depression Skala (ADS)	Adolescents	341	56	Buddeberg-Fischer B. 2001 ¹⁴⁵
Arthritis Impact Measurement Scale (AIMS)	Patients with rheumatic disorders	1333	69 _P	Hawley D. 1992 ⁵⁵
	Native Americans		49	Bowman B.J. 1996 ¹⁷

	Anglo Americans	105	66	
Beck Depression Inventory (BDI)	Patients with major depressive		71-	Carstens J. 1997 ²¹
	disorder and controls	50	66	
Beck Depression Inventory (BDI)	Patients with acute myocardial infarction	290	53 _P	Drory Y. 1999 ³²⁰
Beck Depression Inventory (BDI)	Sawmill workers	51	58	Edwards D. 2001 ¹⁵³
Beck Depression Inventory (BDI)	Adult college students	105	47	Flannery R.B. 1994317
Beck Depression Inventory (BDI-Child)	Homeless substance- Abusers with children	72	51	Flick L.M. 1998 ⁴⁵
Beck Depression Inventory (BDI)	Students	193	57	Kaiser C. 1996 ⁵⁹
Beck Depression Inventory (BDI)	Juvenile delinquents		45	Koposov RA. 2003 ⁶²
Beck Depression Inventory (BDI)	Patients with CHD	164	53	Kravetz S. 1993 ⁶³
Beck Depression Inventory (BDI)	Patients with Scleroderma		64	Matsuura E. 2003 ²⁰⁵
Beck Depression Inventory (BDI)	Female toxicological		56	Polewka A. 2001 ⁹¹
Beck Depression Inventory (BDI)	inpatients Nurses	79	58	Tselebis A. 2001 ²⁴³
Center for Epidemiological	College students		69	Amirkhan J.H. 2003
Studies – depression (CES-D) Center for Epidemiological	Adults with HIV		47	Linn J.G. 1995 ³¹³
Studies – depression (CES-D)				
Costello-Comrey Depression and Anxiety Scale (CCDAS) - depression	College students	133	- 90 _P	Bigler M. 2001 ¹⁰
Florida Health and Family Life Instrument	Southeast Asian refugees	2234		Ying Y-W. 1997 ³¹⁴
- depression			.34	
- psychological dysfunction	Cample to desired	150	.28	D. 1. 1. 200.91
Hamilton Depression Rating Scale (HDRS)	Female toxicological inpatients		38	Polewka A. 2001 ⁹¹
Hopkin's Symptom Checklist - depression	Adult family members	456	44	Cederblad M. 2003 ²⁸
Hospital Anxiety and depression	Patients with RA and	89	55	Schnyder U. 1999 ¹⁰⁹
Scale (HADS)	traffic accident victims	112		
Hospital Anxiety and depression Scale (HADS	Patients with severe multiple trauma	26	50_{S12} 62_{S13}	Snekkevik H. 2003 ²²⁹
Hospital Anxiety and depression Scale (HADS)	French adults	647	49 38	Gana K. 2001 ⁵¹
Hospital Anxiety and depression Scale (HADS)	Patients with Menier's disease and healthy controls	112 268	64 _P	Hessén Söderman A-C. 2002 ¹⁷⁴
Hospital Anxiety and depression	Accident victims and patients		4960	Schnyder U. 2000 ¹¹⁰
Scale (HADS)	with RA		5455	
Multiscore Depression Inventory	Students		74	Kaiser C. 1996 ⁵⁹
Profile of Mood States (POMS)	Homeless drug-abusing minority women	581	63 _P	Nyamathi A. 1992 ²⁹²
Profile of Mood States (POMS)	Women at risk for HIV infection	535	56 _p	Nyamathi A 1993 ²⁹⁴
State-Trait Personality Inventory	Native Americans		43	Bowman B.J. 1996 ¹⁷
(STAI-T)	Anglo Americans		64	
Symptom Checklist-90-R - depression	Women with IBS and healthy controls	324	64 _P	Motzer Adams S. 2003 ⁷⁹
Tedium Measure	Diabetic persons	20	69	Lundman B. 1993 ³²¹
- physical exhaustion (feeling tired) - emotional exhaustion (depressed)				
- mental exhaustion(feeling worthless) The Zung self-rating Scale - depressive mood	Elderly people	58	42p	Rennemark M. 1999 ³²²
Well-being Scale: depression	HIV-patients and controls	514	64 ^a 47 ^b	Cederfjäll C. 2001 ²⁹
Hardiness	Book Programmer Laboratory		72	¥1
Health-Related Hardiness Scale	Post-liver transplant recipients		.46 _P	Newton S. 1999 ⁸³
Personal Views Survey	Students		.43	Smith T.L. 1997 ¹¹⁴
Third Generation Hardiness Scale	Patients with CHD	164		Kravets S 1993 ⁶³
- commitment - challenge			.48	
			250.4	

- control			.45	
Hope/Hopelessness Beck Hopelessness Scale	University undergraduates	298	52ª	Edwards M.J. 2001 ⁴³
		7.00	65 ^b	
Herth Hope Index (HHI)	Elderly people	152		Coward D.D. 1996 ¹⁵¹
Herth Hope Index (HHI)	African American breast	162	.54 _s	Gibson L. 2003 ³²³
Rheumatology Attitude Index (RAI) - helplessness	cancer survivors Patients with Scleroderma	50	35	Matsuura E. 2003 ²⁰⁵
Locus of Control				
Internal Control Index	Students	336	.57	Smith T.L. 1997 ¹¹⁴
Locus of Control (LOC)	Occupational therapy students	71		Bränholm I-B. 1998 ¹⁸
Locus of Control (LOC)	and controls Middle-aged subjects at high- risk for psychiatric disturbances	148	31 .44 _P	Cederblad M. 1996 ²³ Dahlin L. 1993 ²⁶
Locus of Control (LOC)	Adult college students	105	48	Flannery R.B. 1994 ³¹⁷
Locus of Control (LOC)	Patients with CHD	164	.26	Kravets S. 1993 ⁶³
Locus of Control (LOC)	Male office workers	125		Nakamura M. 200180
- chance			.34	
Rosenbaum's Self-Control Schedule	Nursing students	95	.13 ns	Thorell-Ekstrand I. 1993 ¹²⁴
Spheres of Control Battery – LOC	College students	52	.52	Amirkhan J.H 2003 ¹ .
Mastery Mastery Orientation Inventory	Middle-aged subjects at high- risk for psychiatric	148	.59	Cederblad M. 1996 ²³ ,
	disturbances			Dahlin L. 1993 ²⁶
Mastery Orientation Inventory	Students	336	.58	Smith T.L. 1997 ¹¹⁴
Mastery Scale	General population	439		Pallant J. 2002 ²¹⁴
Mastery Scale	Older adults		31	Smits C. 1995 ²⁹⁷
Mastery Scale	General population	20579	50	Surtees P. 2003304
Optimism				
Life Orientation Test	College students	112	.59	Adams T.B. 2000 ¹³⁴
Life Orientation Test (revised)	Students		.66	Ebert S. 2002 ⁴²
Life Orientation Test	General population		.53	Pallant J. 2002 ²¹⁴
Life Purpose Scale	College students		.60	Adams T B. 2000 ¹³⁴
Purpose in Life Test	College students	133	.87	Bigler M. 2001 ¹⁰
Purpose in Life Test	Parents with children with autistic spectrum disorders and parents with non- autistic children	66 66	.72	Sivberg B. 2002 ³²⁵
Personality Bond's Defence Style Questionnaire (DSQ)	Psychiatric outpatients and controls	441		Sammallahti P. 1996, 1997 ^{105, 312}
 mature defence style neurotic defence style borderline defence style immature defence style 			.31 20 - 38 78	
Child Behaviour Checklist (CBCL) - externalising - internalising	Adult family members	456		Cederblad M. 2003 ²⁸
Eysenck Personality Inventory - neuroticism - extraversion	Students	95	46 ns	Gibson L. 1996 ³⁰⁸
Eysenck Personality Questionnaire (EPQ-N) - neuroticism	Patients with Gallbladder Stones disease	28	73	Svebak S. 2000 ²³⁷

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Eysenck Personality Questionnaire	General population	20579		Surtees P. 2003 ³⁰⁴
EPQ-R) neuroticism			15	
extroversion			45 23	
NEO Five Factor Inventory	Students	202	23	Ebert S. 2002 ⁴²
neuroticism	Otodenio	202	72	LUCIT 5. 2002
extraversion			.42	
openness			ns	
agreeableness			.34	
conscientiousness		2222	.46	224
NEO Five Factor Inventory	Adolescents	115	10 37	Ruiselova Z. 2000 ³²⁶
neuroticism agreeableness			4867 .31	
conscientiousness			.37	
conscientiousiess	Pediatricians	53	31	
neuroticism	1 Controlled	22	54	
extraversion			.59	
agreeableness			.50	
conscientiousness			.47	
NEO Five Factor Inventory	Elderly women	82		Reuiselova Z. 2002 ³²⁷
neuroticism			62	
extraversion			ns	
openness agreeableness			.28	
conscientiousness			.39	
Karolinska Scales of Personality	Obese patients	33	.55	Björvell H. 1994 ¹²
KSP)	Obese patients	33		Бјогусп П. 1994
impulsiveness			.24 _P	
monotony avoidance			.39 _P	
detachment			33 _P	
socialization			.47 _P	
aggression			04 _P	
hostility			71 _P	
inhibition of aggression	H-R-	0.0	65 _P	
Karolinska Scales of Personality KSP)	Healthy nurses and patients (overweight, cancer)	80	7177	Langius A. 1996 ⁶⁷
hostility	(overweight, cancer)		-:/1//	
Munich Personality Test (MPT)	Traffic accident victims	51		Frommberger U.
extraversion			.28	1999 ⁴⁹
neuroticism			53	1777
frustration tolerance			.60	
Personal Project Inventory	University students	117		Salmela-Aro K.
accomplishment			.65 _P	1992104
negative affect			25 _P	
self work			19 _P	
routines			.24 _P	
Positive and Negative Affect Scale	Adults with cleft lip	51	$.18_{\rm P}$	Cochrane W. 1999 ¹⁴⁹
positive affect	Addits with eleft lip	51	.58	Coenrane w. 1999
negative affect			66	
Positive and Negative Affect Scale	General population	439	0.00000	Pallant J. 2002 ²¹⁴
positive affect			.43	1 1111111 3. 2002
negative affect			55	
ositive and Negative Affect Scale	Male supervisors	79		Strümpfer D. 1997 ³²⁸
negative affect			30	
self-concept Clarity Scale (SCC)	College students	133		Bigler M. 2001 ¹⁰
self-concept Differentiation (SCD)	College students	133	34	Bigler M. 2001 ¹⁰
delf-Disclosure Situations Survey SDSS) flexibility	College students	133	.09	Bigler M. 2001 ¹⁰
elf Motivation Inventory (SMI)	Obese nationts	2.2	- 55	Dismolt 11, 100 (12)
Sixteen Personality Factor	Obese patients		55	Björvell II. 1994 ¹²
Questionnaire (16PF)	Undergraduates	100		Mlonzi EN. 1998 ³¹⁶
extraversion			.51	
tough poise			.35, male ns	
tough poise				

- control			.39	
Teacher's Report Form (TRF)	Adult family members	456		Cederblad M. 2003 ²⁸
- externalising			16	
- internalising			10	174
Test of Negative Social Exchange	Homeless women and low-	113		Ingram K. 1996 ¹⁷⁶
- hostility	income housed women	116	42	
- interference			42	
- insensitivity			49	
- ridicule			31	
Resilience				40
Resilience Scale for Adults (RSA)	Patients and controls	59		Friborg O. 2003 ⁴⁸
managed agent at way		276		
 personal competence social competence 			.75	
- family coherence			.44	
- social support			.45	
- personal structure			.33	
			.5.5	
Self-esteem/Self-efficacy				
Deusingers' Multidimensional	Military officers,	155		Ruiselova Z. 1995329
Self-Concept Questionnaire (FSKN)	physicians and	27	.52,.61	
C 1 10 10 10 10 10	students	101	.27,.64	1
Generalized Self-efficacy Scale	College students	52	.46	Amirkhan J.H 2003 ¹
Greer-Burgers Self-Esteem Scale (SEG)	Elderly people	152	.53	Coward D.D. 1996 ¹⁵¹
Rosenberg Self-Esteem Scale (SER)	College students	133	.75	Bigler M. 2001 ¹⁰
Rosenberg Self-Esteem Scale (SER)	Adult family members	456	.33	Cederblad M. 2003 ²⁸
Rosenberg Self-Esteem Scale (SER)	Elderly people	152	.52	Coward D.D. 1996 ¹⁵¹
Rosenberg Self-Esteem Scale (SER)	Homeless substance-abusers	72	.57	Flick L.H. 1998 ⁴⁵
(001)	with children	, 2		1 HCK L11. 1770
Rosenberg Self-Esteem Scale (SER)	General population	439	.61	Pallant J. 2002214
Self-Efficacy Scale (SES)	Students	336		Smith T.L. 1997114
- general self-efficacy			.66	
- social self-efficacy			.44	
Self-Efficacy Scale (SES)	Retired subjects	363	.10	Wells Y.D. 1999 ²⁴⁶
Self-Esteem Inventory (SEI)	Homeless drug-abusing	581	.63 _P	Nyamathi A. 1992 ²⁹²
Cale Transaction - Carla (CTC)	minority women	1.50	7.0	151
Self-Trancendence Scale (STS)	Elderly people	152	.58	Coward D.D. 1996 ¹⁵¹

Instruments	measuring	perceived	stressors
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Variable/Measure	Sample	N	Coeff r	First author
Life events				
Family Inventory of Life Events	Israeli Jewish women with	94	25 _P	Florian V. 1994 ⁴⁶
and Changes (FILE)	disabilities and controls	94		
Impact of Event Scale (IES)	Traffic accident victims	51	50 _P	Frommberger U
			52 _P	199949
Impact of Event Scale (IES-15)	Swedish ambulance personnel	362	30 _S	Jonsson A. 2003 ¹⁷⁹
Impact of Event Scale (IES)	Women with perinatal	109		Uren T.H. 2002 ¹²⁵
- intrusion	bereavement		42	
- avoidance			52	
- hyper arousal symptom			53	

a) male b) female
 b) psychological distress: poor self-esteem, hopelessness, helplessness, confused thinking, sadness, anxiety, psychophysiological symptoms
 2) corrected by personal communication with the third author.
 t = time

Th. Life F	0.	104	1.0	D. 1 GD 1000[6]
The Life Experience Survey (LES) Perinatal Grief Scale (PGS)	Singaporean subjects Women with perinatal	186	19 .71	Bishop GD. 1993 ¹⁶³ Uren T.H. 2002 ¹²⁵
Brief Symptom Inventory(BSI) current psychological distress	Women with perinatal bereavement	109	69	Uren T.H. 2002 ¹²⁵
Parent Perception Inventory PPI)	Parents with children with Down's syndrome and	334	46 _P	Hedov G. 2002 ¹⁷¹
111)	controls		J4p	
Perceived stressors	Woman referred to a broad	214	15	C:lbox O. 2002 ⁵⁴
Brief Symptom Inventory (BSI)	Women referred to a breast health clinic	314	15 _S	Gilbar O. 2003 ⁵⁴
COPE – Brief approach coping	Students	202	.24	Ebert S. 2002 ⁴²
avoidance coping	0	120	58	n II - 1 a a a a 214
COPE behavioural disengagement	General population	439	41	Pallant J. 2002 ²¹⁴
active			.37	
denial			24	
reinterpretation drug			.22 18	
mental disengagement			11	
instrumental social support Coping Strategy Indicator (CSI)	College students	52	.10	Amirkhan J.H 2003 ¹
problem-solving seeking social support			.26 .14 ns	324
avoidance			29	
Critical Care Nursing Stress Scale Daily environmental Hassles Scale	Critical care nurses Homeless women and low-	35 113	20 ns 40	Yam B. 2003 ²⁵⁰ Ingram K. 1996 ¹⁷⁶
DEH)	income housed women	116		100
Evaluating and Nurturing Relationship Issues	Israeli Jewish women with disabilities and controls	94 94	.44 _P	Florian V. 1994 ⁴⁶
Communication and Happiness				
Scale (ENRICH) Family-COPES	Dialysis patients	40		Senka J. 1995 ³³⁰
internal amily Crisis-Oriented Personal	Israeli Jewish women with	94	.36	Florian V. 1994 ⁴⁶
cales (F-COPE)	disabilities and controls	94		Florian V. 1994
active coping passive coping			.44 _P	
amily Impact Questionnaire	Parents with children with	66		Sivberg B. 2002 ³²⁵
loving care worry	autistic spectrum disorders and parents with non-	66	04 ns 12 ns	
stress guilt-feelings	autistic children		34	
family Straits	Dialysis patients	40	18 ns .60	Senka J. 1995 ³³⁰
Hassles and Uplifts Scale	Singaporean subjects	186	35	Bishop GD 1993 ¹¹ .
lassles and Uplifts Scale	Israeli Jewish women with disabilities and controls	94 94	48 _P	Florian V. 1994 ⁴⁶
lassles and Uplifts Scale	French adults	193	25	Gana K. 2001 ³¹⁵
Hassles and Uplifts Scale alowiec Coping Scale (JCS-40)	Students Patients with chronic renal	336 48	46 _P	Smith T.L. 1997 ¹¹⁴ Klang B. 1996 ¹⁸⁸
confrontational	failure	1000	.18 _P ns	
emotive palliative			43 _P	
Nursing Stress Scale (NSS)	Dialysis nurses	238	39 _P	Lewis S. 1992 ⁶⁹
Occupational Stress Questionnaire job complexity	Industrial design personnel	422		Toppinen-Tanner S. 2003 ²⁴¹

- autonomy			.33 _P	
- role clarity			.34 _P	
- time pressure			.47 _P	
- competence			08 _P ns	
- psychological symptoms			.63 _P	
poyentingion symptoms			66 _P	
Perceived Stress Scale (PSS-10)	General population	439	65	Pallant J. 2002 ²¹⁴
Perceived Stress Scale	Students	336	64p	Smith T.L. 1997 ¹¹⁴
Perceived Stress Scale	Critical care nurses	35	64	Yam B. 2003 ²⁵⁰
Recent Sexual Harassment Scale	Homeless women and low-	113	29	Ingram K. 1996176
	income housed women	116		
Sexual Experiences Survey (SES)	Homeless women and low-	113	26	Ingram K. 1996176
	income housed women	116		
Time Management Behavior Scale	Undergraduate college	137	.3757	Shahani C. 1993332
(TMBS)	students			
Post Traumatic Stress Disorder				
PTSD-Interview (PTSD-I)	Fire fighters	464		Dudek B. 2000 ⁴¹
- trauma reexperiencing			19	
- avoidance			27	
- arousal			24	
- trauma (global score)			27	
Post-Traumatic Stress Scale (PSS)	Traffic accident victims	51	58 _P	Frommberger U.
			59 _P	199949
Post Traumatic Symptom Scale	Swedish ambulance	362	$40_{\rm S}$	Jonsson A. 2003 ¹⁷⁹
(PTSS-10)	personnel			23
The Child PTSD Reaction Index (CPTSD-RI)	Juvenile delinquents	159	45	Koposov RA. 2003 ²³

ns = not significant $^{\circ}$ significant, the level not mentioned $^{\circ}$ partly significant, partly not significant r_S = Spearman's rank correlation coefficient r_P = Pearson's product moment correlation coefficient

Instruments measuring quality of life and wellbeing

Coeff			
Sample	N	r	First author
Cancer patients	20	.67 _{S11}	Wettergren L.
		$.39_{St2}$ ns	1997 ²⁴⁷
		$.17_{St3}$ ns	
Persons with CHD	149	.73	Motzer S. 1996 ²⁰⁹
survived cardiac arrest			
Women with IBS and	324	.66 _P	Motzer Adams S.
healthy controls			2003 ⁷⁹
Schizophrenic patients	120	$.60_{\rm S}$	Bengtsson-Tops A.
			2000 ⁸
Patients with multiple	69		Anke A. 2003138
trauma			
		.43	
		ns	
		.60	
		.47	
		.21	
		ns	
Patients attending home	28	.69	Horsburgh M.
	Cancer patients Persons with CHD survived cardiac arrest Women with IBS and healthy controls Schizophrenic patients Patients with multiple trauma	Persons with CHD 149 survived cardiac arrest Women with IBS and healthy controls Schizophrenic patients 120 Patients with multiple trauma 69	Cancer patients 20 .67 _{S t1} .39 _{St2} ns .17 _{St3} ns Persons with CHD survived cardiac arrest Women with IBS and healthy controls Schizophrenic patients 120 .60 _S Patients with multiple trauma 43 ns .60 .47 .21 ns

				29
				27
Scale (LSDRS)	dialysis and their spouses			1998 ⁵⁷
Life Satisfaction Index (LSI)	Older males	199		Brooks J.D. 1998 ¹⁴⁴
Life Satisfaction Index Z	Patients attending home dialysis and their spouses	28	.72	Horsburgh M. 1998 ⁵⁷
LiSat Checklist	Patients with severe multiple trauma	26	.42 _{S t1} .40 _{S t2} .57 _{S t3}	Snekkevik H. 2003 ²²⁹
Nottingham Health Profile (NHP)	Patients with lower limb ischaemia and healthy controls	112 102	51 _S	Klevsgård R. 2000 ³³³
Psychological Well-Being Subscale, Quality of Life/Breast Cancer Version	African American breast cancer survivors	162	.59 _S	Gibson L. 2003 ³²³
Quality of Life	Middle-aged psychiatric high-risk subjects	148	.77 _P	Cederblad M. 1996 ³⁰⁹
Quality of Life	Families with subjects diagnosed with serious illness	78	.55 _P	Hoehn Anderson K. 1998 ²⁷⁰
Quality of Life Questionnaire-C30	Men with prostate cancer	71	-3	Jakobsson L. 2002 ¹⁷⁷
- physical - role - emotional - social	and men with benign prostatic hyperplasia	37	.07 _s ns .71 _s ns .55 _s .50 _s	
- cognitive			.30s	
Satisfaction with Life Domains	General population	3515		Schumann A. 2003 ²⁹⁶
Satisfaction with Life Question	Patients attending home dialysis and their spouses	28	.60	Horsburgh M.
Satisfaction with Life Scale (SWLS)	Adults with cleft lip	51	.74	Cochrane W. 1999 ¹⁴⁹
Satisfaction with Life Scale (SWLS)	General population	439	.53	Pallant J. 2002 ²¹⁴
Satisfaction with Life Scale (SWLS)	General population	3515	.6774	Schumann A. 2003 ²⁹⁶
Spiritual Perspective Scale	African American breast cancer survivors	162	.16 _S	Gibson L. 2003 ³²³
The World Health Organization Quality of Life Scale (WHOQOL-	Patients with total spinal cord transaction and	20		O'Carroll R.E. 2003 ⁸⁷
BREF)	healthy controls	20		2005
- physical capacity			.69	
- psychological capacity - social relationships			.76	
- environment The World Health Organization Quality of Life Scale (WHOQOL- BREF)	Japanese civil servants	1392	.74 .51	Nasermoaddeli A. 2003 ³³⁴
- psychological capacity				
Wellbeing Affect Balance Scale (ABS)	Elderly people	152	.67 _p	Coward D.D.
- emotional wellbeing Affect Balance Scale (ABS)	Older adults	119	.24	1996 ¹⁵¹ Smits C. 1995 ²⁹⁷
global wellbeingCognitive Well-being Scale(CWB)emotional well-being	Elderly people	152	.65 _p	Coward D.D. 1996 ¹⁵¹
Index of Marital Satisfaction Scale (IMS)	Handicapped and their	152	38	Rena F. 1998 ⁹⁸
Perceived Wellness Survey (PWS)	spouses College students	112	.66 _P	Adams T.B. 2000 ¹³⁴

Profile of Mood States (POMS-Short form) - emotional wellbeing	Elderly people	15268 _P	Coward D.D. 1996 ¹⁵¹
Purpose-in-Life Test (PIL)	Elderly people	152 .73 _P	Coward D.D. 1996 ¹⁵¹
Purpose-in-Life Test (PIL)	University under-graduates	151 .74° 147 .72 ^d	Edwards M. 2001 ⁴³
Scales of Psychological Wellbeing	College students with disabilities	89 .87 _P	Lustig D.C. 2000 ⁷²
Wellbeing Measure ^{e)}	Diabetic persons	2065 _P	Lundman B. 1993321
Well-being Scale - positive wellbeing - energy	HIV-infected patients and controls	514 .61 _p ^c .53 _p ^d .61 _p ^{c,d}	Cederfjäll C. 2001 ²⁹

 $^{^{}e)}$ male $^{d)}$ female $^{e)}$ Interpretation of the scale: the lower the level the higher the well-being. $r_S = Spearman$'s rank correlation coefficient $r_P = Pearson$'s product moment correlation coefficient

Instruments measuring attitudes and behaviours

			Coeff	
Measure/Variable	Sample	N	r	First author
Attitudes towards disability Acceptance of Disability Scale	Insulin-dependent diabetic	107	.51 _P	Richardson A.
Modified (ADM)	subjects		172	2001100
Acceptance of Disability Scale Attitudes towards Disability Scale modified (ADM)	Handicapped and spouses Swedish patients with EDS	152 77	.67 .59	Rena F. 1998 ⁹⁸ Berglund B. 2003 ⁹
Rheumatology Attitudes Index (RAI)	Patients with rheumatoid arthritis (RA)	828	43 ^a 39 ^b	Callahan L. 1995 ²⁰
Coping ability Defence Style Questionnaire (DSQ, Bond's) - mature defence style - neurotic defence style - borderline defence style	Psychiatric outpatients and community controls	441	.31 _P 20 _P 78 _P	Sammallahti P. 1996 ¹⁰⁵
Health belief Health Belief Scale (HBS) - bio-medical model (BM) - holistic-functional (HF) model - HF-BM model	General polish population	60	12 ws .25	Pasikowski T. 1994 ³³⁵
Health Opinion Survey (HOS)	Daughters of women with breast cancer and healthy women	45 51	.32 _P	Gilbar O. 1998 ⁵³
Social skills Career Thoughts Inventory - Decision Making Confusion Scale	Female college students	145	35 31	Lustig D. 2002 ⁷³
- Commitment Anxiety Scale - External Conflict Scale			37 29	
Florida Health and Family Life Instrument	Refugees	2234		Ying Y-W. 1997 ³¹⁴
 psychosocial dysfunction Health Survey Questionnaire (SF- 	Patients with RA and	89	.32	Schnyder U. 1999 ¹⁰⁹
36)	traffic accident victims	112		Schriyder U. 1999
- social functioning	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		.37 _P	

Interview Schedule for Social Interaction	HIV-infected patients and controls	514	.20 _p ^a .60 _p ^b	Cederfjäll C. 2001 ²⁹
Multidimensional Scale of Perceived Social Support	Patients with acute myocardial infarction	290		Drory Y. 1999 ³²⁰
Multidimensional Scale of	Israeli Jewish women with	94	.60 _P	Florian V. 199446
Perceived Social Support	disabilities and controls	94		
The Perceived Competence Scale for Children	Adult family members	456		Cederblad M. 2003 ²⁸
- social			.13	
- school	120 21		.17	210
The Perceived Social Support Index (PSS)	Canadians	17626	.21 _P	Wolff A.C. 1999 ²⁴⁹
Personal Views Survey	Students		.43 _P	Smith T.L. 1997 ¹¹⁴
Social Activities and Distress Scale (SADS)	Adult with cleft lip	51	69	Cochrane W. 1999 ¹⁴⁹
Social Desirability Scale (SDS)	Occupational therapy	71	$.31_{S}$	Bränholm I-B.
	students and controls	651		199818
Social Desirability Scale (SDS)	General population	439	.26	Pallant J. 2002 ²¹⁴
Social Health Scale (SHS)	Older males	199	.27	Brooks J.D. 1998 ¹⁴⁴
Social Inadequacy Scale	Older adults		21	Smits C. 1995 ²⁹⁷
Social Support Appraisal Scale (SS-A)	General population	3515	.5559	Schumann A. 2003 ²⁹⁶
Social Support Index	Adult college students	105	47	Flannery R.B. 1994 ³¹⁷
Social Support Questionnaire	Homeless women and low-	113		Ingram K. 1996176
	income housed women	116		
- satisfaction			.42	
- number			.08 ns	
Social Support Scale	Homeless drug-abusing minority women	581	.14 _P	Nyamathi A. 1992 ²⁹²
Work Personality Profile Self- Report (WPP-SR)	College students	156		Strauser D. 2003 ¹¹⁵
- task orientation			$.32_{P}$	
- social skills			.26 _P	
- work motivation			.23 _P	
- work conformance			$.42_{P}$	
- personal presentation			.28 _P	
a) SOC-29 b) SOC-13 ns = not sig	gnificant r _S = Spearman's rank	correla	tion coefficie	ent $r_P = Pearson's$
product moment correlation coeffic	eient t = time			

Table 6. Sense of Coherence Scale: means and standard deviation of the subscales from published studies 1992- 2003.

SOC items	Comprehensibility M (SD)	Manageability M (SD)	Meaningfulness M (SD)	First author
9	2.85 (0.2)	2.69 (0.3)	2.80 (0.3)	Forsgärde M. 2000 ²⁶⁵
	2.83 (0.3)	2.63 (0.3)	2.80 (0.2)	
	2.78 (0.3)	2.58 (0.4)	2.67 (0.3)	
	2.68 (0.4)	2.56 (0.4)	2.69 (0.3)	
13	23.50 (3.8)	25.00 (3.4)	23.80 (3.6)	Ekman I. 2002 ¹⁵⁵
	24.40 (3.7)	25.00 (3.4)	24.20 (3.7)	
13	65.00° (21.8)°	$72.40^a (21.6)^g$	$76.10^{a} (20.3)^{g}$	Guldvog B. 1999 ¹⁶⁸
13	22.60 (5.1)	18.80 (3.6)	19.70 (4.0)	Tang S.T. 2002 ²⁴⁰
	22.50 (4.9)	18.20 (3.8)	20.00 (4.0)	
13	27.35 (5.4)	22.01 (4.4)	23.02 (4.1)	Wells Y.D. 1997 ²⁴⁵
	25.88 (5.4)	20.89 (5.1)	21.77 (4.3)	
13	21.04 ^b (3.9) ^g	20.72 ^b (4.3) ^g	28.80° (6.0) ^g	Abrahamsson A. 2002 ¹³³
26-F	37.08 (8.9)	43.10 (9.7)	44.38 (8.4)	Hoehn Andersson K.

		and the state of t		1998 ²⁷⁰
29	50.80 (12.2)	52.50 (10.2)	40.90 (9.2)	Büchi S. 1998 ¹⁹
29	34.38 (8.3)	36.53 (8.3)	29.66 (9.7)	Carstens J. 1997 ²¹
	45.24 (9.8)	49.26 (9.5)	42.74 (7.2)	
29	49.26 (7.5)	46.17 (5.0)	50.96 (8.1)	Cilliers F. 2003 ³²
29	50.32 (9.0)	53.01 (7.4)	45.12 (5.8)	Dudek B. 2000 ⁴¹
29	39.55 (8.3)	34.04 (6.5)	32.00 (4.5)	Ekblad S. 1997336
29	45.50 (10.5)	48.70 (10.5)	42.00 (8.4)	Lustig D. 2000 ⁷²
29	43.60 (10.0)	46.93 (8.7)	41.30 (7.6)	Pasikowski T. 1994335
29	41.58 ^h (0.88) ^g	41.50° (1.06) ^g	36.48 ⁱ (1.16) ^g	Sandell R. 1998 106
	44.88 ^h (0.82) ^g	45.401 (0.98)g	$40.32^{j} (1.14)^{g}$	
	53.13 ^h (0.82) ^g	55.201 (0.86)8	$45.04^{1} (0.90)^{g}$	
	47.96 ^h (0.82) ^g	51.801 (0.92)g	$42.88^{J} (1.05)^{g}$	

a) adjusted scale range 0-100 b) here multiplied by 4 c) here multiplied by 5 g) SD cannot be corrected h) here multiplied by 11 here multiplied by 10 here multiplied by 8

Table 7. Sense of Coherence Scale: Gender differences in means and standard deviation from published studies 1992-2002.

SOC Items	Sample	N	Men M (SD)	Women M (SD)	Diff ±	First author
7	Finns	1861	22.18 (0.19)	22.25 (0.18)	0.07	Niemelä M. 2002 ²⁹¹
9	Substance abusers	60	2.71 (0.60)	2.44 (0.60)	0.27	Andersen S. 2001 ²⁵³
9	Employees	2053	78.84 (14.25)	82.04 (12.57)	3.20	Albertsen K. 2001 ²⁵¹
9	Government employees	763	47.27 (7.26)	46.12 (7.32)	1.15	Kivimäki M. 1997 ²⁷⁵
9	Older adults	952	36.30 (4.30)	35.60 (4.50)	0.70	Midanik L.T. 1992 ²⁸⁸
13	Patients with hypertension	238	58.90	67.90	9.00	Anson O. 1993 ¹⁴⁰
13	Family care-givers	305	67.50 (13.20)	69.30 (12.50)	1.80	Chumbler N. 2003 148
13	Former workers	344	67.90 (12.24)	66.50 (12.05)	1.40	Johansson Hanse J. 1999 ¹⁷
13	Municipal employees	2991	4.93 (0.79)	4.97 (0.80)	0.04	Kivimäki M. 2002 ¹⁸⁶
13	Swedes	2003	65 04 (10.39)	64.02 (11.36)	1.02	Larsson G. 1996 196
13	General population	1254	70.73 _{t1} 68.70 _{t2}	70.92 _{t1} 69.04 _{t2}	0.19	Nilsson B 2003 ²¹²
13	Parents with children with intellectual disability and controls	259 109 381	69.10 (11.90) 65.20 (12.00) 69.50 (10.80)	64.40 (14.50) 59.90 (14.40) 69.10 (10.80)	5.30	Olsson M.B. 2002 ²¹³
13	Swedish ambulance personnel	362	69.90 (8.57) 65.57 (10.30)	70.54 (9.72) 66.30 (9.93)	0.73	Jonsson A. 2003 ¹⁷⁹
13	Diabetic patients	88	73.90 (12.10)	71.00 (11.70)	2.90	Sandén-Eriksson B. 2000 ²
13	Unemployed people	1249	54.41 (14.10)	55.19 (14.20)	0.78	Starrin B. 2001 ²³²
13	General population	21101	68.44 63.98 59.22 55.25 51.94	67.26 62.33 58.29 53.70 49.78		Suominen S. 2002 ²³⁶
13	Employees	103	67.00 ^a	66.00ª	1.00	Söderfeldt M. 2000 ²³⁸
16	Finns	3115	9.55 (1.17)	9.50 (1.20)	0.05	Suominen S. 1993 ³⁰¹
29	Patients with musculoskeletal pain	189	155.00 (23.00)	149.00 (24.00)	6.00	Atroshi 1. 2002 ²
29	College students	294	4.33 (0.59) 4.85 (0.57)	4.22 (0.54) 4.46 (0.72)	0.11 0.39	Ben-David A. 1996 ⁵
29	Schitzophrenic patients	120	134.00 (13.00)	123.00 (53.00)	11.00	Bengtsson-Tops A. 2000 ⁸
29	HIV-infected patients and healthy controls	189 145	142.00 (23.00) 152.00 (17.00)	133.00 (20.00) 151.00 (19.00)	9.00 1.00	Cederfjäll C. 2001 ²⁹
29	University under-graduates	298	133.21 (20.35)	132.91 (19.92)	0.30	Edwards M.J. 2001 ⁴³
29	Kibbutz members	228 209	150.80 (19.80) 147.10 (19.10)	146.40 (22.90) 142.30 (20.00)	4.40 4.80	Kark J.D. 1996 ⁶⁰
29	Cancer patients and	42	158.00 (17.00)	137.00 (22.00)	21.00	Langius A. 1994 ⁶⁶

9	Parents of handicapped and non-handicapped children	78 83	5.09 (0.66) 5.24 (0.62)	4.81 (0.86) 5.04 (0.58)	0.28	Margalit M. 1992 ⁷⁶
9	Swedish employees	194	151.00 (17.00)	145.00 (18.00)		Runeson R. 2003 ¹⁰¹
29	College students	270	132.30 (21.10)	129.80 (20.70)	2.50	Skirka N. 2000 ¹¹³
29	Multicultural group of subjects	550	139.57 (21.18)	134.07 (21.83)	5.50	Wissing M. 2002 ¹²⁶
29	Nondiabetic older adults	73 69	158.60 (17.40) 158.90 (17.80) 164.50 (17.10) 161.70 (15.50)	141.90 (26.30) 141.20 (24.60) 160.50 (22.10) 159.90 (21.70)	16.70 17.70 4.00 1.80	Zhang J. 2001 ¹²⁷

Table 8. Sense of Coherence Scale: Divisions into low to high based on published studies 1992-2003.

SOC-29 (7-point Likert scale range from 29-203)	First author
Weak vs strong, cut point = median	Amirkhan J.H. 2003 ¹
Low = percentiles 1-33, high = percentiles 67-100	Cederblad M. 2003 ²⁸
Low = below median, high = above median	Gibson L.M. 1997 ³³⁷
Low = 113.1 points, medium = 135.6 point, high = 158.1 point	Jorgensen R.S. 1999 ⁵⁸
Weak, moderate, strong - quartiles	Karlsson I. 2000 ¹⁸⁴
Low/weak = 25 %, moderate = 50 %, high = 25 % - percentiles	Langius A. 1996 ⁶⁷
Lower = mean 101.37, middle = mean 141.15, upper = mean 168.30	McSherry W.C. 1994 ³³⁸
Unfavorable = \leq 136 points, intermediate = \geq 137 - \leq 148 points, favorable = \geq 149 points	Nilsson B. 84
Lowest, rather low, medium, rather high, highest (quintiles)	Poppius E. 1999 ⁹²
Weak, moderate, strong (tertiles)	Poppius E. 2003 ⁹³
Low/high Cut point = median score	Rena F. 1998 ⁹⁸
Low = ≤ 136 points, high = ≥ 136 points	Shiu A. T-Y. 1998 ¹¹²
Low = 0-10 %, middle high = 45-55 %, high = 90-100%	Svartvik L. 2002 ¹¹⁷
SOC-13 (7-point Likert scale range from 13-91)	First author
Low = mean score or lower, high = higher than mean score	Abel T. Et al 1999 ¹³²
Low = 1.0-4.4 points, <middle 4.5-5.0="" =="" points,="">middle = 5.1-5.6 points, high = 5.7-7.0 points</middle>	Due E.P. et al 1998 ¹⁵²
Group $1 = 23-39$ points, group $2 = 40-56$ points, group $3 = 57-73$ points, group $4 = 74-90$ points	Feldt T. 2000 ³³⁹

Low = 20-50 points, moderate = 51-70 points, high = 71-88 points (quartiles)	Gottlieb A. 1998 ¹⁶⁶
Weak = < 63 points, medium = 64-72 points, strong = 72 points	Harri M. 1998 ¹⁶⁹
Weak = 27-60 points, moderate = 61-74 points, strong = 75-87 points	Hedov G. 2002 ¹⁷¹
Low=0-55 points, medium=56-65 points, high=66-78 points	Ibrahim S. 2001 ³⁴⁰
Low = below the median, high = above the median	Johansson Hanse 1999 ¹⁷⁸
High = ≥ 74.77-76.77 points (VAS/adjusted scale range 1-100 mm)	Karlsson 1, 2002 ⁶¹
Weak=42-59 points (25%), moderate=60-77 points (505), strong=78-83 points (25%)	Klang B. 1996 ¹⁸⁹
Low, high – cut off = median	Korotkov D.L. 1993341
Low, high/medium dichotomised at the lower tertil	Krantz G. 2000 ¹⁹³
Low/weak = 25 %, moderate = 50 %, high = 25 % - percentiles	Langius A. 1993 ⁶⁵ , 1994 ⁶⁶ .
Weak = 35-60 points, moderate = 61-75 points, strong = 76-91 points	Mendel B. 2001 ²⁰⁸
Low = \leq 69 points, high = \geq 69 points (median)	Olsson M.B. 2002 ²¹³
Low = 13-19 points, moderate = 40-65 points, high = 66-91 points	Persson D. 1999 ³⁴²
Low = < 49 points	Starrin B. 2001 ²³²
High = \geq 67 points	Stephens T. 1999 ²³⁴
SOC-modified scales	522
Low = 3-6 points, high 0-2 points (SOC-3, 3 reply choices)	Avlund K. 2003 ²⁵⁵
Low = 3-6 points, high 0-2 points (SOC-3, 3 reply choices)	Berntsson L. 2000 ²⁶¹
High = \geq 60 points (SOC-12)	Eriksson N-G. 1996 ²⁶⁴
Poor = 3 points or more	Grøholt E-K. 2003 ²⁶⁶
Low = 3-6 points, medium = 1-2 points, high = 0 point (SOC-3, 3-point scale)	Jahnsen R. 2002 ²⁷²
Low = below the median, high = above the median (SOC-9, 3 reply choices)	Johansson 1. 1998 ³⁴³
Low = $0-2$, $3+$, high = 0 , $1+$ (SOC-3, 3 reply choices)	Lundberg O. 1994 ²⁸³ , 1995 ²⁸⁴
Weak, strong In this study low scores = strong SOC (SOC-9, 5-point scale)	Larsson G. 1994 ²⁸¹
Low =< 31 points, moderate =31-39 points, high 40-45 points (SOC-9, 5-point scale)	Midanik L.T. 1992 ²⁸⁸
Low = > 0 point, high/perfect = 0 point (SOC-3, 3 reply choices)	Ristner G. 2000 ³⁴⁴
Low = > 0 (SOC-3, 5 response choices)	Sundquist J. 2000 ³⁰⁰
Low and high – two groups of equal size (SOC-16, 4-point scale)	Suominen S. 1999 ³⁰²
See	Suominen S. 2001 ³⁰³

References

- Amirkhan JH, Greaves H. Sense of coherence and stress: The mechanics of a healthy disposition. Psychology and Health 2003;18(1):31-62.
- 2. Atroshi I, Andersson IH, Gummesson C, Leden I, Odenbring S, Ornstein E. *Primary care patients with musculoskeletal pain*. Scandinavian Journal of Rheumatology 2002;**31**:239-244.
- Baker LK. Sense of coherence in adolescents with cystic fibrosis. In: McCubbin HI
 TE, Thompson AI, Fromer JE, ed., editor. In: Stress, coping, and health in families.
 Sense of coherence and resiliency. Thousand Oaks: Sage Publications; 1998. p. 145168.
- 4. Begerow B, Pfeifer M, Pospeschill M, Scholz M, Schlotthauer T, Lazarescu A, et al. Time since vertebral fracture: An important variable concerning quality of life in patients with postmenopausal osteoporosis. Osteoporosis International 1999;10(1):26-33.
- 5. Ben-David A. Cross-cultural differences between Russian immigrants and Israeli college students: The effect of the family on the sense of coherence. Israel Journal of Psychiatry and Relative Science 1996;33(1):13-20.

- 6. Ben David A, Erez Darvish T. *The effect of the family on the emotional life of Ethiopian immigrant adolescents in boarding schools in Israel.* Residential Treatment for Children and Youth 1997;**15**(2):39-50.
- 7. Ben-David A, Leichtentritt R. Ethiopean and Israeli students' adjustment to college: The effect of the family, social support and individual coping styles. Journal of Comparative Family Studies 1999;30(2):297-314.
- 8. Bengtsson-Tops A, Hansson L. *The validity of Antonovsky's sense of coherence measure in a sample of schizophrenic patients living in the community.* Journal of Advanced Nursing 2001;33(4):432-438.
- 9. Berglund B. *Living with Ehlers-Danlos syndrome*. [Doctoral thesis.]. Stockholm: Karolinska Institutet and Sophiahemmet University College, Department of Nursing.; 2003.
- 10. Bigler M, Neimeyer GJ, Brown E. *The divided self revisited: Effects of self-concept clarity and self-concept differentiation on psychological adjustment.* Journal of Social and Clinical Psychology 2001;**20**(3):396-415.
- 11. Bishop GD. *The sense of coherence as a resource in dealing with stress*. Psychologia 1993;**36**:259-263.
- 12. Björvell H, Aly A, Langius A, Nordström G. *Indicators of changes in weight and eating behavior in severely obese patients treated in a nursing behavioral-Program.* International Journal of Obesity 1994;**18**(8):521-525.
- 13. Blomberg J, Lazar A, Sandell R. Long-term outcome of long-term psychoanalytically oriented therapies: First findings of the Stockholm outcome of psychotherapy and psychoanalysis study. Psychotherapy Research 2001;11(4):361-382.
- 14. Boman L, Björvell H, Langius A, Cedermark B. *Two models of care as evaluated by a group of women operated on for breast cancer with regard to their perceived well-being.* European Journal of Cancer Care 1999;**8**:87-96.
- 15. Botha KF, Du Plessis WF, Van Rooyen JM, Wissing MP. *Biopsychosocial determinants of self-management in culturally diverse South African patients with essential hypertension.* Journal of Health Psychology 2002;7(5):519-531.
- 16. von Bothmer MIK, Fridlund B. Self-rated health among university students in relation to sense of coherence and other personality traits. Scandinavian Journal of Caring Sciences 2003;17(4):347-357.
- 17. Bowman BJ. *Cross-cultural validation of Antonovsky's sense of coherence scale.* Journal of Clinical Psychology 1996;**52**(5):547-549.
- 18. Bränholm I-B, Fugl-Meyer AR, Frölunde A. *Life satisfaction, sense of coherence and locus of control in occupational therapy students.* Scandinavian Journal of Occupational Therapy 1998;5:39-44.
- 19. Büchi S, Sensky T, Allard S, Stoll T, Schnyder U, Klaghofer R, et al. *Sense of coherence A protective factor for depression in rheumatoid arthritis.* The Journal of Rheumatology 1998;**25**(5):869-875.
- 20. Callahan LF, Pincus T. *The sense of coherence scale in patients with rheumatoid arthritis*. Arthritis Care and Research 1995;**8**(1):28-35.
- 21. Carstens JA, Spangenberg JJ. *Major depression: A breakdown in sense of coherence?* Psychological Reports 1997(**80**):1211-1220.
- 22. Cederblad M, Dahlin L, Hagnell O, K H. Coping with life span crises in a group at risk of mental and behavioral disorders: from the Lundby study. Acta Psychiatrica Scandinavica 1995;91:322-330.
- 23. Cederblad M. *The children of the Lundby study as adults: A salutogenic perspective*. European Child & Adolescent Psychiatry 1996;**5**:38-43.

- 24. Cederblad M, Hansson K. Sense of coherence--a concept influencing health and quality of life in a Swedish psychiatric at-risk group. Israel Journal of Medicine and Science 1996;32(3-4):194-9.
- 25. Cederblad M, Dahlin L, Hagnell O, Hansson K. Salutogenic childhood factors reported by middle-aged individuals Follow-up of the children from the Lundby Study grown up in families experiencing 3 or more childhood psychiatric risk-factors. European Archives of Psychiatry and Clinical Neuroscience 1994;244(1):1-11.
- 26. Dahlin L, Cederblad M. Salutogenesis--protective factors for individuals brought up in a high-risk environment with regard to the risk for a psychiatric or social disorder. Nordic Journal of Psychiatry 1993;47(1):53-60.
- 27. Cederblad M, Pruksachatkunakorn P, Boripunkul T, Höök B. *Behaviour problems and competence in Thai children and youths: Teachers', parents' and subjects' perspectives.* Transcultural Psychiatry 2001;**38**(1):64-79.
- Cederblad M, Pruksachatkunakorn P, Boripunkul T, Intraprasert S, Hook B. Sense of coherence in a Thai sample. Transcult Psychiatry 2003;40(4):585-600.
- 29. Cederfjäll C, Langius-Eklöf A, Lidman K, Wredling R. *Gender differences in perceived health-related quality of life among patients with HIV infection*. AIDS Patient Care and STDS 2001;**15**(1):31-39.
- 30. Cederfjäll C, Langius-Eklöf A, Lidman K, Wredling R. Self-reported adherence to antiretroviral treatment and degree of sense of coherence in a group of HIV-infected patients. AIDS Patient Care and STDS 2002;16(12):609-616.
- 31. Chamberlain K, Petrie K, Azariah R. *The role of optimism and sense of coherence in predicting recovery following surgery.* Psychology and Health 1992;7:301-310.
- 32. Cilliers F. *Burnout and salutogenic functioning of nurses*. Curationis 2003;**26**(1):62-74.
- 33. Cohen O. On the origins of a sense of coherence: Sociodemographic characteristics, or narcissism as a personality trait. Social Behavior and Personality 1997;25(1):49-58.
- 34. Cohen O, Dekel R. Sense of coherence, ways of coping, and well being of married and divorced mothers. Contemporary Family Therapy 2000;22(4):467-485.
- 35. Cohen O, Savaya R. Sense of coherence and adjustment to divorce among Muslim Arab citizens of Israel. European Journal of Personality 2003;17:309-326.
- 36. Dalbokova D, Tzenova B, Ognjanova V. Stress states in nuclear operators under conditions of shiftwork. Work & Stress 1995;9(2/3):305-313.
- 37. Dangoor N, Florian V. Women with chronic physical disabilities: correlates of their long-term psychosocial adaptation. International Journal of Rehabilitation Research 1994;17:159-168.
- 38. Delbar V, Benor DE. *Impact of a nursing intervention on cancer patients' ability to cope.* Journal of Psychosocial Oncology 2001;**19**(2):57-75.
- 39. Drory Y, Kravetz S, Hirschberger G. Long-term mental health of men after a first acute myocardial infarction. Arch Phys Med Rehabil 2002;83:352-359.
- 40. Dudek B, Makowska Z. Psychometric characateristics of the orientation to life questionnaire for measuring the sense of coherence. Polish Psychological Bulletin 1993;24(4):309-318.
- 41. Dudek B, Koniarek J. *Relationship between sense of coherence and post-traumatic stress disorder symptoms among firefighters.* International Journal of Occupational Medicine and Environmental Health 2000;**13**(4):299-305.
- 42. Ebert SA, Tucker DC, Roth DL. *Psychological resistance factors as prdictors of general health status and physical symptom reporting.* Psychology, Health & Medicine 2002;7(3):363-375.

- 43. Edwards MJ, Holden RR. *Coping, meaning in life, and suicidal manifestations: Examining gender differences.* Journal of Clinical Psychology 2001;57(12):1517-1534.
- 44. Fiorentino LM. Sense of coherence and the stress-illness relationship among employees: A prospective study. In:. In: McCubbin HI TE, Thompson AI, Fromer JE, editor. Stress, coping, and health in families. Sense of coherence and resiliency. Thousand Oaks: Sage Publications; 1998.
- 45. Flick LH, Homan SM. Sense of coherence as a predictor of family functioning and child problems. Preliminary findings among homeless, substance-abusing women with children. In: McCubbin HI, Thompson EA, Thompson AI, Fromer JE, editors. Stress, coping, and health in families. Sense of coherence and resiliency. Thousand Oaks California: Sage Publications; 1998.
- 46. Florian V, Dangoor N. Personal and familial adaptation of women with severe physical disabilities: A further validation of the double ABCX model. Journal of Marriage & Family 1994;56(August):735-746.
- 47. Frenz AW, Carey MP, Jorgensen RS. *Psychometric evaluation of Antonovsky's sense of coherence scale*. Psychological Assessment 1993;**5**(2):145-153.
- 48. Friborg O, Hjemdal O, Rosenvinge JH, Martinuessen M. *A new rating scale for adult resilience: what are the central protective resources behind healthy adjustment?* International Journal of Methods in Psychiatric Research 2003;**12**(2):65-76.
- 49. Frommberger U, Stieglitz R-D, Straub S, Nyberg E, Schlickewei W, Kuner E, et al. *The concept of "sense of coherence" and the development of posttraumatic stress disorder in traffic accident victims.* Journal of Psychosomatic Research 1999;46(4):343-348.
- 50. Gallagher TJ, Wagenfeld MO, Baro F, Haepers K. Sense of coherence, coping and caregiver role overload. Social Science and Medicine 1994;39(12):1615-1622.
- 51. Gana K, Garnier S. *Latent structure of the sense of coherence scale in a French sample*. Personality and Individual Differences 2001;**31**:1079-1090.
- 52. Gibson LM. *Inter-relationships among sense of coherence, hope, and spiritual perspective (inner resources) of African-American and European-American breast cancer survivors*. Applied Nursing Research 2003;**16**(4):236-244.
- 53. Gilbar O, Borovik R. *How daughters of women with breast cancer cope with the threat of the illness*. Behavioral Medicine 1998;**24**(3):115-121.
- 54. Gilbar O. Do attitude toward cancer, sense of coherence and family high risk predict more psychological distress in women referred for a breast cancer examination? Women & Health 2003;38(2):35-46.
- 55. Hawley DJ, Wolfe F, Cathey MA. *The sense of coherence questionnaire in patients with rheumatic disorders.* The Journal of Rheumatology 1992;**19**:1912-1918.
- 56. Hittner JB. Novel methods for analyzing multifaceted personality scales: Sense of coherence and depression as an example. Journal of Psychology Interdisciplinary & Applied 2000;134(2):199-210.
- 57. Horsburgh ME, Hill Rice V, Matuk L. Sense of coherence and life satisfaction: Patient and spousal adaptation to home dialysis. Anna Journal 1998;25(2):219-228.
- 58. Jorgensen RS, Frankowski JJ, Carey MP. Sense of coherence, negative life events and appraisal of physical health among university students. Personality and Individual Differences 1999;27:1079-1089.
- 59. Kaiser CF, Sattler DN, Bellack DR, Dersin J. A conservation fo resources approach to a natural disaster: Sense of coherence and psychological distress. Journal of Social Behavior & Personality 1996;11(3):459-476.

- Kark JD, Carmel S, Sinnreich R, Goldberger N, Friedlander Y. Psychosocial facators among members of religious and secular kibbutzim. Israel Journal of Medicine and Science 1996;32:185-194.
- 61. Karlsson I, Rasmussen C, Ravn J, Thiis J, Pettersson G, Larsson P. *Chest pain after coronary artery bypass: Relation to coping capacity and quality of life.* Scandinavian Cardiovascular Journal 2002;**36**(1):41-47.
- 62. Koposov RA, Ruchkin VV, Eisemann M. Sense of coherence. A mediator between violence exposure and psychopathology in Russian juvenile delinquents. The Journal of Nervous and Mental Disease 2003;191(10):638-644.
- 63. Kravetz S, Drory Y, Florian V. *Hardiness and sense of coherence and their relation to negative affect*. European Journal of Personality 1993;7(4):233-244.
- 64. Langius A, Björvell H, Antonovsky A. *The sense of coherence concept and its relation to personality traits in Swedish samples.* Scandinavian Journal of Caring Science 1992;**6**(3):165-171.
- 65. Langius A, Björvell H. *Coping ability and functional status in a Swedish population sample*. Scandinavian Journal of Caring Science 1993;7:3-10.
- 66. Langius A, Björvell B, Lind M. Functional status and coping in patients with oral and pharyngeal cancer before and after surgery. Head & Neck 1994;16:559-568.
- 67. Langius A, Björvell H. Salutogenic model and use of the Sense of coherence scale in nursing research a methodological report. Vård i Norden 1996;16(1):28-32.
- 68. Langius A, Björvell H. *The applicability of the Antonovskys sense of coherence scale to a group of Pentecostalists*. Scandinavian Journal of Caring Science 2001;**15**:190-192.
- Lewis SL, Becktell PJ, Bonner PN, Campbell MA, Cooper CL, Hunt WC. Work stress, burnout, and sense of coherence among dialysis nurses. Anna Journal 1992;19(6):545-554.
- 70. Lewis SL, Bonner PN, Campbell MA, Cooper CL, Willard A. *Personality, stress, coping, and sense of coherence among nephrology nurses in dialysis settings.* Anna Journal 1994;**21**(6):325-336.
- 71. Lewis JS. Sense of coherence and the strengts perspective with older persons. Journal of Gerontological Social Work 1996;**26**(3/4):99-112.
- 72. Lustig DC, Rosenthal DA, Strauser DR, Haynes K. *The relationship between sense of coherence and adjustment in persons with disabilities.* Rehabilitation Counseling Bulletin 2000;43(3):134-141.
- 73. Lustig DC, Strauser DR. *The relationship between sense of coherence and career thoughts.* The Career Development Quarterly 2002;**51**:2-11.
- 74. Malmgren-Olsson E-B, Bränholm I-B. A comparison between three physiotherapy approaches with regard to health-related factors in patients with non-specific musculoskeletal disorders. Disability and Rehabilitation 2002;**24**(6):308-317.
- 75. Magen Z, Birenbaum M, Ilovich T. *Adolescents from disadvantaged neighborhoods: Personal characteristics as related to volunteer involvement.* International Journal for the Adcancement of Conselling 1992;**15**:47-59.
- 76. Margalit M, Raviv A, Ankonina DB. *Coping and coherence among parents with disabled children*. Journal of Clinical child Psychology 1992;**21**(3):202-209.
- 77. Milanesi LC, Colby BN, Cesario TC, Mishra SI, Kennedy S, Yousefi S. Sense of coherence, health, and immunoglobulin M among older Anglo-American and Japanese-American women. An exploratory study. In: McCubbin HI, Thompson EA, Thompson AI, Fromer JE, editors. Stress, coping, and health in families. Sense of coherence and resiliency. Thousand Oaks California: Sage Publications; 1998.

- 78. Mockler D, Riordan J, Murphy M. Psychosocial factors associated with the use/non-use of mental health services by primary carers of individuals with dementia. International Journal of Geriatric Psychiatry 1998;13:310-314.
- 79. Motzer Adams S, Hertig V, Jarrett M, Heitkemper MM. Sense of coherence and quality of life in women with and without irritable bowel syndrome. Nursing Research 2003;52(5):329-337.
- 80. Nakamura H, Ogawa Y, Nagase H, Nakajima M, Kodama N, Ogino K, et al. *Natural killer cell activity and its related psychological factor, sense of coherence in male smokers*. Journal of Occupational Health 2001;**43**:191-198.
- 81. Nakamura H, Matsuzaki I, Sasahara S, Hatta K, Nagase H, Oshita Y, et al. Enhancement of a sense of coherence and natural killer cell activity which occurred in subjects who improved their exercise habits through health education in the workplace. Journal of Occupational Health 2003;45:278-285.
- 82. Nesbitt BJ, Heidrich SM. Sense of coherence and illness appraisal in older women's quality of life. Research in Nursing & Health 2000;23:25-34.
- 83. Newton SE. Relationship of hardiness and sense of coherence to post-liver transplant return to work. Holist Nurs Pract 1999;13(3):71-79.
- 84. Nilsson B. Vad betyder känsla av sammanhanga i våra liv? Aspekter på stabilitet, kön, hälsa och psykosociala faktorer. Umeå University medical dissertations New series no 806. [Doctoral thesis.]. Umeå: Umeå University, Family Medicine, Department of Public Health and Clinical Medicine.; 2002.
- 85. Nintachan P, Sompongse P. The sense of coherence and trait-anxiety of nursing students at Ramathibodi School of Nursing: A four year follow up study during academic year 1994-1997. Rama Nursing Journal 2000;6(2):119-132.
- 86. Nordström G, Lützén K. *Acceptance of ostomy surgery*. Scandinavian Journal of Caring Science 1995;**9**:11-15.
- 87. O'Carroll RE, Ayling R, O'Reilly SM, North NT. *Alexithymia and sense of coherence in patients with total spinal cord transection*. Psychosomatic Medicine 2003;65(1):151-155.
- 88. Ortlepp K, Friedman M. *Prevalence and correlates of secondary traumatic stress in workplace lay trauma counselors.* Journal of Traumatic Stress 2002;**15**(3):213-222.
- 89. Persson L, Larsson G, Ohlsson O, Hallberg IR. *Acute leukaemia or highly malignant lymphoma patients' quality of life over two years: a pilot study.* European Journal of Cancer Care 2001;**10**(1):36-48.
- Petrie K, Brook R. Sense of coherence, self-esteem, depression and hopelessness as correlates of reattempting suicide. British Journal of Clinical Psychology 1992;31(293-300).
- 91. Polewka A, Chrostek-Maj J, Kroch S. *Psychosocial aspects of the suicidal attempts of Polish females*. Archives of Psychiatry and Psychotherapy 2001;**3**(2):51-60.
- 92. Poppius E, Tenkanen L, Kalimo R, Heinsalmi P. *The sense of coherence, occupation and the risk of coronary heart disease in the Helsinki Heart Study.* Social Science and Medicine 1999;**49**:109-120.
- 93. Poppius E, Tenkanen L, Hakama M, Kalimo R, Pitkänen T. *The sense of coherence*. occupation and all-cause mortality in the Helsinki Heart Study. European Journal of Epidemiology 2003;**18**:389-393.
- 94. Pålsson M-B, Hallberg IR, Norberg A, Björvell H. Burnout, empathy and sense of coherence among Swedish district nurses before and after systematiac clinical supervision. Scandinavian Journal of Caring Science 1996;10:19-26.
- 95. Ray EC, Nickels MW, Sayeed S, Sax HC. Predicting success after gastric bypass: The role of psychosocial and behavioral factors. Surgery 2003;134:555-564.

- 96. Ramfelt E, Langius A, Björvell H, Nordström G. *Treatment decision-making and its relation to the sense of coherence and the meaning of the disease in a group of patients with colorectal cancer*. European Journal of Cancer Care 2000;9:158-165.
- 97. Rena F, Moshe S, Abraham O. Couples' adjustment to one partner's disability: The relationship between sense of coherence and adjustment. Social Science and Medicine 1996;43(2):163-171.
- 98. Rena F. The relationship between the sense of coherence and adjustment to disability studied in the context of marital interrelations. Marriage & Family Review 1998;27(1/2):71-90.
- 99. Rennemark M. Wellbeing in old age. Life history evaluations, sense of coherence and social networks in relation to health. [Doctoral thesis.]. Lund: Lund university, Department of Psychology; 1999.
- Richardson A, Adner N, Nordström G. Persons with insulin-dependent diabetes mellitus: acceptance and coping ability. Journal of Advanced Nursing 2001;33(6):758-763.
- 101. Runeson R, Norbäck D, H.Stattin. Symptoms and sense of coherence a follow-up study of personnel from workplace buildings with indoor air problems. International Archives of Occupational Environmental Health 2003;76:29-38.
- 102. Sagy S, Antonovsky A. *The family sense of coherence and the retirement transition*. Journal of Marriage & Family 1992;**54**(4):983-994.
- 103. Sagy S, Antonovsky H. *The development of the sense of coherence: A retrospective study of early life experiences in the family.* Journal of Aging and Human Development 2000;**51**(2):155-166.
- Salmela-Aro K. Struggling with self: The personal projects of students seeking psychological counselling. Scandinavian Journal of Psychology 1992;33:330-338.
- 105. Sammallahti PR, Holi MJ, Komulainen EJ, Aalberg VA. Comparing two self-report measures of coping the sense of coherence scale and the defense style questionnaire. Journal of Clinical Psychology 1996;52(5):517-524.
- Sandell R, Blomberg J, Lazar A. The factor structure of Antonovsky's sense of coherence scale in Swedish clinical and nonclinical samples. Personality and Individual Differences 1998;24(5):701-711.
- 107. Sandell R, Blomberg J, Lazar A. *Time matters: On temporal interactions in long-term follow-up of long-term psychotherapies.* Psychotherapy Research 2002;**12**(1):39-58.
- 108. Schnyder U, Moergeli H, Glaghofer R, Buddeberg C. *Incidence and prediction of posttraumatic stress disorder symptoms in severely injured accident victims*. American Journal of Psychiatry 2001;**158**:594-599.
- 109. Schnyder U, Büchi S, Mörgeli H, Sensky T. Sense of coherence a mediator between disability and handicap? Psychotherapy and Psychosomatics 1999;68:102-110.
- 110. Schnyder U, Büchi S, Sensky T, Klaghofer R. *Antonovsky's sense of coherence: Trait or state?* Psychotherapy and Psychosomatics 2000;**69**:296-302.
- 111. Selm Mv, Dittmann-Kohli F. *Meaninglessness in the second half of life: The development of a construct.* International Journal of Aging and Human Development 1998;47(2):81-104.
- 112. Shiu AT-Y. The significance of sense of coherence for the perceptions of task characteristics and stress during interruptions amongst a sample of public health nurses in Hong Kong: Implications for nursing management. Public Health Nursing 1998;15(4):273-280.
- 113. Skirka N. The relationship of hardiness, sense of coherence, sports participation, and gender to perceived stress and psychological symptoms among college students. The Journal of Sports Medicine and Physical Fitness 2000;40:63-70.

- Smith TL, Meyers LS. The sense of coherence: Its relationship to personality, stress, and health measures. Journal of Social Behavior & Personality 1997;12(2):513-527.
- 115. Strauser DR, Lustig DC. *The moderating effect of sense of coherence on work adjustment.* Journal of Employment Counseling 2003;**40**:129-139.
- 116. Strümpfer DJW, Danana N, et al. *Personality dispositions and job satisfaction*. South African Journal of Psychology 1998;**28**(2):92-101.
- 117. Svartvik L, Lidfeldt J, Nerbrand C, Samsioe G, Scherstén B, Nilsson PM. Dyslipidaemia and impaired well-being in middle-aged women reporting low sense of coherence. Scandinavian Journal of Primary Health Care 2000;18:177-182.
- Svartvik L, Lidfeldt J, Nerbrand C, Samsjö G, Scherstén B, Nilsson PM. Hög känsla av sammanhang kan ha hälsofrämjande effekter. Läkartidningen 2002;99(11):1195-1200.
- 119. Svavarsdottir EK, McCubbin MA, Kane JH. Well-being of parents of young children with asthma. Research in Nursing & Health 2000;23:346-358.
- Svavarsdóttir EK, Rayens MK. American and Icelandic parents' perceptions of the health status of their young children with chronic asthma. Journal of Nursing Scholarship 2003;35(4):351-358.
- 121. Söderberg S, Evengård B. Short-term group therapy for patients with Chronic Fatigue Syndrome. Psychotherapy and Psychosomatics 2001;70:108-111.
- 122. Tedgård U, Ljung r, McNeil TF. How do carriers of hemophilia and their spouses experience prenatal diagnosis by chorionic cillus sampling? Clin Genet 1999;55:26-33.
- 123. Tedgård U, Ljung R, McNeil TF. Long-term psychological effects of carrier testing and prenatal diagnosis of haemophilia: Comparison with a control group. Prenatal Diagnosis 1999;19:411-417.
- 124. Thorell-Ekstrand I, Björvell H. *Preparedness for clinical nursing education*. Scandinavian Journal of Caring Science 1993;**8**:17-24.
- 125. Uren TH, Wastell CA. *Attachment and meaning-making in perinatal bereavement*. Death Studies 2002;**26**(4):279-308.
- 126. Wissing MP, van Eeden C. *Empirical clarification of the nature of psychological well-being*. South African Journal of Psychology 2002;**32**(1):32-44.
- 127. Zhang J, Vitaliano PP, Lutgendorf SK, Scanlan JM, Savage MV. Sense of coherence buffers relationships of chronic stress with fasting glucose levels. Journal of Behavioral Medicine 2001;24(1):33-55.
- 128. Ying Y-W. Strengthening intergenerational/intercultural ties in migrant families: A new intervention for parents. Journal of Community Psychology 1999;27(1):89-96.
- 129. Ying Y-W, Lee PA, Tsai JL. Cultural orientation and racial discrimination: Predictors of coherence in Chinese American young adults. Journal fof Community Psychology 2000;**28**(4):427-442.
- 130. Ying Y-W, Lee PA, Tsai JL, Lee YJ, Tsang M. Network composition, social integration, and sense of coherence in Chinese American young adults. Journal of Human Behavior in the Social Environment 2001;3(3/4):83-98.
- 131. Ying YW, Lee PA, Tsai JL, Hung Y, Lin M, Wan CT. *Asian American college students as model minorities: An examination of their overall competence.* Cultural Diversity and Ethnic Minority Psychology 2001;7(1):59-74.
- 132. Abel T, Walter E, Niemann S, Weitkunat R. *The Berne-Munich Lifestyle Panel*. Sozial- und Präventivmedizin 1999;**44**:91-106.
- 133. Abrahamsson A, Ejlertsson G. A salutogenic perspective could be of practical relevance for the prevention of smoking amongst pregnant women. Midwifery 2002;18(4):323-331.

- 134. Adams T, Bezner J, Steinhardt M. Conceptualization and measurement of the spiritual and psychological dimensions of wellness in a college population. Journal of American College Health 2000;48(4):165-173.
- 135. Allison KR, Adlaf EM, Ialomiteanu A, Rehm J. Predictors of health risk behaviours among young adults: analysis of the National Population Health Survey. Canadian Journal of Public Health 1999;90(2):85-89.
- Anderzén I, Arnetz BB. Psychophysiological reactions during the first year of a foreign assignment: results of a controlled longitudinal study. Work & Stress 1997;11(4):304-318.
- 137. Anderzén I, Arnetz BB. *Psychophysiological reactions to international adjustment*. Psychotherapy and Psychosomatics 1999;**68**:67-75.
- 138. Anke AGW, Fugl-Meyer AR. *Life satisfaction several years after severe multiple trauma a retrospective investigation.* Clinical Rehabilitation 2003;**17**(4):431-442.
- 139. Anson O, Rosenzweig A, P.Shwarzmann. *The health of women married to men in regular army service: Women who cannot afford to be ill.* Women & Health 1993;**20**(1):33-45.
- 140. Anson O, Paran E, Neumann L, Chernichovsky D. *Gender differences in health perceptions and their predictors.* Social Science and Medicine 1993;**36**(4):419-427.
- 141. Anson O, Carmel S, Levenson A, Bonneh DY, et al. *Coping with recent life events: The interplay of personal and collective resources.* Behavioral Medicine 1993;**18**(4):159-166.
- 142. Baker M, North D, Smith DF. Burnout, sense of coherence and sources of salutogenesis in social workers. Psychology, A Journal of Human Behavior 1997;34(1):22-26.
- 143. Berg JE, Brevik JI. Complaints that predict drop-out from a detoxification and counselling unit. Addictive Behaviors 1998;23(1):35-40.
- 144. Brooks J. Salutogenesis, successful aging, and the advancement of theory on family caregivning. In: McCubbin HI, Thompson EA, Thompson AI, Fromer JE ed. In: Stress, coping, and health in families. Sense of coherence and resiliency. Thousand Oaks: Sage Publications; 1998. p. 227-248.
- 145. Buddeberg-Fischer B, Klaghofer R, Schnyder U. Sense of coherence in adolescents. Sozial- und Präventivmedizin 2001;46(6):404-410.
- 146. Büchi S, Villiger P, Kauer Y, Klaghofer R, Sensky T, Stoll T. *PRISM (Pictorial Representation of Illness and Self Measure) a novel visual method to assess the global burden of illness in patients with systemic lupus erythematosus*. Lupus 2000;**9**:368-373.
- Cai D, Giles H, Noels K. Elderly perceptions of communication with older and younger adults in China: Implications for mental health. Journal of Applied Communication Research 1998;26:32-51.
- 148. Chumbler NR, Grimm JW, Cody M, Beck C. Gender, kinship and caregiver burden: the case of community-dwelling memory impaired seniors. International Journal of Geriatric Psychiatry 2003;18:722-732.
- Cochrane WM, Slade P. Appraisal and coping in adults with cleft lip: Associations with well-being and social anxiety. British Journal of Medical Psychology 1999;72:485-503.
- 150. Coe RM, Romeis JC, Hall MM. Sense of coherence and survival in the chronically ill elderly. A five-yar follow-up. In: McCubbin HI, Thompson EA, Thompson AI, E.Fromer J, editors. Stress, coping, and health in families. Sense of coherence and resiliency. Thousand Oaks California: Sage Publications; 1998.

- 151. Coward D. Self-transcendence and correlates in a healthy population. Nursing Research 1996;45(2):116-121.
- 152. Due EP, Holstein BE. "Sense of coherence", socialgruppe og helbred i en dansk befolkningsundersögelse. Ugeskrift for Laeger 1998;**160**(51):7424-7429.
- 153. Edwards D, Besseling E. *Relationship between depression, anxiety, sense of coherence, social support and religious...* South African Journal of Psychology 2001;**31**(4):p 62-72.
- 154. Eklund M, Hansson L, Bejerholm U. *Relationships between satisfaction with occupational factors and health-related variables in schizophrenia outpatients.* Social Psychiatry and Psychiatric Epidemiology 2001;**36**:79-85.
- 155. Ekman I, Fagerberg B, Lundman B. Health-related quality of life and sense of coherence among elderly patients with severe chronic heart failure in comparison with healthy controls. Heart & Lung: The Journal of Acute & Critical Care 2002;31(2):94-101.
- 156. Elovainio M, Kivimäki M. Sense of coherence and social support Resources for subjective well-being and health of the aged in Finland. International Journal of Social Welfare 2000;9:128-135.
- 157. Feldt T. Sense of coherence. Structure, stability and health promoting role in working life. Jyväskylä studies in education, psychology and social research. [Doctoral thesis.]. Jyväskylä: University of Jyväskylä; 2000.
- 158. Feldt T, Leskinen E, Kinnunen U, Ruoppila I. *The stability of sense of coherence:* comparing two age groups in a 5-year follow-up study. Personality and Individual Differences 2003;**35**:1151-1165.
- 159. Forbes DA. Enhancing mastery and sense of coherence: Important determinants of health in older adults. Geriatric Nursing 2001;22(1):29-32.
- 160. Forsberg C, Björvell H, Cedermark B. Well-being and its relation to coping ability in patients with colo-rectal and gastric cancer before and after surgery. Scandinavian Journal of Caring Science 1996;10:35-44.
- 161. Freire MCM, Sheiham A, Hardy R. *Adolescents' sense of coherence, oral health status, and oral health-related behaviours.* Community Dentistry and Oral Epidemiology 2001;**29**:204-212.
- Freire MdCM, Hardy R, Sheiham A. Mothers' sense of coherence and their adolescent children's oral health status and behaviours. Community Dental Health 2002;19:24-31.
- 163. Germano D, Misajon R, Cummins RA. Quality of life and sense of coherence in people with arthritis. Journal of Clinical Psychology in Medical Settings 2001;8(4):253-261.
- 164. George VD. Field-workers' sense of coherence and perception of risk when making home visits. Public Health Nursing 1996;13(4):244-252.
- 165. Giotakos O. Suicidal ideation, substance use, and sense of coherence in Greek male conscripts. Military Medicine 2003;168(6):447-450.
- 166. Gottlieb A. Single mothers of children with disabilities. The role of sense of coherence in managing multiple challenges. In: McCubbin HI TE, Thompson AI, Fromer JE, ed., editor. Stress, coping, and health in families. Sense of coherence and resiliency. Thousand Oaks, California: Sage Publications; 1998. p. 189-204.
- 167. Graham K. Alcohol abstention among older adults: Reasons for abstaining and characteristics of abstainers. Addiction Research 1998;6(6):473-487.
- 168. Guldvog B. Can patient satisfaction improve health among patients with angina pectoris? International Journal for Quality in Health Care 1999;11(3):233-240.
- Harri M. The sense of coherence among nurse educators in Finland. Nurse Education Today 1998;18:202-212.

- 170. Hassmén P, Koivula N, Uutela A. *Physical exercise and psychological well-being: A population study in Finland.* Preventive Medicine 2000;**30**:17-25.
- 171. Hedov G, Annerén G, Wikblad K. Swedish parents of children with Down's syndrome. Scandinavian Journal of Caring Science 2002;16:424-430.
- 172. Hensing G, Alexanderson K. *The relation of adult experience of domestic harassment, violence, and sexual abuse to health and sickness absence.* International Journal of Behavioral Medicine 2000;7(1):18 p.
- 173. Hessén Söderman A-C, Bergenius J, Bagger-Sjöbäck D, Tjell C, Langius A. *Patients'* subjective evaluations of quality of life related to disease-specific symptoms, sense of coherence, and treatment in Ménière's disease. Otology & Neurotology 2001;22:526-533.
- 174. Hessén Söderman A-C, Bagger-Sjöbäck D, Bergenius J, Langius A. Factors influencing quality of life in patients with Ménièr's disease, identified by a multidimensional approach. Otology & Neurotology 2002;23:941-948.
- 175. Hood Sc, Beaudet MP, Catlin G. A healthy outlook. Health Reports 1996;7(4):25-32.
- 176. Ingram KM, Corning AF, Schmidth LD. *The relationship of victimization experiences to psychological well-bering among homeless women and low-income housed women.*Journal of Conseling Psychology 1996;**43**(2):218-227.
- 177. Jakobsson L. *Indwelling catheter treatment and health-related quality of life in men with prostate cancer in comparison with men with benign prostatic hyperplasia.* Scandinavian Journal of Caring Science 2002;**16**:264-271.
- 178. Johansson JH, Engström T. Sense of coherence and ill health among the unemployed and re-employed after closure of an assembly plant. Work & Stress 1999;13(3):204-222.
- 179. Jonsson A, Segersten K, Mattsson B. *Post-traumatic stress among Swedish ambulance personnel*. Emergency Medicine Journal 2003;**20**:79-84.
- 180. Juvonen-Posti P, Kallanranta T, Eksymä S-L, Piirainen K, Keinänen-Kiukaanniemi S. Into work, through tailored paths: a two-year follow-up of the return-to-work rehabilitation and re-employment project. International Journal of Rehabilitation Research 2002;25:313-330.
- 181. Kalimo R, Pahkin K, Mutanen P. Work and personal resources as long-term predictors of well-being. Stress and Health 2002;18:227-234.
- Kalimo R, Pahkin K, Mutanen P, Toppinen-Tanner S. Staying well or burning out at work: work characteristics and personal resources as long-term predictors. Work & Stress 2003;17(2):109-122.
- Kamwendo K, Hansson M, Hjerpe I. Relationships between adherence, sense of coherence, and knowledge in cardiac rehabilitation. Rehabil Nurs 1998;23(5):240-5, 251.
- 184. Karlsson I, Berglin E, Larsson PA. Sense of coherence: quality of life before and after coronary artery bypass surgery a longitudinal study. Journal of Advanced Nursing 2000;31(6):1383-1392.
- 185. Kivimäki M, Kalimo R, Toppinen S. Sense of coherence as a modifier of occupational stress exposure, stress perception, and experienced strain: A study of industrial managers. Psychological Reports 1998;83:971-981.
- 186. Kivimäki M, Vahtera J, Elovainio M, Lillrank B, Kevin MV. Death or illness of a family member, violence, interpersonal conflict, and financial difficulties as predictors of sickness absence: Longitudinal cohort study on psychological and behavioral links. Psychosomatic Medicine 2002;64:817-825.
- 187. Kjaer Fuglsang A, Moergeli H, Hepp-Beg S. *Who devolops acute stress disorder after accidental injuries?* Psychotherapy and Psychosomatics 2002;71:214-222.

- 188. Klang B, Björvell H, Cronqvist A. *Patients with chronic renal failure and their ability to cope*. Scandinavian Journal of Caring Science 1996;**10**:89-95.
- 189. Klang B, Björvell H, Clyne N. *Quality of life in predialytic uremic patients*. Quality of Life Research 1996;**5**:109-116.
- Klang B, Björvell H, Clyne N. Predialysis education helps patients choose dialysis modality and increases disease-specific knowledge. Journal of Advanced Nursing 1999;29(4):869-876.
- 191. Klevens J, Restrepo O, Roca J, Martinez A. *Comparison of offenders with early- and late-starting antisocial behavior in Colombia*. International Journal of Offender Therapy and Comparative Criminology 2000;**44**(2):194-203.
- 192. Klevsgård R, Hallberg IR, Risberg B, Thomsen MB. *Quality of life associated with varying degrees of chronic lower limb ischaemia; Comparison with a healthy sample.* Eur J Vasc Endovasc Surg 1999;**17**:319-325.
- 193. Krantz G, Östergren P-O. *The association between violence victimisation and common symptoms in Swedish women.* Journal of Epidemiological Community Health 2000;**54**:815-821.
- 194. Kristenson M, Kucinskienë Z, Bergdahl B, Calkauskas H, Urmonas V, Orth-Gomér K. *Increased psychosocial strain in Lithuanian versus Swedish men: The LiVicordia study.* Psychosomatic Medicine 1998;**60**:277-282.
- Lajunen T, Corry A, Summala H, Hartley L. Cross-cultural differences in drivers' selfassessments of their perceptual-motor and safety skills: Australians and Finns. Personality and Individual Differences 1998;24(4):539-550.
- 196. Larsson G, Kallenberg K. Sense of coherence, socioeconomic conditions and health. Interrelationships in a nation-wide Swedish sample. European Journal of Public Health 1996;6:175-180.
- 197. Larsson G, Kallenberg K. Dimensional analysis of sense of coherence using structural equation modelling. European Journal of Personality 1999;13:51-61.
- 198. Larsson G, Michel P-O, Lundin T. Systematic assessment of mental health following various types of posttrauma support. Military Psychology 2000;12(2):121-135.
- 199. Larsson BW, Larsson G. Patients' views on quality of care: do they merely reflect their sense of coherence? Journal of Advanced Nursing 1999;30(1):33-39.
- 200. Lee JW, Jones PS, Mineayama Y, Zhang XE. *Cultural differences in responses to a Likert scale*. Research in Nursing & Health 2002;**25**:295-306.
- 201. Levert T, Lucas M, Ortlepp K. Burnout in psychiatric nurses: Contributions of the work environment and a sense of coherence. South African Journal of Psychology 2000;30(2):36-43.
- 202. Lutgendorf SK, Vitaliano PP, Tripp-Reimer T, Harvey JH, M.Lubaroff D. Sense of coherence moderates the relationship between life stress and natural killer cell activity in healthy older adults. Psychology and Aging 1999;14(4):552-563.
- 203. Mackie KS, Holahan CK, Gottlieb NH. *Employee involvement management practices, work stress, and depression in employees of a human services residential care facility.* Human Relations 2001;**54**(8):1065-1092.
- 204. Markström A, Sundell K, Lysdahl M, Andersson G, Schedin U, Klang B. *Quality-of-life evaluation of patients with neuromuscular and skeletal diseases treated with noninvaisive and invasive home mechanical ventilation.* Chest 2002;**122**(5):1695-1700.
- 205. Matsuura E, Ohta A, Kanegae F, Haruda Y, Ushiyama O, Koarada S, et al. *Frequency and analysis of factors closely associated with the development of depressive symptoms in patients with Scleroderma*. The Journal of Rheumatology 2003;**30**:1782-1787.

- 206. Mehlum L. Suicidal ideation and sense of coherence in male conscripts. Acta Psychiatrica Scandinavica 1998;98:487-492.
- 207. Melin R, Fugl-Meyer AR. *On prediction of vocational rehabilitation outcome at a Swedish employability institute.* J Rehabil Med 2003;**35**:284-289.
- 208. Mendel B, Bergenius J, Langius A. *The sense of coherence: a tool for evaluating patients with peripheral vestibular disorders*. Clincal Otolaryngology and Allied Sciences. 2001;**26**:19-24.
- 209. Motzer SU, Stewart J. Sense of coherence as a predictor of quality of life in persons with coronary heart disease surviving cardiac arrest. Research in Nursing & Health 1996;19:287-298.
- 210. Nasermoaddeli A, Sekine M, Hamanishi S, Kagamimori S. *Job strain and sleep quality in Japanese civil servants with special reference to sense of coherence*. Journal of Occupational Health 2002;**44**:337-342.
- 211. Nasermoaddeli A, Sekine M, Hamanishi S, Kagamimori S. Associations of sense of coherence with sickness absence and reported symptoms of illness in Japanese civil servants. Journal of Occupational Health 2003;45:231-233.
- 212. Nilsson B, Holmgren L, Stegmayr B, Westman G. Sense of coherence stability over time and relation to health, disease, and psychosocial changaes in a general population: A longitudinal study. Scandinavian Journal of Public Health 2003;31:297-304.
- Olsson MB, Hwang CP. Sense of coherence in parents of children with different developmental disabilities. Journal of Intellectual Disability Research 2002;46(7):548-559.
- 214. Pallant JF, Lae L. Sense of coherence, well-being, coping and personality factors: further evaluation of the sense of coherence scale. Personality and Individual Differences 2002;**33**:39-48.
- 215. Persson L, Hallberg IR, Ohlsson O. Survivors of acute leukaemia and highly malignant lymphoma retrospective views of daily life problems during treatment and when in remission. Journal of Advanced Nursing 1997;25:68-78.
- 216. Post-White J. The role of sense of coherence in mediating the effects of mental imagery on immune function, cancer outcome, and quality of life. In: McCubbin HI, Thompson EA, Thompson AI, Fromer JE, editors. Stress, coping, and health in families. Sense of coherence and resiliency. Thousand Oaks California: Sage Publications; 1998.
- 217. Ryland EK, Tegarden LF, King JC. The salutogenic effect of an MBA program. Sense of coherence and the academic experience of U.S. and foregin MBA students. In: In: McCubbin HI TE, Thompson AI, et al, editor. Stress, coping, and health in families. Sense of coherence and resiliency. Thousand Oaks: Sage Publications; 1998. p. 125-144.
- 218. Räty LK, Wilde Larsson B, Söderfeldt B. Health-related quality of life in youth: A comparison between adolescents and young adults with uncomplicated epilepsy and healthy controls. Journal of Adolescent Health 2003;33:252-258.
- 219. Sagy S. Effects of personal, family, and community characteristics on emotional reactions in a stress situation. Youth & Society 1998;29(3):311-330.
- Sagy S. Moderating factors explaining stress reactions: Comparing chronic-withoutacute-stress and chronic-with-acute-stress situations. The Journal of Psychology 2002;136(4):407-419.
- Sandén-Eriksson B. Coping with type-2 diabetes: the role of sense of coherence compared with active management. Journal of Advanced Nursing 2000;31(6):1393-1397.

- 222. Santavirta N, Björvell H, Konttinen YT, Solovieva S, Poussa M, Santavirta S. Sense of coherence and outcome of low-back surgery: 5-year follow-up of 80 patients. European Spine Journal 1996;5:229-235.
- 223. Santavirta N, Björvell B, Konttinen YT, Solovieva S, Poussa M, Santavirta S. Sense of coherence and outcome of anterior low-back fusion. A 5- to 13-year follow-up of 85 patients. Arch Orthop Trauma Surg 1996;115:280-285.
- 224. Sarid O, Anson O, Yaari A, Margalith M. Are coping resources related to humoral reaction induced by academic stress? An analysis of specific salivary antibodies to Epstein-Barr virus and cytomegalovirus. Psychology, Health & Medicine 2003;8(1):105-117.
- 225. Sarvimäki A, Ojala S. *De äldres livsbetingelser 2: känslan av sammanhang.* Gerontologia 1994;**8**(3):140-149.
- Schult M-L, Söderback I, Jacobs K. The sense-of-coherence and the capability of performing daily occupations in persons with chronic pain. Work & Stress 2000;15:189-201.
- 227. Smith SD. *The retirement transition and the later life family unit*. Public Health Nursing 1997;**14**(4):207-216.
- 228. Smith PM, Breslin CF, Beaton DE. Questioning the stability of sense of coherence. The impact of socio-economic status and working conditions in the Canadian population. Social Psychiatry and Psychiatric Epidemiology 2003;38:475-484.
- 229. Snekkevik H, Anke AG, Stanghelle JK, Fugl-Meyer AR. *Is sense of coherence stable after multiple trauma?* Clinical Rehabilitation 2003;**17**:443-453.
- 230. Soskolne V. Single parenthood, occupational drift and psychological distress among immigrant women from the former Soviet Union in Israel. Women & Health 2001;33(3/4):67-84.
- 231. Sperber AD, Carmel S, Atzmon Y, Weisberg I, Shalit Y, Neumann L, et al. The Sense of Coherence Index and the Irritable Bowel Syndrome. A cross-sectional comparison among irritable by by by by by by by and controls. Scandinavian Journal of Gastroenterology 1999;34:259-263.
- 232. Starrin B, Jönsson LR, Rantakeisu U. Sense of coherence during unemployment. International Journal of Social Welfare 2001;10:107-116.
- 233. Steiner A, Raube K, Stuck AE, Aronow HU, Draper D, Rubenstein LZ, et al. Measuring psychosocial aspects of well-being in older community residents: Performanace of four short scales. The Gerontologist 1996;36(1):54-62.
- 234. Stephens T, Dulberg C, Joubert N. *Mental health of the canadian population: A comprehensive analysis.* Chronic Deseases in Canada 1999;**20**(3):12 pp.
- 235. Strümpfer DJW. Psychometric properties of an instrument to measure resilience in adults. South African Journal of Psychology 2001;31(1):36-45.
- 236. Suominen S, Ahvenainen J, Mattila K, Rautava P, Koskenvuo M. Koherenssin tunne ja perusterveydenhuollon lääkäripalvelujen käyttö. Sense of coherence (SOC) and visits to doctors in the publicly and privately funded primary health care.

 Sosiaalilääketieteellinen aikakauslehti. Journal of Social Medicine 2002;39(4):296-303.
- 237. Svebak S, Söndenaa K, Hausken T, Söreide O, Hammar Å, Berstad A. *The significance of personality in pain from gallbladder stones*. Scandinavian Journal of Gastroenterology 2000;**35**:759-764.
- 238. Söderfeldt M, Söderfeldt B, Ohlson C-G, Theorell T, Jones J. *The impact of sense of coherence and high-demand/low-control job environment on self-reported health, burnout and psychophysiological stress indicators.* Work & Stress 2000;**14**(1):1-15.

- 239. Takkinen S, Ruoppila I. *Meaning in life in three samples of elderly persons with high cognitive functioning.* International Journal of Aging and Human Development 2001;**53**(1):51-73.
- Tang ST, Dixon J. Instrument translation and evaluation of equivalence and psychometric properties: The Chinese sense of coherence scale. 2002 2002;10(1):59-76.
- 241. Toppinen-Tanner S, Kalimo R. *Psychological symptoms and competence at three organizational levels of industrial design: The main and moderating role of sense of coherence.* Psychological Reports 2003;**92**:667-682.
- 242. Torsheim T, Aaroe Le, Wold B. Sense of coherence and school-related stress as predictors of subjective health complaints in early adolescence: interactive, indirect or direct relationships? Social Science and Medicine 2001;53:603-614.
- 243. Tselebis A, Moulou A, Ilias I. Burnout versus depression and sense of coherence: Study of Greek nursing staff. Nursing and Health Sciences 2001;3:69-71.
- 244. Veenstra M, Hofoss D. *Patient experiences with information in a hospital setting A multilevel approach.* Medical Care 2003;**41**(4):490-499.
- 245. Wells YD, Kendig HL. *Health and well-being of spouse caregivers and the widowed.* The Gerontologist 1997;**37**(5):666-674.
- 246. Wells YD, Kendig HL. *Psychological resources and successful retirement*. Australian Psychologist 1999;**34**(2):111-115.
- 247. Wettergren L, Langius A, Björkholm M, Björvell H. *Physical and psychosocial functioning in patients undergoing autologous bone marrow transplantation a prospective study.* Bone Marrow Transplantation 1997;**20**:497-502.
- 248. Virtanen P, Koivisto A-M. Wellbeing of professionals at entry into the labour market: a follow up survey of medicine and architecture students. Journal of Epidemiology and Community Health 2001;55:831-835.
- 249. Wolff AC, Ratner PA. Stress, social support, and sense of coherence. Western Journal of Nursing Research 1999;21(2):182-198.
- 250. Yam BMC, Shiu ATY. Perceived stress and sense of coherence among critical care nurses in Hong Kong: a pilot study. Journal of Clinical Nursing 2003;12:144-146.
- 251. Albertsen K, Nielsen ML, V.Borg. *The Danish psychosocial work environment and symptoms of stress: the main, mediating and moderating role of sense of coherence.* Work & Stress 2001;**15**(3):241-253.
- 252. Agardh EE, Ahlbom A, Andersson T, Efendic S, Grill V, Hallqvist J, et al. Work stress and low sense of coherence is associated with type 2 diabetes in middle-aged Swedish women. Diabetes Care 2003;26(3):719-724.
- 253. Andersen S, Berg JE. The use of a sense of coherence test to predict drop-out and mortality after residential treatment of substance abuse. Addiction Research & Theory 2001;9(3):239-251.
- 254. Anttila T, Poikolainen K, Uutela A, Lönnqvist J. Structure and determinants of worrying among adolescent girls. Journal of Youth Studies 2000;3(4):49-60.
- 255. Avlund K, Vass M, Hendriksen C. Onset of mobility disability among community-dwelling old men and women. The role of tiredness in daily activities. Age and Ageing 2003;32(6):579-584.
- 256. Bayard-Burfield L, Sundquist J, Johansson S-E. *Ethnicity, self reported psychiatric illness, and intake of psychotropic drugs in five ethnic groups in Sweden.* Journal of Epidemiology and Community Health 2001;55:657-664.
- 257. Berg JE, Andersen S, Brevik JI, Alveberg PÖ. *Drug addiction as a lifestyle*. Scandinavian Journal of Social Welfare 1996;**5**:30-34.

- 258. Berg JE. Use of a sense of coherence test and Hopkins Symptom Checklist to predict completion on stay in a postdetoxification counseling unit. The American Journal on Addictions 1996;5:327-333.
- 259. Berg JE, Andersen SBA. *Mortality 5 years after detoxification and counseling as indicated by psychometric tests.* Substance Abuse 2001;**22**(1):1-10.
- 260. Berg JE, Andersen S. Sense of coherence evaluated by treatment counsellors and substance abusers as an indication of length of stay. European Addiction Research 1997;3:99-102.
- 261. Berntsson L. *Health and well-being of children in the five Nordic countries in 1984 and 1996.* [Doctoral thesis.]. Göteborg: The Nordic School of Public Health.; 2000.
- 262. Bowen GL, Richman JM, Brewster A, Bowen N. Sense of school coherence, perceptions of danger at school, and teacher support among youth at risk of school failure. Child & Adolescent Social Work Journal 1998;15(4):273-286.
- Cheung P, Spears G. Psychiatric morbidity among New Zealand Cambodians: the role of psychosocial factors. Social Psychiatry and Psychiatric Epidemiology 1995;30:92-97
- 264. Eriksson N-G, Lundin T. Early traumatic stress reactions among Swedish survivors of the m/s Estonia disaster. British Journal of Psychiatry 1996;169:713-716.
- 265. Forsgärde M, Westman B, Nygren L. Ethical discussion groups as an intervention to improve the climate in interprofessional work with the elderly and disabled. Journal of Interprofessional Care 2000;14(4):351-361.
- 266. Gröholt E-K, Stigum H, Nordhagen R, Köhler L. *Is parental sense of cohrence associated with child health?* European Journal of Public Health 2003;**13**:195-201.
- 267. Hall-Lord ML, Larsson G, Steen B. *Chronic pain and distress in older people: A cluster analysis*. International Journal of Nursing Practice 1999;**5**:78-85.
- 268. Hall-Lord ML, Steen B, Larsson G. *Postoperative experiences of pain and distress in elderly patients. An explorative study.* Aging Clinical and Experimental Research 1999;**11**:73-82.
- 269. Hellström C, Jansson B, Carlsson SG. Subjective future as a mediating factor in the relation between pain, pain-related distress and depression. European Journal of Pain 1999;3:221-233.
- 270. Hoehn-Anderson K. The relationship between family sense of coherence and family quality of life after illness diagnosis. Collective and consensus views. In: McCubbin HI TE, Thompson AI, Fromer JE, ed., editor. Stress, coping, and health in families. Sense of coherence and resiliency. Thousand Oaks California: Sage Publications; 1998. p. 169-187.
- 271. Ing JD, Reutter L. Socioeconomic status, sense of coherence and health in Canadian women. Canadian Journal of Public Health 2003;94(3):224-228.
- Jahnsen R, Villien L, Stanghelle JK, Holm I. Coping potential and disability sense of coherence in adults with cerebral palsy. Disability and Rehabilitation 2002;24(10):511-518.
- 273. Johansson I, Hamrin E, Larsson G. Evaluation of the prognostic value of the health assessment form among patients clinically ready for discharge. Journal of Nursing Management 1994;2:77-85.
- 274. Johnsen MHS, Soviknes I, Torsheim T. Salutogenic coping resources and school-related stress: A prospective study of reciprocal effects. Mestringsressurser og opplevd skolerelatert stress: en prospektiv studie av gjensidige sammenhenger. Tidsskrift for Norsk Psykologforening 2001;38(9):821-828.

- 275. Kivimäki M, Vahtera J, Thomson L, Griffiths A, Cox T. *Psychosocial factors* predicting employee sickness absence during economic decline. Journal of Applied Psychology 1997;**82**(6):858-872.
- Kivimäki M, Feldt T, Vahtera J, Nurmi J-E. Sense of coherence and health: evidence from two cross-lagged longitudinal samples. Social Science and Medicine 2000;50:583-597.
- Kivimäki M, Elovainio M, Vahtera J, Nurmi J-E, Feldt T, Keltikangas-Järvinen L, et al. Sense of coherence as a mediator metween hostility and health. Seven-year prospective study on female employees. Journal of Psychosomatic Research 2002;52:239-247.
- 278. Kroll C, Blomberg H, Suominen S, Helenius H. Sense of coherence and health in two cultures a comparison between Finland and Japan. Sosiaalilääketieteellinen aikakauslehti. Journal of Social Medicine 1998;35:142-151.
- 279. Kuuppelomäki M, Utriainen P. *A 3 year follow-up study of health care students' sense of coherence and related smoking, drinking and physical exercise factors*. International Journal of Nursing Studies 2003;**40**(4):383-388.
- 280. Larsson G, Johansson I, Hamrin E. Sense of coherence among elderly somatic patients: predictive power regarding future needs of care. Journal of Nursing Management 1995;3:307-311.
- Larsson G, Kallenberg K, Setterlind S, Starrin B. Health and loss of a family member: Impact of sense of coherence. International Journal of Health Science 1994;5(1):5-11.
- 282. Loon AJMv, Tijhuis M, Surtees PG, Ormel J. *Personality and coping: their relationship with lifestyle risk factors for cancer.* Personality and Individual Differences 2001;**31**:541-553.
- 283. Lundberg O, Nyström Peck M. Sense of coherence, social structure and health. Evidence from a population survey in Sweden. European Journal of Public Health 1994;4:252-257.
- 284. Lundberg O, Nyström Peck M. A simplified way of measuring sense of coherence. Experiences from a population survey in Sweden. European Journal of Public Health 1995;5:56-59.
- 285. Margalit M, Tur-Kaspa H, Most T. Reciprocal nominations, reciprocal rejections and loneliness among students with learning disorders. Educational Psychology 1999;19(1):79-90.
- 286. Margalit M, Efrati M. Loneliness, coherence and companionship among children with learning disorder. Educational Psychology 1996;16(1):69-80.
- 287. Margalit M. Loneliness and coherence among preschool children with learning disabilities. Journal of Learning Disabilities 1998;31(2):173-180.
- 288. Midanik LT, Soghikian K, Ransom LJ, Polen MR. *Alcohol problems and sense of coherence among older adults*. Social Science and Medicine 1992;**34**(1):43-48.
- Most t, Al-Yagon M, Tur-Kaspa H, Margalit M. Phonological awareness, peer nominations, and social competence among preschool children at risk for developing learning disabilities. International Journal of Disability, Development and Education 2000;47(1):89-105.
- 290. Nash JK. Neighborhood effects on sense of school coherence and educational behavior in students at risk of school failure. Children & Schools 2002;**24**(2):73-89.
- 291. Niemelä M. *Koherenssin tunne ja työmarkkina-asema*. Sosiaalilääketieteellinen Aikakauslehti 2002;**39**:184-191.
- 292. Nyamathi AM. Relationship of resources to emotional distress, somatic complaints, and high-risk behaviors in drug recovery and homeless minority women. Journal of Health Care for the Poor and Underserved 1992;3(1):93-106.

- 293. Nyamathi A. Comparative study of factors relating to HIV risk level of black homeless women. Journal of Acquired Immune Deficiency Syndromes 1992;5:222-228.
- 294. Nyamathi AM. Sense of coherence in minority women at risk for HIV infection. Public Health Nursing 1993;10(3):151-158.
- 295. Sagy S, Dotan N. Coping resources of maltreated children in the family: a salutogenic approach. Child Abuse & Neglect 2001;25:1463-1480.
- 296. Schumann A, Hapke U, Meyer C, Rumpf H-J, John U. *Measuring sense of coherence with only three items: A useful tool for population surveys.* British Journal of Health Psychology 2003;**8**:409-421.
- 297. Smits CHM, Deeg DJH, Bosscher RJ. Well-being and control in older persons: the prediction of well-being from control measures. International Journal of Aging and Human Development 1995;40(3):237-251.
- 298. Strümpfer DJW. *The origins of health and strength: From "salutogenesis" to "fortigenesis."* South African Journal of Psychology 1995;**25**(2):81-89.
- Strümpfer DJW. The relation between religious motivation and work-related variables amongs agricultural workers. South African Journal of Psychology 1997;27(3):134-143.
- Sundquist J, Bayard-Bufield L, Johansson LM, Johansson S-E. Impact of ethnicity, violence and acculturation on displaced migrants. Psychological distress and psychosomatic complaints among refugees in Sweden. The Journal of Nervous and Mental Disease 2000;188(6):357-365.
- 301. Suominen S. Perceived health and life control. A theoretical review and empirical study about the connections between health and life control determined according to the strength of the sense of coherence. [Doctoral thesis.]. Jyväskylä: STAKES National Research and Development Centre for Welfare and Health, Research Reports 26.; 1993.
- 302. Suominen S, Blomberg H, Helenius H, Koskenvuo M. Sense of coherence and health does the association depend on resistance resources? A study of 3115 adults in Finland. Psychology and Health 1999;14:937-948.
- 303. Suominen S, Helenius H, Blomberg H, Uutela A, Koskenvuo M. Sense of coherence as a predictor of subjective state of health. Results of 4 years of follow-up of adults. Journal of Psychosomatic Research 2001;50:77-86.
- 304. Surtees P, Wainwright N, Luben R, Khaw K-T, Day N. Sense of coherence and mortality in men and women in the EPIC-Norfolk United Kingdom prospective cohort study. American Journal of Epidemiology 2003;158(12):1202-1209.
- 305. Vahtera J, Pentti J, Uutela A. The effect of objective job demands on registered sickness absence spells; do personal, social and job-related resources act as moderators? Work & Stress 1996;10(4):286-308.
- 306. Vinson JA. *Children with asthma: Initial development of the child resilience model.* Pediatric Nursing 2002;**28**(2):149-158.
- 307. Vuori J. Pre-employment antecedents of health resources, job factors and health risk behaviour in men and women. Work & Stress 1994;8(3):263-277.
- 308. Gibson LM, Cook MJ. *Neuroticism and sense of coherence*. Psychological Reports 1996;**79**:343-349.
- 309. Cederblad M, Hansson K. Sense of coherence a concept influencing health and quality of life in a Swedish psychiatric at-risk group. Israel Journal of Medical Sciences 1996;32(3-4):194-199.
- 310. Leddy SK. Development and psychometric testing of the Leddy Healthiness Scale. Research in Nursing & Health 1996;19:431-440.

- 311. Edman L, Larsen J, Hägglund H, Gardulf A. Health-related quality of life, symptom distress and sense of coherence in adult survivors of allogeneic stem-cell transplantation. European Journal of Cancer Care 2001;10:124-130.
- 312. Sammallahti P. Evaluating defenses with the Defense Style Questionnaire: A review. Psychiatria Fennica 1997;28:145-157.
- 313. Linn J, Poku K, Cain V, al e. *Psychosocial outcomes of HIV illness in male and female African American clients*. Social Work in Health Care 1995;**21**(3):43-60.
- 314. Ying Y-W, Akutsu PD, Zhang X, Huang LN. *Psychological dysfunction in southeast Asian refugees as mediated by sense of coherence*. American Journal of Community Psychology 1997;**25**(6):839-859.
- 315. Gana K. *Is sense of coherence a mediator between adversity and psychological well-being in adults?* Stress and Health 2001;**17**:77-83.
- 316. Mlonzi EN, Strümpfer DJW. *Antonovsky's sense of coherence scale and 16PF second-order factors*. Social Behavior and Personality 1998;**26**(1):39-50.
- 317. Flannery R, Perry C, Penk WE, Flannery GJ. *Validating Antonovsky's sense of coherence scale.* Journal of Clinical Psychology 1994;**50**(4):575-577.
- 318. Gilbar O. *Relationship between burnout and sense of coherence in health social workers.* Social Work in Health Care 1998;**26**(3):39-49.
- 319. Höfer R, Straus F. Sense of coherence and health in disadvantaged adolescents. International Journal of Adolescent Medicine and Health 1997;9(4):271-283.
- 320. Drory Y, Kravetz S, Florian V. *Psychosocial adjustment in patients after a first acute myocardial infarction: The contribution of salutogenic and pathogenic variables.*Archives of Physical Medicine and Rehabilitation 1999;**80**(7):811-818.
- 321. Lundman B, Norberg A. The significance of a sense of coherence for subjective health in persons eith insulin-dependent diabetes. Journal of Advanced Nursing 1993;18:381-386
- 322. Rennemark M, Hagberg B. What makes old people perceive symptoms of illness? The impact of psychological and social factors. Aging & Mental Health 1999;3(1):79-87.
- 323. Gibson LM, Parker V. *Inner resources as predictors of psychological well-being in middle-income african american breast cancer survivors.* Cancer Control 2003;**10**(5 Suppl):52-9.
- 324. Amirkhan JH, Greaves H. Sense of coherence and stress: The mechanics of a healthy disposition. Psychology & Health 2003;18(1):31-62.
- 325. Sivberg B. Coping strategies and parental attitudes. A comparison of parents with children with autistic spectrum disorders and parents with non-autistic children. International Journal of Circumpolar Health 2002;61(suppl 2):36-50.
- 326. Ruiselová Z. Salutogenetic approach in the context of the big five factors. Studia Psychologica 2000;**42**(3):157-161.
- 327. Ruiselová Z. Relationship between resistance to load and personality traits in elderly women. Studie Psychologica 2002;44(3):227-233.
- 328. Strümpfer DJW. Sense of coherence, negative affectivity, and general health in farm supervisors. Psychological Reports 1997;80:963-966.
- 329. Ruiselová Z. *Self-evaluation of coping in the context of personal intelligence*. Studia Psychologica 1995;**37**(3):149-153.
- 330. Senka J. Coping processes in groups at risk in the context of psychological health aspects. Studia Psychologica 1995;37(3):154-156.
- 331. Bishop GD. *The sense of coherence as a resource in dealing with stress.* Psychologia: An International Journal of Psychology in the Orient 1993;**36**(4):259-265.
- 332. Shahani C, Weiner R, Streit MK. An investigation of the dispositional nature of the time management construct. Anxiety, Stress, and Coping 1993;6:231-243.

- 333. Klevsgård R, Hallberg IR, Risberg B, Thomsen MB. *The effects of successful intervention on quality of life in patients with varying degrees of lower-limb ischaemia.* European Journal of Vascular and Endovascular Surgery 2000;**19**:238-245.
- 334. Nasermoaddeli A, Sekine M, Hamanishi S, Kagamimori S. *Associations between sense of coherence and psychological work characteristics with changes in quality of life in Japanese civil servants: A 1-year follow-up study.* Industrial Health 2003;**41**:236-241.
- 335. Pasikowski T, Sek H, Scigala I. "Sense of coherence" and subjective health concepts. Polish Psychological Bulletin 1994;25(1):15-23.
- 336. Ekblad S, Wennström C. Relationships between traumatic life events, symptoms and sense of coherence subscale meaningfulness in a group of refugee and immigrant patients referred to a psychiatric outpatient clinic in Stockholm. Scandinavian Journal of Social Welfare 1997;6:279-285.
- 337. Gibson LM, Cook MJ. Do health questionnaires which do not consider sex differences miss important information. Psychological Reports 1997;81:163-171.
- 338. McSherry WC, Holm JE. Sense of coherence: Its effects on psychological and physiological processes prior to, during, and after a stressful situation. Journal of Clinical Psychology 1994;50(4):476-487.
- 339. Feldt T. Sense of coherence. Structure, stability and health promoting role in working life. Jyväskylä studies in education, psychology and social research158. [Doctoral thesis.]. Jyväskylä: University of Jyväskylä; 2000.
- 340. Ibrahim S, Scott FE, Cole DC, Shannon HS, Eyles J. *Job strain and self-reported health among working women and men: An analysis of the 1994/5 Canadian National Population Health Survey.* Women's Work, Health and Quality of Life 2001:105-124.
- 341. Korotkov DL. An assessment of the (short-form) sense of coherence personality measure: Issues of validity and well-being. Personality and Individual Differences 1993;14(4):575-583.
- 342. Persson D, Eklund M, Isacsson Å. *The experience of everyday occupations and its relation to sense of coherence a methodological study.* In: Persson D. Aspects of meaning in everyday occupations and its relationships to health-related factors. Lund university, Faculty of Medicine, Department of Clinical Neuroscience, Division of Occupational Therapy. Doctoral thesis. Lund 2001.; 1999.
- 343. Johansson I, Larsson G, Hamrin E. Sense of coherence, quality of life, and function among elderly hip fracture patients. Aging Clinical and Experimental Research 1998;10:377-384.
- 344. Ristner G, Andersson R, Johansson LM, Johansson S-E, Ponzer S. Sense of coherence and lack of control in relation to outcome after orthopaedic injuries. Injury, International Journal of Care Injured 2000;31:751-756.