

DRO

Deakin University's Research Repository

This is the published version:

Speight, Jane, McMillan, Carolyn, Barrington, Mark and Victor, Christina 2007, *Review of scales of positive mental health validated for use with adults in the UK : Technical report*, Health Scotland, Edinburgh, Scotland.

Available from Deakin Research Online:

<http://hdl.handle.net/10536/DRO/DU:30036485>

Reproduced with the kind permission of the copyright owner

Copyright : 2008, Health Scotland

Review of scales of positive mental health validated for use with adults in the UK: Technical report

December 2007

Commissioned and edited by Dr Jane Parkinson,
Public Health Adviser, Health Scotland

Published by Health Scotland

Edinburgh office

Woodburn House,
Canaan Lane,
Edinburgh, EH10 4SG

Glasgow office

Elphinstone House,
65 West Regent Street,
Glasgow G2 2AF

© NHS Health Scotland, 2008

Health Scotland is a WHO Collaborating
Centre for Health Promotion and Public
Health Development

Contents

Abbreviations	iii
Report authorship	vii
Acknowledgements by AHP Research	vii
Executive summary	ix
Foreword	xvi
1. Introduction	1
1.1 Aims and objectives of this review	3
1.2 Outline of this review	3
1.3 Criteria	4
2. Methods	5
2.1 Literature review	5
2.1.1 <i>Manual scoping</i>	6
2.1.2 <i>Preliminary electronic search</i>	7
2.1.3 <i>Strategic electronic search</i>	7
2.1.4 <i>Abstract screening</i>	8
2.1.5 <i>Literature retrieval and further screening</i>	10
2.1.6 <i>Retrieval of evidence of scale properties and data entry</i>	10
2.1.7 <i>Multi-level appraisal process</i>	10
2.2 Expert consultation	11
2.2.1 <i>Interviews</i>	12
2.2.2 <i>Peer review of report</i>	12
3. Key issues in the appropriate selection and use of scales	13
3.1 Types of scales	13
3.1.1 <i>Single-item measures</i>	13
3.1.2 <i>Level of measurement</i>	14
3.1.3 <i>Dichotomous vs. continuous response scales</i>	14
3.2 Scale structure	15
3.2.1 <i>Exploratory factor analysis</i>	15
3.2.2 <i>Confirmatory factor analysis</i>	16
3.3 Reliability	17
3.3.1 <i>Internal consistency reliability</i>	17
3.3.2 <i>Test-retest reliability</i>	18
3.4 Validity	18
3.4.1 <i>Content validity</i>	19
3.4.2 <i>Construct validity</i>	19
3.5 The relationship between validity and reliability	20
3.6 Responsiveness and sensitivity to change	21
3.7 Appropriateness	22
3.8 Acceptability	22
3.9 Feasibility	23
3.10 Translations and cross-cultural validity	23

4. Scales to assess aspects of positive mental health	26
4.1 Introduction	26
4.2 Scales of emotional well-being	35
4.2.1 <i>Description of scales</i>	35
4.2.2 <i>Appraisal of scales</i>	36
4.3 Life satisfaction	58
4.3.1 <i>Description of scales</i>	58
4.3.2 <i>Appraisal of scales</i>	58
4.4 Optimism and Hope	69
4.4.1 <i>Description of scales</i>	69
4.4.2 <i>Appraisal of scales</i>	69
4.5 Scales of self-esteem	81
4.5.1 <i>Description of scales</i>	81
4.5.2 <i>Appraisal of scales</i>	81
4.6 Resilience and Coping	96
4.6.1 <i>Description of scales</i>	96
4.6.2 <i>Appraisal of scales</i>	97
4.7 Spirituality	118
4.7.1 <i>Description of scales</i>	118
4.7.2 <i>Appraisal of scales</i>	118
4.8 Social functioning	129
4.8.1 <i>Description of scales</i>	129
4.8.2 <i>Appraisal of scales</i>	130
4.9 Emotional intelligence	157
4.9.1 <i>Description of scales</i>	157
4.9.2 <i>Appraisal of scales</i>	157
5. Discussion	166
5.1 Summary of findings	166
5.2 Recommendations of which scales to use	168
5.3 Limitations of this review	170
5.3.1 <i>Elements and mediators, terminology and definitions</i>	170
5.3.2 <i>Methods</i>	171
5.4 Implications of this review	171
5.4.1 <i>For future research</i>	171
5.4.2 <i>For developers of scales</i>	171
5.4.3 <i>For users of scales</i>	172
5.5 Conclusion	173
References	174
Appendices	191
Appendix A Glossary of terms	192
Appendix B Results of preliminary electronic search	199
Appendix C Interview schedule for expert consultation	206
Appendix D Summaries of scales excluded from review	209
Appendix E Scales of positive mental health	247

Abbreviations

ABS	Affect Balance Scale©
Affect-2	Affectometer 2
AGFI	Adjusted Goodness of Fit Index (used in Confirmatory Factor Analysis)
ASQ	Attributional Style Questionnaire
BCOPE	Brief COPE
BDI	Beck Depression Inventory
BMMRS	Brief Multidimensional Measure of Religiousness/Spirituality
BSES	Basic Self-Esteem Scale
CD-RISC	Connor-Davidson Resilience Scale
CES-D	Centre for Epidemiological Studies – Depression
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index (used in Confirmatory Factor Analysis)
CISS	Coping Inventory for Stressful Situations
COPE	COPE Scale
CRI	Coping Responses Inventory
CSEI	Coopersmith Self-Esteem Inventory
CSQ	Coping Styles Questionnaire
DHS	Depression-Happiness Scale
DSSI	Duke Social Support Index
DTS	Delighted-Terrible Scale
DUFSS	Duke-UNC Functional Social Support Questionnaire
DUSOCS	Duke Social Support and Stress Scale
EASQ	(Expanded) Attributional Styles Questionnaire
ECI	Emotional Competency Inventory
EFA	Exploratory Factor Analysis
EI	Emotional Intelligence
EIS	Emotional Intelligence Scale (33-item)
EQ-i	Emotional Quotient Inventory
ER89	Ego-Resiliency Scale
ESS	European Social Survey – Personal and Social Well-being Module
ESWLS	Extended Satisfaction With Life Scale
EVI	Energy and Vitality Index (of the SF-36)
EWB	Existential Well-being
FDC	Functional Dimensions of Coping Scale
FOD	Fear Of Disclosure
FRI	Family Relationship Index
FS	Fighting Spirit
GESS-R	Generalised Expectancy for Success Scale – Revised
GFI	Goodness of Fit Index (used in Confirmatory Factor Analysis)
GHQ12	General Health Questionnaire – 12
GHQ30	General Health Questionnaire – 30

GQOL	Global Quality of Life Scale
GSE	General Self-Efficacy Scale
GWBI	General Well-being Index
HADS	Hospital Anxiety and Depression Scale
HaPI	Health and Psychosocial Instruments
HDL	Health and Daily Living Form
HOPES	Hunter Opinions and Personal Expectations Scale
HSCL	Hopkins Symptom Checklist
ISEL	Interpersonal Support Evaluation List
ISSB	Inventory of Socially Supportive Behaviours
ITQ	Interpersonal Trust Questionnaire
ITS	Interpersonal Trust Scale
KAS	Katz Adjustment Scales
LAP-R	Life Attitude Profile – Revised
LEQ	Life Effectiveness Questionnaire
LHS	Leddy Healthiness Scale
LOT	Life Orientation Test
LOT-O	Life Orientation Test – Optimism
LOT-P	Life Orientation Test – Pessimism
LOT-R	Life Orientation Test – Revised
LOT-R O	Life Orientation Test – Revised – Optimism subscale
LOT-R P	Life Orientation Test – Revised – Pessimism subscale
LRI	Life Regard Index
LSNS	Lubben Social Network Scale
MAACL	Multiple Affect Adjective Check List
MHC-LF	Mental Health Continuum – Long-Form
MHC-SF	Mental Health Continuum – Short-Form
MHI	Mental Health Improvement
MLQ	Meaning in Life Questionnaire
MOS-SSS	MOS Social Support Survey
MS	Mysticism Scale
MSCEIT	Mayer-Salovey-Caruso Emotional Intelligence Test
MSES	Multidimensional Self-Esteem Scale (previously known as the Revised Janis-Field Feelings of Inadequacy Scale)
MSPSS	Multidimensional Scale of Perceived Social Support
NA	Negative Affect
NAP	Negative Affect/Pessimism
NHS	National Health Service
O3SS	Oslo 3-item Social Support Scale
OHQ	Oxford Happiness Questionnaire
OHQ-SF	Oxford Happiness Questionnaire – Short-Form
OPI	Optimism/Pessimism Instrument
PA	Positive Affect
PANAS	Positive and Negative Affect Schedule

PANEQ	Positive And Negative Expectancy Questionnaire
PAO	Positive Affect/Optimism
PCI	Proactive Coping Inventory
PGCS	Personal Growth Composite Scale
PGWBI©	Psychological General Well-being Index©
PIL Scale	Purpose in Life Scale
PIL Test	Purpose in Life Test
PMH	Positive Mental Health
PMI	Personal Meaning Index
PMP	Personal Meaning Profile
PROS	Positive Relations with Others Scale
PSS-Fa	Perceived Social Support – Family
PSSFF	Perceived Social Support from Family and Friends
PSS-Fr	Perceived Social Support – Friends
PVS III-R	Personal Views Survey III-R®
PWI-A	Personal Well-being Index - Adult
QLQ	Quality of Life Questionnaire
QoL	Quality of Life
QRI	Quality of Relationships Inventory
RMHI	Rand Mental Health Inventory
RSCQ	Robson Self-Concept Questionnaire
RSES	Rosenberg Self-Esteem Scales
RWB	Religious Well-being
SAS	Social Adjustment Scale
SC	Social Coping
SD	Standard Deviation
SDHS	Short Depression-Happiness Scale
SE	Self-Esteem
SF-36	Short-Form 36
SHI	Staats Hope Index
SHS	State Hope Scale
SHS	Subjective Happiness Scale
SI	Social Intimacy
SISA	Short Index of Self-Actualisation Scale
SISH	Single-Item Scale of Happiness
SMS	Spiritual Meaning Scale
SOC	Sense of Coherence Scale
SOMP-R	Sources of Meaning Profile – Revised
SPWB	Scales of Psychological Well-being (Ryff's)
SRM	Standardised Response Mean
SRQ	Self-Regard Questionnaire
SRQ	Social-Regard Questionnaire
SRS	Social Relationship Scale
SS-A	Social Support Appraisals Scale

SS-B	Social Support Behaviours Scale
SSES	State Self-Esteem Scale
SSI	Social Support Index
SSQ	Social Support Questionnaire
SSQ-B	Social Support Questionnaire – Brief
STAI	State Trait Anxiety Inventory
SWB	Spiritual Well-being
SWBS	Spiritual Well-being Scale
SWLS	Satisfaction With Life Scale
T(D)HS	Trait (Dispositional) Hope Scale
TEIQue	Trait Emotional Intelligence Questionnaire
TEIQue-SF	Trait Emotional Intelligence Questionnaire – Short-Form
TSCS:2	Tennessee Self-Concept Scale: Second Edition
TSWLS	Temporal Satisfaction With Life Scale
VASES	Visual Analogue Self-Esteem Scale
WAYS	Ways of Coping
W-BQ12	Well-being Questionnaire – 12
W-BQ22	Well-being Questionnaire – 22
WEMWBS	Warwick-Edinburgh Mental Well-being Scale
WHO	World Health Organization
WHO-5	World Health Organization – 5 Well-being Index
WHOQOL-100	World Health Organization Quality of Life – 100
WHOQOL-BREF	World Health Organization Quality of Life – BREF

Report authorship

This report is based on a commissioned research report by AHP Research which has been edited by Dr Jane Parkinson, NHS Health Scotland, with input from Emma Hogg, NHS Health Scotland, and Dr Lynne Friedli, Mental Health Promotion Specialist. AHP Research was responsible for the identification of appropriate scales, for the identification and review of the source material, for seeking permission to reproduce scales in Appendix E and adhering to copyright stipulations. AHP alone remains responsible for the content and recommendations in the original report on which this reworked and reformatted version is based. The original source material was not revisited. Professor Stephen Platt contributed to the Introduction and the Foreword was provided by Dr Jane Parkinson and Emma Hogg. Thanks also go to the Mental Health Indicators Advisory Group for their input both at the conception of the commissioned research and draft report stages.

Acknowledgements by AHP Research

The review of scales of positive mental health was commissioned by Dr Jane Parkinson (Public Health Adviser, Mental Health Indicators, NHS Health Scotland)¹ and Emma Hogg (Health Improvement Programme Manager, Mental Health, NHS Health Scotland) to support work for the Scottish Government² National Programme for Improving Mental Health and Well-being.

The review was conducted by Dr Jane Speight and Dr Carolyn McMillan of AHP Research, with Dr Mark Barrington (Consultant Clinical Psychologist, St Bartholomew's Hospital, London) and Professor Christina Victor (Professor of Health Services Research, University of Reading) acting as clinical and scientific advisors.

We would like to thank all those who have helped in the development of this review. In particular, we are grateful to those who participated in our expert consultation process (as interviewees, peer reviewers or both), who contributed their time and considerable experience to enhance our understanding and reporting:

- Dr Elizabeth Austin, Psychology Department, University of Edinburgh
- Dr Nick Baylis, Co-Director of the Well-being Institute, University of Cambridge
- Dr Sandra Boersma, Faculty of Social & Behavioural Sciences, Leiden University
- Professor Alan Carr, School of Psychology, University College Dublin
- Dr Elaine Duncan, Department of Psychology, Glasgow Caledonian University
- Dr Louise Earll, Research that Works
- Dr Anne Haase, Department of Exercise and Health Sciences, University of Bristol
- Jan Henderson, Mental Health & Well-being Health Promotion, NHS Argyll & Clyde

¹ The lead commissioner.

² Formerly the Scottish Executive

- Professor Felicia Huppert, Department of Psychiatry, University of Cambridge
- Dr Corey Keyes, Department of Sociology, Emory University, USA
- Amanda Knight, Centre for Applied Emotional Intelligence, Frampton on Severn, Gloucestershire
- Dr Alex Linley, School of Psychology, University of Leicester
- Professor Kate Loewenthal, Department of Psychology, Royal Holloway University of London
- Dr Ansa Ojanlatva, Centre for Reproductive and Developmental Medicine, University of Turku, Finland
- Professor Maria Elena Magrin, Faculty of Psychology, University of Milano-Bicocca, Italy
- Dr Nic Marks, New Economics Foundation, London
- Dr Derek McLeod-Petrie, NHS Grampian Public Health
- Dr Ken Pakenham, School of Psychology, University of Queensland, Australia
- Michael Rainsford, HSE Western Region, Mental Health Promotion, Sligo, Ireland
- Professor Stephen Stansfield, Department of Psychiatry, Barts and The London, Queen Mary's School of Medicine, London
- Professor Sarah Stewart-Brown, University of Warwick Medical School
- Dr Anne Stiggelbout, Leiden University Medical Centre
- Dr Veronica Viganò, Ambulatory for Evaluation & Management of Occupational Stress, San Gerardo Hospital, Monza, Italy
- Professor Joar Vittersø, Department of Psychology, University of Tromsø, Norway
- Professor Craig White, Consulting & Clinical Psychology Services, NHS Ayrshire & Arran

We would also like to thank the developers of scales/copyright holders who:

- provided up-to-date copies of their scales (and in some cases, supporting evidence) for us to review
- gave their permission for a copy of their scale (or a selection of items) to be included in the Appendices for the benefit of users when selecting an appropriate measure.

Finally, we would like to thank Bree Cant and Michelle Chan of AHP Research for their excellent administrative support, collation of information and attention to detail.

Executive summary

Background and objectives

This report provides a critical review of scales suitable for measuring positive mental health (PMH). The review is part of NHS Health Scotland's Mental Health Indicator programme, a major programme of work that supports the Scottish Government's National Programme for Improving Mental Health and Well-being and aimed to establish a core set of national, sustainable mental health indicators, which will provide the means to monitor mental health (covering both PMH and mental health problems) at a national level.

It is complemented by a practitioner report produced alongside this report as part of NHS Health Scotland's Mental Health Improvement Evidence into Practice programme.³

There is increasing recognition of the need to shift mental health policy and practice from the traditional emphasis on mental health problems to include the promotion of PMH. Increasing awareness of and access to scales relevant to PMH that have been validated for use in the UK will make an important contribution to this.

The objectives of the review were to:

- identify the scales purporting to measure: elements of PMH; factors which influence PMH; and the consequences of PMH (hereafter collectively referred to as aspects of PMH) selected to be the focus of the review⁴ (within the context of key inclusion criteria)
- critically appraise the scales, documenting the characteristics, psychometric properties, practicalities and relative merits of each
- make recommendations regarding the most appropriate scales for assessing the aspects of PMH, for use either in national surveys or by practitioners assessing the impact of local interventions
- produce both a 'technical report' and a 'practitioner guide'² to selecting appropriate scales with which to evaluate local interventions.

Methods

Review of the literature

A targeted, structured review of the literature published between 1995 and the end of 2005 was conducted using the Health and Psychosocial Instruments database to identify suitable scales, and the Web of Science and PubMed databases to identify their properties. The selection criteria for scales were that they: (1) measure one of the aspects of PMH identified for inclusion in the review; (2) focus more on positive aspects of mental health than mental health problems; (3) are suitable for use with

³ 'Mental Health Improvement: Evidence and Practice Guide 5: Selecting scales to assess mental well-being', www.healthscotland.com/mental-health-work.aspx#action (in press).

⁴ The aspects of PMH included in the review were identified in discussion with the Mental Health Indicators Advisory Group and adjusted by the researchers in the course of the review.

the general adult population; (4) have been validated psychometrically for use in the UK; (5) do not require the user to undergo specialist training.

Consultation with experts

Semi-structured interviews took place with 18 experts in the field of PMH to discuss the selected aspects of PMH and their views on the identified scales. Twenty-three experts also reviewed and commented on draft reports at various stages of completion.

Appraisal of scales

A multi-level appraisal process assessed each selected scale on the basis of:

- essential psychometric properties (content validity, scale structure, reliability)
- desirable psychometric properties (construct validity, responsiveness, norms data)
- practicalities (number of items, reported completion time, cost, access).

Scales were also given an overall rating based on their essential and desirable psychometric properties.

Results

Eight aspects of PMH were selected for the focus of the review with forty-nine scales identified for inclusion. The expert consultation largely confirmed the eight chosen aspects of PMH and the choice of scales, although there is ongoing debate in the field about definition of terms.

The identified scales were:

Aspect of PMH	Scales
Emotional well-being (9) (These scales include but are not confined to addressing positive affect. Scales with a more general focus on overall PMH are also included here)	Affect Balance Scale© Affectometer 2 Depression-Happiness Scale Oxford Happiness Questionnaire Oxford Happiness Questionnaire – Short-Form Positive and Negative Affect Schedule Psychological General Well-being Index© Short Depression-Happiness Scale Well-being Questionnaire
Life satisfaction (4)	Delighted-Terrible Scale Global Quality of Life Scale Satisfaction with Life Scale World Health Organization Quality of Life – BREF
Optimism and Hope (5)	Dispositional Hope Scale Generalised Expectancy for Success Scale Life Orientation Test Life Orientation Test – Revised Positive and Negative Expectancy Questionnaire
Self-esteem (5)	Basic Self-Esteem Scale

	Coopersmith Self-Esteem Inventory Robson Self-Concept Questionnaire Rosenberg Self-Esteem Scale Visual Analogue Self-Esteem Scale
Resilience and Coping (8)	Attributional Style Questionnaire Brief COPE Scale COPE Scale Coping Styles Questionnaire Functional Dimensions of Coping Scale General Self-Efficacy Scale Sense of Coherence Scale Ways of Coping
Spirituality (4)	Life Attitude Profile – Revised Meaning in Life Questionnaire Purpose in Life Test Spiritual Well-being Scale
Social functioning (11)	Duke-UNC Functional Social Support Questionnaire Interpersonal Support Evaluation List Interpersonal Trust Questionnaire Interpersonal Trust Scale Inventory of Socially Supportive Behaviours MOS Social Support Survey Multidimensional Scale of Perceived Social Support Oslo 3-item Social Support Scale Perceived Social Support from Family and Friends Social Support Questionnaire Social Support Questionnaire – Brief
Emotional intelligence (3)	Emotional Intelligence Scale Trait Emotional Intelligence Questionnaire Trait Emotional Intelligence Questionnaire – Short-Form Trait Emotional Intelligence

Of these scales the following recommendations for use have been made:

1. **Emotional well-being⁵** Scales with a general focus on PMH include the Affectometer 2, the Well-being Questionnaire (W-BQ12) and the Psychological General Well-being Index. Most others measure positive affect.

⁵ Includes but is not confined to positive affect, and it is here that scales with a more general focus on PMH overall are to be found.

The Affectometer 2 appears good as a scale for overall PMH and a short, substantially revised version – the Warwick-Edinburgh Mental Well-being Scale – is under development. The W-BQ12 provides a brief overview of positive well-being, negative well-being and energy and is valid and reliable. It has not been used widely in the general population but with strong evidence for its responsiveness it is a strong contender for the purposes of evaluating interventions, while the Positive and Negative Affect Schedule is a valid, reliable, detailed scale of positive and negative affect, and may be useful for national surveys.

2. **Life satisfaction** The Satisfaction with Life Scale assesses various perspectives on life satisfaction: with good psychometric properties and normative data it is the favoured choice. When response burden is a concern, however, the single-item scales may well be useful, while the WHOQOL-BREF can be recommended where a more detailed scale is required, especially for assessing wide-ranging factors that may influence life satisfaction, or where completion time/respondent burden is not an issue.
3. **Optimism and Hope** The scales for optimism and hope differ in their cognitive complexity but with similar overall ratings it is difficult to recommend one. Where a very brief measure is required, the Life Orientation Test – Revised is a good choice.
4. **Self-esteem** The most widely used, and arguably the best, scale is Rosenberg's Self-Esteem Scale. For a more detailed assessment, there is good evidence for Robson's Self-Concept Questionnaire, while the Visual Analogue Self-Esteem Scale is particularly suitable for use with language-impaired people or those with 'questionnaire fatigue'.
5. **Resilience and Coping** The General Self-Efficacy Scale (GSE) and the Sense of Coherence Scale (SOC) have reasonable evidence for their psychometric properties and differ more in terms of their approach to measurement. The GSE is a brief, widely used scale with slightly more evidence for its psychometric properties. The SOC offers a similar approach to the GSE in its domain of 'manageability' but also has domains assessing 'comprehensibility' and 'meaningfulness'. It is likely to require longer completion time and may be burdensome for the respondent.

For coping, it is difficult to differentiate between the scales on psychometric properties. To assess several different styles of coping reliably, most scales include 40–70 items and even the Brief COPE includes 28. The Attributional Style Questionnaire includes only 12 items but its use of hypothetical scenarios is potentially a limitation.

6. **Spirituality** The Meaning in Life Questionnaire offers the most concise measure of spirituality and has practical advantages over the other scales. It also has good content validity and superior evidence for its scale structure and reliability. The Spiritual Well-being Scale focuses on spiritual well-being, both religious and existential. Thus, it offers a slightly different focus from other scales. Reported ceiling effects in some religious samples may limit its usefulness for some purposes. However, for the general population, this may not be relevant and the

scale is particularly useful for identifying those experiencing spiritual distress or lack of well-being. The Life Attitude Profile – Revised is a lengthy measure with several subscales for aspects of spirituality but can provide detailed measurement of spirituality.

7. Social functioning

Interpersonal trust The Interpersonal Trust Questionnaire is recommended because it has reasonable psychometric properties and provides general measures of trust (Fear of Disclosure) and the extent to which an individual turns to others when he/she has a problem (Social Coping) and is prepared to express emotions (Social Intimacy). But it is lengthy.

Perceived sources of social support There is greatest evidence in support of the Multidimensional Scale of Perceived Social Support, which includes assessment of support received from family, friends and significant other.

Functional social support Both the MOS Social Support Survey (MOS-SSS) and Interpersonal Support Evaluation List (ISEL) are suitable. The MOS-SSS appears to be marginally better, largely because it has been used more widely and so the evidence for its psychometric properties is quite strong. The ISEL is more lengthy but measures tangible support, social support, self-esteem and belonging and therefore provides a more balanced measure of functional social support, which is arguably better designed than the MOS-SSS.

Social networks The Social Support Questionnaire can be recommended for a detailed assessment of both objective and subjective social support and it has a short-form if respondent burden or time is an issue.

For a brief measure of social functioning, the Oslo 3-item Social Support Scale provides a measure of the number of people the respondent feels close to, as well as interest and concern shown by others and ease of obtaining practical help. Unfortunately, its structure and reliability have not been well-documented despite widespread use in several European countries, but its brevity and the availability of normative data are considerations.

8. **Emotional intelligence** None of the scales is particularly strong in terms of psychometric properties and few properties really distinguish them. The Emotional Intelligence Scale has more evidence for its content and construct validity, is likely to take less time and can offer a global assessment of emotional intelligence. For assessing specific components of emotional intelligence the Trait Emotional Intelligence Questionnaire is the only scale that offers a multidimensional assessment. But this will not be suitable for those with low literacy skills or where respondent burden is an issue.

Several commonly used/widely recognised scales did not meet the review's inclusion criteria, especially that of validation for use in the UK. As these scales may be of interest to researchers/practitioners, brief details of these have been provided in the Appendices.

Psychometric properties to be considered when deciding on the most appropriate scale to use have also been outlined in this report. This together with the

practitioner's guide, created alongside this review, will further aid in the appropriate selection of PMH scales for adults.

Recommendations

For future research

Future researchers in PMH face a number of challenges, some of which have become apparent in the course of this review. These include:

- Achieving consensus in terminology and definitions
- Clarifying elements and determinants of PMH
- Understanding the relationships between aspects of PMH.

For developers of scales

Future developers of scales are advised to consider the following issues and include them when reporting on the validation of scales:

- Face and/or content validity
- Readability statistics
- Evidence of scale structure
- Responsiveness
- Normative data.

There is also a need for the development of global measures of PMH to assess the full scope of PMH and shorter scales for use in population surveys.

For users of scales

While psychometric properties of scales are important, practical issues also come into play when selecting a scale. Users of scales are recommended to:

- Ensure that the scale has good face and content validity. This will involve reviewing the scale content thoroughly before use and ensuring that it is suitable for the population to be assessed. This is our most important recommendation.
- Make their own assessment of the scales, bringing to bear whether the scale measures the salient aspects required and also the practicalities of its use (e.g. length, completion time, cost and permissions required). In real world research and practice, arguably the most important factor in selecting a scale is an understanding of the scale and the context in which it is to be used.
- Ensure that the scale is appropriate for the chosen population.
- Ensure the scale will be sensitive to the benefits of any interventions to be evaluated.
- Consider the ethical implications of asking respondents to complete some of the scales and ensure that undue distress is not caused to vulnerable individuals.

Conclusions

This review has highlighted the wealth of UK validated measures available. It will be useful to policy makers, researchers and practitioners alike to guide their selection of scales for use either in national surveys or assessing the impact of local interventions. The accompanying practitioner's guide provides a useful abridged and more accessible version of this technical report. Although the scales are not perfect,

it is hoped that they will be widely used and reported on, and in this way contribute to greater understanding and awareness of positive mental health.

Foreword

The policy context for Scotland's public mental health work

There is a strong national and international policy context for the development of a public health approach to mental health in Scotland.

A growing global policy focus

The recent Mental Health Declaration for Europe (World Health Organization, 2005) recognised and endorsed the need to shift mental health policy and practice in the European region from an emphasis on services for those suffering from mental illness to the prevention of mental health problems and the promotion of positive mental health (PMH). It also recognised the centrality of mental health to other public policy areas in terms of its contribution to these and how it is influenced by them.

A strong Scottish policy

Strategic direction for mental health promotion and mental illness prevention in Scotland has evolved from a number of policy areas including: mental health, public health, social justice and social inclusion, education, enterprise and lifelong learning, and arts, sports and culture.

Public health policy in Scotland has increasingly identified mental health as an integral part of the wider agenda for health improvement (Scottish Executive, 1999; Scottish Executive, 2000; Scottish Executive, 2003a). *Improving Health in Scotland – The Challenge* (Scottish Executive, 2003b) included a commitment to establishing a three-year action plan for 2003–2006 for the Scottish Government's National Programme for Improving Mental Health and Well-being (www.wellscotland.info). This has now been extended into a second phase (2006–2008). The vision for the National Programme is to improve mental health for people living in Scotland and to improve the quality of life and social inclusion of people experiencing mental health problems/mental illness.

NHS Health Scotland⁶, the national body in Scotland charged with leading the health improvement effort, is a key implementation body for the National Programme. As part of this role, NHS Health Scotland is currently taking forward two of the National Programme's key support activities, as outlined in the National Programme's Action Plan 2003–2006 (Scottish Executive, 2003c). These are:

- Establishment of a core set of national, sustainable mental health indicators for Scotland (covering both PMH and mental health problems)
www.healthscotland.com/understanding/population/mental-health-indicators.aspx
- Mental Health Improvement Evidence and Practice Programme
www.healthscotland.com/mental-health.aspx

⁶ For more information on NHS Health Scotland and its work see www.healthscotland.com

Establishing a core set of national, sustainable mental health indicators

To determine whether mental health is improving in Scotland, there is a need to track progress by measuring mental health among the Scottish population. To this end, this programme of work has been taken forward. The indicators will provide a way of monitoring the state of mental health at a national level and will provide a summary mental health profile for Scotland reporting on outcomes that include both PMH (e.g. how people think and feel about themselves and their lives) and mental health problems (e.g. depression, anxiety, etc). They will also report on important contextual influencing factors of mental health (which include the risk and protective factors of mental health), which relate to individual and broader socio-economic, cultural and environmental factors. This work has focused initially on establishing indicators for adults.

Mental Health Improvement Evidence and Practice Programme

This work programme seeks to collect, collate and disseminate the evidence base in mental health improvement (MHI – any action to promote **positive mental health**, to prevent mental health problems and to improve quality of life for people with a mental illness diagnosis) in Scotland and support practice development. It aims to establish a framework for developing and disseminating the best available information and evidence relevant to MHI, to inform future policy, practice and research in Scotland. Related programme objectives are:

- to bring together evidence of effectiveness on MHI combined with practical implementation knowledge
- to identify gaps in the evidence base and make recommendations for new research
- to convert evidence and practice knowledge into advice and guidance for MHI
- to increase and support capacity to translate both evidence *into* practice and evidence *from* practice in MHI in Scotland.

This programme therefore seeks both to get evidence into practice as well as practice into evidence (via building evaluation capacity in MHI).

Review of validated scales

Both the indicator and the evidence and practice programmes of work identified a need to review scales validated for use in the UK which capture data pertaining to PMH. Such a review would help inform decisions over which scales would be the most appropriate to capture data either:

- in national surveys to inform the mental health indicator set; or
- by practitioners to assess the mental health impact of their work.

1. Introduction

Traditionally, mental health research has been dominated by the biomedical model within psychiatry, with its emphasis upon biological factors and signs and symptoms of impairment and dysfunction among individuals. To some extent this emphasis is understandable and justified. Approximately one in four adults will experience some form of mental health problem at any one time with one in six experiencing 'significant' problems (Office of National Statistics, 2001). A major mental health problem such as depression not only has a major impact on the lives of sufferers and their families, but also results in a massive financial burden to society through demand for healthcare services and lost workdays. However, the failure to consider the positive as well as negative aspects of mental health has contributed to several interrelated problems, including: the stigmatisation of language and ideas surrounding mental health as a whole, as well as people with mental health problems; a reluctance to accept that elements of **positive mental health (PMH)** and mental health problems can be present at the same time and are related experiences; and inadequate efforts to promote mental health and well-being. The individualistic focus of the biomedical model has been challenged by an approach that highlights psychosocial and environmental conditions that increase vulnerability at the individual level (MacDonald & O'Hara, 1998; Rutter, 1985; Secker, 1998).

The most common definition of good mental health is a state characterised by the absence of mental illness. However, just as health is widely recognised as more than the mere absence of disease (World Health Organization, 1958), so mental health should be conceptualised as more than the absence of mental health problems. This review uses mental health as an umbrella term that reflects both dimensions of mental health: PMH (often referred to as **mental well-being**) and mental health problems (often referred to as mental ill-health, mental illness, mental disorder, mental distress, or negative well-being).⁷

In order to achieve PMH, we need to understand its constituent elements and how they relate to each other. This is not a straightforward task. Valiant (2003) has recently provided an extremely useful overview of six models of PMH that can be identified in the literature over the past half-century. The first model, being 'above normal', is based on Jahoda's seminal work (1958) and highlights key characteristics of the healthy individual as: ability to work, love and play; efficient problem solving; investment in life; and autonomy. The second model, positive psychology, 'conceives of mental health as a utopian ideal and has provided the impetus for the recent positive psychology movement' (Valiant 2003, p1376). Key features are: love, temperance, wisdom and knowledge, courage, justice and transcendence. Maturity and Erikson's four developmental tasks (identity, intimacy, generativity and integrity) are the basis of the third model, to which Valiant adds career consolidation and 'keeper of the meaning' (passing on the traditions of the past to the future). The fourth

⁷ Mental health is a much contested area and there is no agreement on terminology. However, debating the terminology is not within the remit of this review; therefore, the terms positive mental health (PMH) and mental health problems are used throughout the report for consistency.

model conceptualises mental health as social-emotional intelligence, the ability to 'read feelings from nonverbal cues' (Valiant 2003, p1379). While the fifth model, subjective well-being, remains definitionally underdeveloped, there is growing consensus that its primary function is the facilitation of self-care, which results in the mobilisation of personal resources towards innovation and creativity and away from learned helplessness. There is evidence to suggest that subjective well-being is highly influenced by temperamental factors and 'has more effect on the environment than the environment exerts on it' (Valiant 2003, p1380). The last model, resilience, draws attention to the adaptation value of involuntary coping mechanisms. Valiant argues that each model describes only some aspects of PMH and that none is superior to the other. The implication for this review is that the boundaries around the concept of PMH should not be drawn too tightly or rigidly; the net should be cast reasonably widely when attempting to identify measures (scales) of positive aspects of mental health.

The increasing interest in the research community in conceptualising and measuring PMH has been matched over the last decade by an equally intense engagement with mental health improvement and promotion at the political and policy levels (see Foreword). Ensuring that PMH is tackled consistently requires agreement about terminology as well as the means to measure such constructs systematically. Questionnaire measures⁸ provide the means to assess systematically the need for a policy and/or evaluate its effectiveness. When researching mental health problems, a typical approach has been to use scales of mental health status, which often have a pathological focus (e.g. anxiety and depression). However, when surveying the general population, where a minority will be clinically anxious or depressed, such scales often display floor effects, i.e. respondents score at the very minimum because they do not have major mental health problems, and insensitivity to change (i.e. inability to detect improvements in mental health of people without mental health problems). Furthermore, the majority of people in the general population will score at this minimum level, and the scale will be unable to distinguish between them. Thus, scales of mental ill-health may not be fit for the purpose of establishing the effectiveness of interventions to improve mental health at the general population level or providing information about the ways in which people's lives can be improved (Stewart-Brown, 2002).

During the 1980s, as a result of the increasing focus on health promotion, the search for indicators of positive health intensified (Bowling, 2005). A number of scales now exist with which to measure aspects of PMH. Given the variety of scales available, and the importance of selecting the most appropriate for a given survey or evaluation, it is crucial that users of scales are able to interpret the evidence available to inform their choice(s). Although reviews of measures exist (Bowling, 2005; Mauthner & Platt, 1998; McDowell & Newell, 1996), many have a broader focus (i.e. general health and quality of life) or are out of date. Thus, the current work

⁸ Questionnaire is defined here as a group or sequence of questions, statements or items designed to elicit information from a respondent.

was commissioned to provide an up-to-date and focused review of scales of PMH for adults that have been validated for use in the UK.

1.1 Aims and objectives of this review

The aim was to conduct a structured, targeted review of scales of PMH which had been validated for use in the UK to inform decisions over which are the most appropriate to capture data either in national surveys to inform the mental health indicator set or by practitioners to assess the mental health impact of local interventions.

The specific objectives were to:

- identify the scales purporting to measure: elements of PMH; factors which influence PMH; and the consequences of PMH (hereafter collectively referred to as aspects of PMH) selected to be the focus of the review⁹ (within the context of key inclusion criteria)
- critically appraise the scales, documenting the characteristics, psychometric properties, practicalities and relative merits of each
- make recommendations regarding the most appropriate scales for assessing the aspects of PMH, for use either in national surveys or by practitioners assessing the impact of local interventions
- produce both a 'technical report' and a 'practitioner guide'¹⁰ to selecting appropriate scales with which to evaluate local interventions.

1.2 Outline of this review

The methods used to conduct this review are detailed in Section 2 while Section 3 provides information on psychometric validation of scales, highlighting the key issues to consider when developing or selecting a scale. Section 4 comprises the main results of the review, and the best proxies for a global measure of PMH will be found under emotional well-being here.¹¹ Finally, Section 5 provides a brief discussion of the findings and recommendations.

Appendices include:

- **Appendix A** Glossary: terms are marked in bold in the report when they first appear
- **Appendix D** Brief descriptions of additional scales which many are familiar with and use but which did not meet the review inclusion criteria
- **Appendix E** Copies of scales (where permission was obtained) and/or details of how to obtain them.

⁹ The aspects of PMH included in the review were identified in discussion with the Mental Health Indicators Advisory Group and adjusted by the researchers in the course of the review.

¹⁰ 'Mental Health Improvement: Evidence and Practice Guide 5: Selecting scales to assess mental well-being', www.healthscotland.com/mental-health-work.aspx#action (in press).

¹¹ Note that others may use the term emotional well-being in a different way to that used in this report.

1.3 Criteria

Readers (especially those outside the UK) are advised to consider the limitations of the review inclusion criteria (see Section 2.1.4, Table 2.3), which necessitated inclusion of scales that:

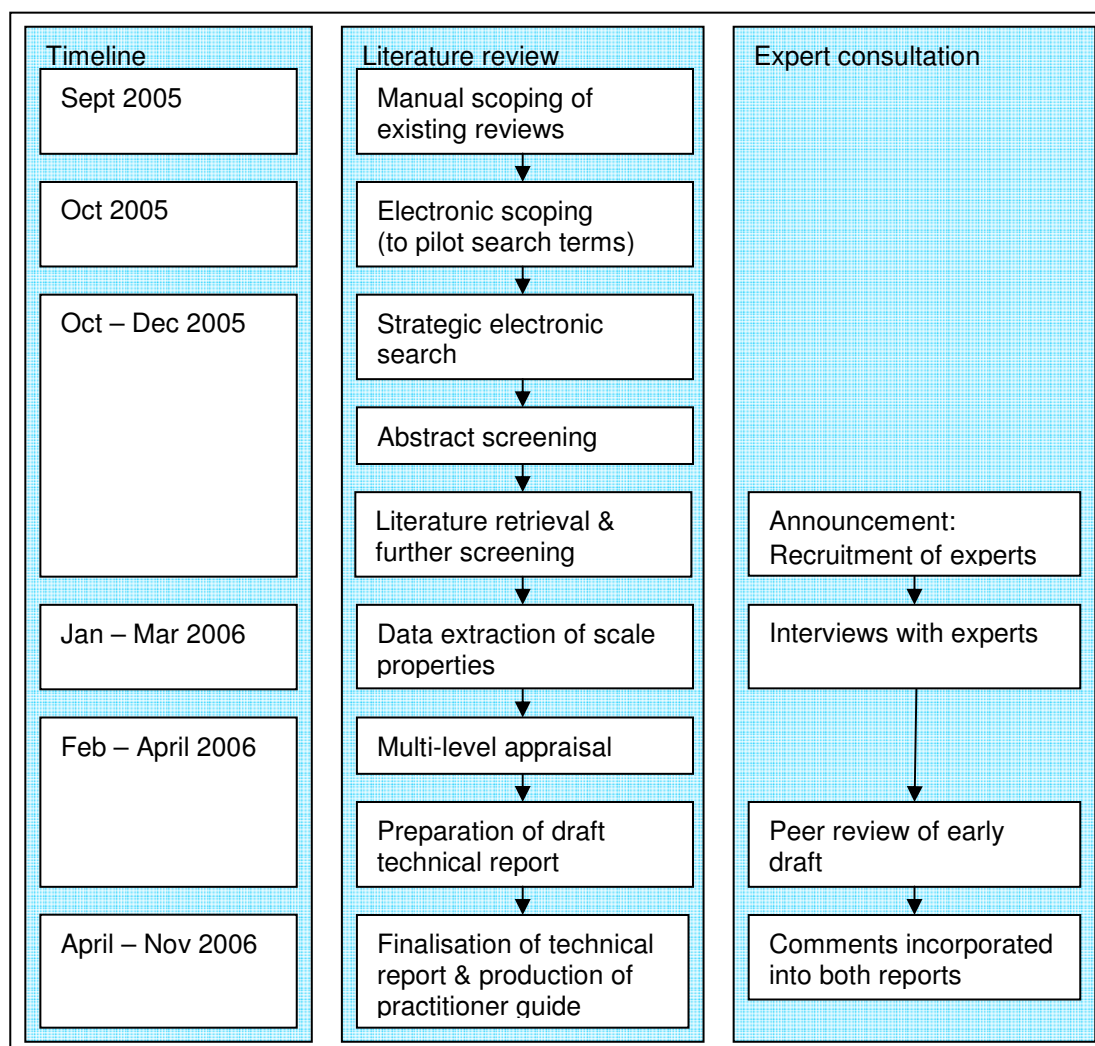
- **Measure the chosen aspects of PMH.** The aspects of PMH to be covered in this review were identified to support the work of NHS Health Scotland's Mental Health Indicators Programme in discussion with its expert Advisory Group, and adjusted by the researchers in the course of the review.
- **Focus on positive aspects of mental health.** The balance of **items** of a **scale** is in favour of PMH rather than mental health problems or other constructs. Thus some well-known scales of mental distress (e.g. General Health Questionnaire) or health status (SF-36) were excluded. As such scales are widely used (often precisely because they offer a broader focus and allow comparisons across populations), a brief outline of these is included in Appendix D with copies included in Appendix E.
- **Have been psychometrically validated.** The scales have undergone statistical testing to demonstrate the properties described in Section 3. New scales identified that have not yet undergone validation are outlined in Appendix D.
- **Have been validated for use in the UK.** Excluded are many scales that have been used widely in other countries (most frequently, the USA) but for which no evidence could be found of UK validation. Several of these are, however, used in the UK and are outlined in Appendix D.
- **Are suitable for use with the general adult population.** Excluded are scales designed specifically for other age groups (e.g. children, adolescents), sub-sections of the adult population (e.g. elderly people) or target populations (e.g. specific diseases or conditions, health-related behaviours, hospital or occupational settings).
- **Do not require the user to undergo specialist training** or have qualifications in psychometric testing. Scales excluded on this criterion are briefly outlined in Appendix D.

2. Methods

Literature searching and qualitative methods were combined (Figure 2.1), to provide:

- an extensive structured, targeted review of published literature identified from a range of databases and published books;
- validated and enhanced by an expert consultation in parallel, to assess current views of the merits of the identified scales with informed people in the ‘field’ (e.g. mental health experts, practitioners, developers of scales, users of scales).

Figure 2.1 Phases of the review



2.1 Literature review

The strategy for the main literature review included the following steps:

- manual scoping of existing reviews
- preliminary search of electronic literature (to pilot the search terms)
- strategic search of the literature
- abstract screening
- literature retrieval and further screening
- retrieval of evidence regarding scale properties and data entry
- multi-level appraisal process to rate the scales.

2.1.1 Manual scoping

The first step in the process was to examine some existing reviews (McDowell & Newell, 1996; Mauthner & Platt, 1998; Bowling, 2005) with the aim of:

- agreeing the key aspects of PMH for inclusion in the review
- identifying key search terms
- identifying potential scales for inclusion.

Table 2.1 details the final set of aspects and the working definitions used.

Table 2.1 Aspects of positive mental health

Aspect	Working definition
Emotional well-being ¹²	More than the absence of psychological morbidity (e.g. anxiety and depression); a more positive concept that includes happiness, vitality.
Life satisfaction	Overall assessment of one's life, or a comparison reflecting some perceived discrepancy between one's aspirations and achievement; includes optimistic outlook, perception of life as pleasurable.
Optimism and Hope	Positive expectations of the future; a tendency to anticipate and plan for relatively favourable outcomes.
Self-esteem	A belief or evaluation that one is a person of value, accepting personal strengths and weaknesses; a sense of worth. Related to emotional safety/security, i.e. how one feels about self, confidence in and how good one feels in personal relationships (e.g. family, wider community).
Resilience and Coping	Resistance to mental illness in the face of adversity; hardiness; learned resourcefulness; a sense of coherence, i.e. confidence that internal and external events are predictable and that things will work out as can reasonably be expected; a cognitive evaluation of perceived resources to deal with perceived demands; personal control.
Spirituality	Sense of purpose/meaning in life; a sense that there is something beyond the material world; attempts to harmonise life with a deeper motivation.
Social functioning	<p>a) Personal relationships (interpersonal trust, respect and empathy) Overall assessment of the quality of personal relationships and social networks and social cohesion; the degree to which people function adequately as members of a community; includes role-related coping, social participation, family health, social functioning, sense of belonging; valuing oneself and others; perceiving fair treatment by others (with respect, without discrimination).</p> <p>b) Social support/social networks Interactive process in which emotional, instrumental or financial aid is received from one's social network; individual's belief that he/she is cared for, esteemed; mutual obligations; set of people with whom one maintains contacts and has some form of social bond; social</p>

¹² These scales include but are not confined to addressing positive affect. Scales with a more general focus on overall PMH are also included here.

	reciprocity.
Emotional intelligence	The potential to feel, use, communicate, recognise, remember, learn from, manage and understand emotions (self and others).

2.1.2 Preliminary electronic search

The potential search terms identified were then tested using the Medline database (see Appendix B). This identified the scope of the search and minimised the number of search terms. Search terms consisted of two types: 'questionnaire synonyms' and 'PMH synonyms'. It was decided to combine a shortlist of 'questionnaire synonyms' with each of the 'PMH synonyms' in turn.

2.1.3 Strategic electronic search

From the original list of questionnaire synonyms, the following were retained for the strategic search, combined using 'OR':

- Checklist\$
- Instrument\$
- Inventory OR Inventories
- Questionnaire\$
- Scale\$

Table 2.2 lists the PMH synonyms that were retained.

Where possible, five limiters were set on the search to restrict results to relevant scales used in the past 10 years.¹³ The limiters were:

- Publication year: 1995–2005
- Age group: adult (18+)
- Population: humans
- Field: title/abstract
- NOT (dementia OR geriatric OR "nursing home\$" OR "depression" OR "schizophreni\$" OR adolescen\$)

A full strategic search of several databases (MEDLINE, PsycINFO, CINAHL, HaPI) proved unwieldy. Due to its focus on scales rather than general research papers, the Health and Psychosocial Instruments (HaPI) database¹⁴ was considered the best source of information. It was searched using the questionnaire synonyms combined with the PMH synonyms. To overcome any shortfalls of this limited, highly focused search, an expert consultation was conducted (Section 2.2), providing the opportunity for experienced PMH researchers and practitioners to comment on the scales identified, to identify gaps in these, and to suggest relevant literature and other possible scales to be assessed. This strategy was considered the best option for validating the identified scales.

¹³ Databases differed in terms of the limitations that could be placed on the search.

¹⁴ A database of identified scales (instruments) specialising in psychological and health scales.

Table 2.2 PMH synonym search terms

Aspect	Sub-elements	Search terms	
Emotional well-being		"Affect Balance" "Emotional health" Happiness "Positive mental health" "Psychological health" "Well-being" OR "Wellbeing" ^a	"Emotional adjustment" "Emotional functioning" "Positive affect" "Positive mood" Vitality
Life satisfaction		Contentment "Life satisfaction" OR "satisfaction with life"	
Optimism and Hope		Hope Morale	Hopefulness Optimis\$ ^b
Self-esteem	related to... 'emotional safety' and 'security'	"Emotional safety" "Self acceptance" "Self concept" ^c "Self worth" ^c	"Emotional security" "Self-esteem" ^c "Self respect" ^c
Resilience and Coping		Autonomy Coping "Personal control" "Self efficacy" ^c	Coherence Hardiness Resilience Thriving
Spirituality		"Meaning in life" Spirituality	"Purpose in life"
Social functioning	Positive relationships (interpersonal trust, respect and empathy)	Empathy "Social functioning" "Social relationships" Trust	"Social adjustment" "Social performance" "Sense of belonging"
	i.e. Social support/ social networks	"Social network\$" "Social support"	
Emotional intelligence		"Emotional intelligence"	

a includes "emotional well-being", "psychological well-being", "subjective well-being"

b \$ denotes truncation, allowing for multiple endings of the word to be included

c searched with and without hyphen (-)

2.1.4 Abstract screening

Criteria for screening abstracts for the inclusion of scales are shown in Table 2.3.

Table 2.3 Criteria for inclusion of scales

<ul style="list-style-type: none"> citation in peer-reviewed journals since 1995 (this did not preclude scales <i>designed</i> prior to 1995)
--

- focus substantially (at least half the items) on the measurement of positive aspects of mental health (rather than mental health problems or other constructs)
- suitable for use by adults (aged 18+) (specifically excluding scales designed for children, adolescents or elderly people)
- applicable to the general population (not confined to specific clinical settings or populations)
- validated for use in the UK
- not requiring specialist training to administer

Table 2.4 lists the number of abstracts returned for each aspect searched (excluding translations). Several characteristics of the HaPI database contributed to the volume of results and the complexity of screening these:

- results included many scales for use with specific groups (e.g. disease-specific, parents) or specific contexts (e.g. drug use, smoking cessation)
- revisions of scales were listed separately, resulting in duplication
- scales which were not named in the original paper had been allocated a name by the compilers of the HaPI database, rendering it almost impossible to determine the correct name and resulting in potential duplication
- scales measuring similar constructs often had similar names, which in combination with the misnaming and revisions, resulted in problems identifying scales for inclusion (e.g. Self-Esteem Scale, Self-Esteem Questionnaire, Self-Esteem Inventory, Self-Esteem Scale – shortened, General Self-Esteem Scale).

Table 2.4 Results of HaPI search for each aspect

Aspect	Initial results	Initial shortlist
Emotional well-being	168	38
Life satisfaction	103	31
Optimism and Hope	115	42
Self-esteem	295	65
Resilience and Coping	832	160
Spirituality	46	18
Social functioning	574	197
Emotional intelligence	2	2

Results obtained from a combination search of PMH synonyms and questionnaire synonyms.

The abstracts were shortlisted by three reviewers independently. It was not always possible to enforce all of the inclusion criteria due to the limited information provided in abstracts. Abstracts were therefore included at this stage (Table 2.4 initial shortlist) where:

- at least one reviewer considered the scale to be ‘relevant’, either because it met the inclusion criteria or from personal knowledge of the scale; or
- two reviewers considered the scale to be ‘possibly relevant’ but more information was required on it for a full assessment.

For those abstracts where further information was required for their full assessment against the criteria, full papers needed to be retrieved (Section 2.1.5). The initial

shortlist therefore included scales which later turned out not to meet the review inclusion criteria. The shortlisting process was also unable to completely eliminate potential duplicates. Abstracts which clearly did not meet a criterion were removed.

2.1.5 Literature retrieval and further screening

Literature was retrieved from Web of Science and PubMed databases. The criteria for the retrieval of full papers included:

- scale development articles (describing the design and psychometric development)
- empirical studies (detailing studies in which relevant scales had been used)
- review papers/chapters/books (previous reviews of the measurement of PMH)
- commentaries/letters to editors (providing expert opinion on relevant scales).

The criteria for excluding an article were:

- articles in which the search terms did not form the main focus of the article
- articles in which the main focus was on mental health problems rather than PMH.

Determining whether identified scales had been validated for the UK proved problematic. The validation of scales in English for use in the UK was rarely explicit in the title or abstract of a paper. Therefore, a citation search was conducted in Web of Science and a search for the title of the scale (using either the title used in HaPI or the official title of the scale once determined) was conducted in PubMed to identify UK studies on the basis of authors' affiliations. However:

- Even if authors were affiliated to UK institutions, a UK validation was not guaranteed. The study may have been conducted while the author was in a previous position abroad. For many publications with UK affiliations, the study location was not explicit and it had to be assumed that the research was conducted in the UK.
- Even where research had been conducted in the UK, the extent of the validation was rarely evident. For example, where a US scale was used for the first time in the UK, almost no publications mentioned cross-cultural **linguistic validation** of the scale and few provided full **psychometric validation**.

In view of these issues, for scales that were developed in countries other than the UK the term *UK validation* has been used in this review to mean that evidence of reliability and validity (including scale structure) has been established using a UK dataset.

One member of the review team finalised the list of scales for inclusion in the review.

2.1.6 Retrieval of evidence of scale properties and data entry

Key papers providing evidence of the psychometric properties of each scale were retrieved from Web of Science and PubMed. Where it was not possible to obtain papers, information was taken from the abstract. For each scale, key properties and characteristics were documented (see summary tables Section 4 for details).

2.1.7 Multi-level appraisal process

To recommend scales for use either in national surveys or by practitioners evaluating local interventions required the scoring of scales against a number of criteria. A multi-

level appraisal process was developed which took into account the psychometric evidence for each scale and also practical issues. This included three levels of evidence (each with three criteria) against which each scale was assessed:

- *Essential psychometric properties:*¹⁵ **content validity**, scale structure, **reliability** (including an assessment of evidence for both **internal consistency** and **test-retest**).
- *Desirable psychometric properties:* **construct validity** (including assessment of evidence for **convergent** and **discriminant validity**), **responsiveness**, normative data.
- *Practicalities:* completion time, cost, access.

For each of the psychometric criteria, a scale was given a rating of 1 to 5 stars (1 star = lack of evidence, 5 stars = excellent evidence). These were the subjective ratings of the reviewers taking account of both the availability and quality of evidence. Thus, an excellent rating would imply both quantity and quality of evidence. Given the subjective nature of this rating, two reviewers rated each scale independently against these criteria. A third reviewer consolidated their judgements.¹⁶

The 'overall' rating for a scale was taken as the mean of the sum of the ratings for each of the six 'essential' or 'desirable' psychometric properties (no weighting was applied). 'Practicalities' were not included as they were considered to be discriminatory properties that would guide selection of scales (e.g. dependent on a particular research question or requirements of a particular study population).

2.2 Expert consultation

Announcements inviting the views of experts and practitioners in the field of PMH measurement were placed, December 2005, on the websites (and in electronic newsletters) of the:

- British Psychological Society's Division of Health Psychology (and Scottish subdivision)
- European Health Psychology Society
- International Society for Quality of Life Research
- International Society for Pharmacoeconomics and Outcomes Research
- Positive Psychology Network.

The request was to contribute to the project in either or both of the following ways:

- to be interviewed about the aspects and scales of PMH
- to peer review the draft reports.

Other experts were approached individually as a result of their involvement in NHS Health Scotland's Mental Health Indicators Programme Advisory Group and the

¹⁵ See Section 3 for discussion of key psychometric properties to indicate why these are important.

¹⁶ In the peer review of the draft report (Section 2.2.2) there was no disagreement with ratings given.

Scottish Special Interest Group in Mental Health Promotion or on the recommendation of team members and expert interviewees.

2.2.1 Interviews

Seventy experts expressed interest in the consultation process. Interviews took place with 18, from 10th to 31st January 2006 (17 by telephone and one face-to-face). Interviewees were sent a schedule of questions (see Appendix C) to be asked during the semi-structured interview. The questions covered:

- the eight aspects of PMH for inclusion in the review;¹⁷
- recommendations for the best scales of the eight aspects;
- comments on the scales identified;
- recommendations for key references on these scales
- recommendations for potential additional interviewees or reviewers.

All interviews (except those face-to-face) were recorded but not transcribed. Interviews lasted between 45 and 90 minutes.

Comments on the scales were included in the evidence summary tables for scales in Section 4. If no comments were obtained for a scale, where appropriate, these were provided by a member of the review team who had practical experience and familiarity with the scale.

2.2.2 Peer review of report

Twenty-three experts and practitioners peer reviewed drafts at various stages. Comments on both the report and scales were sought.

¹⁷ These eight elements were identified at this stage as Psychological well-being, Life satisfaction, Morale/Optimism, Self-esteem, Resilience/Coping, Spirituality (aka Purpose in Life), Social integration (including positive relationships, trust, empathy, and respect, as well as social support/social networks), and Emotional intelligence. Terminology was since revised (see Section 2.1.1, Table 2.1).

3. Key issues in the appropriate selection and use of scales

This section outlines the main psychometric and practical requirements for scales, with some guidance about appropriate selection. Key references are provided for the interested reader to follow up.

The process of selecting a scale cannot be reduced to a single algorithm. For this, readers need to consider various aspects of the scales available in relation to their research aims, study population and methods and are encouraged to consider the appraisals and structured summaries in Section 4 for each scale and not to take the reviewers' *subjective* appraisals at face value. Readers are also referred to the practitioner's guide.¹⁸

3.1 Types of scales

A **scale** has been defined as:

'A series of self-report questions, ratings or items used to measure a concept. The response categories of the items are all in the same format, are summed and may be weighted.'

(Bowling, 2005, p15)

Scales consist of several items, i.e. individual statements or questions to which an individual is invited to respond. The responses may be:

- **categorical** (e.g. dichotomous *Yes* or *No* responses)
- **continuous** in the form of a response scale. These could be multiple responses (e.g. *excellent, very good, good, fair, poor*), or in the form of a visual analogue scale.

The scales included in this review are all **self-report**, that is they involve subjective judgements by respondents (rather than the subjective judgements by investigators based on observation or interview). Thus, there are no objective measures, e.g. diagnostic tests involving no judgement.

3.1.1 Single-item measures

Single-item measures are sometimes called global or overview items. Their brevity is, however, both an advantage and a disadvantage. The advantages lie in their simplicity, reduced respondent burden and other benefits of brevity. On the other hand, the apparent simplicity of single-item measures has to be weighed against the complexities of interpretation (i.e. does the item have the same meaning for one person as it does for another?). Furthermore, single-item measures are unlikely to be able to detect subtle changes that would be picked up by more detailed assessment and are 'particularly prone to the influence of expectations, [and] transient aspects of

¹⁸ 'Mental Health Improvement: Evidence and Practice Guide 5: Selecting scales to assess mental well-being', www.healthscotland.com/mental-health-work.aspx#action (in press).

mood' (Fitzpatrick *et al.*, 1998b, p11). Although single-item measures are not strictly scales, some single-item measures have been included in this review.

3.1.2 Level of measurement

The level of measurement may be **nominal**, **ordinal**, **interval** or **ratio**:

- **nominal** measurement concerns named categories such as race, sex or blood group
- **ordinal** data consist of ordered or ranked categories such as severity of disease (mild, moderate or severe)
- **interval** data consist of variables with an equal distance between the levels, but the zero point and unit of measurement are arbitrary, such as temperature in degrees Celsius
- **ratio** scales are those interval scales with a meaningful zero point, where the ratio of any two scale points is independent of the unit of measurement, such as temperature in degrees Kelvin or weight.

Subjective scales often have multiple descriptive response options. Such response scales are, technically speaking, ordinal scales, as it is not known whether the intervals between responses are equidistant. For example, in a 4-point response scale ranging from *very confident*, *fairly confident*, *slightly confident*, to *not at all confident*, is the distance between *very confident* and *fairly confident* interpreted by the respondent as being the same as the distance between *fairly confident* and *slightly confident*? However, such response scales, although ordinal, are typically treated as interval for the purposes of analysis, although there is considerable debate on the type of statistical analyses that may be permitted with these data (Nunnally & Bernstein, 1994).

3.1.3 Dichotomous vs. continuous response scales

Dichotomous responses might seem to offer less respondent burden and simpler data analysis; however, they may not be suitable for measuring subjective data concerning attitudes and behaviours, as these often lie on a continuum. If respondents are not given the opportunity to indicate a response that lies between Yes or No, they may be uncertain which of the two responses to give, and measurement error is introduced (Streiner & Norman, 2003). Dichotomous responses may be at best only 67% as efficient as continuous responses (Suissa, 1991).

Continuous response scales may be adjectival, Likert or **visual analogue** in form.

- Adjectival response scales** are unipolar ranging from little or none of the attribute at one end to a high amount at the other (e.g. *poor*, *fair*, *good*, *very good*, *excellent*).
- Likert response scales** (Likert, 1932), on the other hand, are bipolar and range from, for example, *satisfaction* to *dissatisfaction*, with or without a neutral mid-point response option (e.g. *neither satisfied nor dissatisfied*). The reliability of a measure increases with the number of response options. Streiner & Norman (2003) give the example that if the number of response option categories is reduced from ten to five, there is a loss of reliability of 12%, but dichotomous response categories reduce reliability by about 35%. From five to a maximum of nine response categories is recommended (Streiner & Norman, 2003). Experts disagree on whether an even or odd number of response categories is preferable (i.e. is it better to force a

respondent towards one extreme or permit the respondent to remain neutral?). The decision is likely to depend to a large extent on the research question.

iii. **Visual Analogue Scales** (VAS) are presented in the form of a line, usually 10 cm long, with descriptive **anchors** (e.g. *very satisfied* – *very dissatisfied*) at each end. VAS are considered to be interval data. Although apparently simple, some people, particularly the elderly, may have difficulty completing VAS, and there may be difficulties with the wording of the endpoints, as each respondent may interpret them differently. Furthermore, it is often the case that VAS are used for single-item measures, and these are inherently less reliable than multiple-item scales. There are several other issues concerning VAS and continuous scales for which the reader is referred to Streiner & Norman (2003).

3.2 Scale structure

The response ratings of multiple items on a scale, intended to assess some underlying construct (e.g. self-esteem, optimism), may be summed to form a total score or averaged to form a composite score. To justify the use of a total or composite score, the scale's structure must be explored to ensure that all items **load** (i.e. fit or cluster) together in the expected pattern, i.e. that they all contribute to the measurement of the intended underlying construct for the scale.

Factor analysis is a statistical method for analysing data to identify ways in which items load or cluster together, i.e. to look at the underlying structure of a scale. Kline (1994) defines factor analysis as 'a number of statistical techniques the aim of which is to simplify complex sets of data' and a factor as 'a dimension or construct which is a condensed statement of the relationship between a set of variables'. Factor analysis can be either **exploratory** or **confirmatory**.

3.2.1 Exploratory factor analysis

Exploratory factor analysis (EFA) is the term used to describe analyses that investigate the nature of the constructs influencing a set of responses (i.e. the latent or underlying factor(s)) and which are conducted when there are no particular expectations of the data or models to be tested.

Principal components analysis (the most frequently used method of EFA) simplifies a data set by finding clusters of related items that correlate more highly with each other than with other variables in the set and thus load together on a factor. It thus identifies any underlying dimensions or constructs in a scale. Where there are two or more distinct clusters of variables, this indicates the presence of subscales. The factor loadings are the correlations with the other variables on the same factor, and a loading greater than 0.3 is, by convention, considered salient (i.e. meaningful) and one of 0.6 or more is considered high (i.e. the item is strongly correlated with the underlying construct) (Kline, 1994).

The number of potential factors may be determined from combined examination of (1) **eigenvalues** (indices of the amount of variance accounted for by each factor, and where a value greater than 1 is generally taken to indicate a factor (Streiner & Norman, 2003)), (2) a scree plot (a graph of eigenvalues against factors), and (3) the item loadings on each factor. Factor analyses may be forced or unforced. Unforced analyses are generally undertaken before forced analyses in order to determine the

number of factors by examining the pattern of item loadings. In forced analyses, all items in a scale are forced onto an expected (predefined) number of factors, to indicate whether they all have significant loadings on a single general factor or whether salient loadings are spread, as expected, over a number of subscales.¹⁹ A total or composite score for a scale may only be calculated where all item loadings are salient when forced onto one general factor even though these same items might load on separate factors, indicative of subscales, in unforced analyses. Thus, instruments that have multiple subscales may or may not have an overall composite score.

Factor analysis is often reported in terms of the construct validity of a scale (see Section 3.4.2), in that factors may indicate different underlying constructs within the whole. Thus, in a scale measuring emotional intelligence, items measuring empathy would be expected to correlate more highly with each other than with those measuring, for example, emotion management. If this were the case, they would form separate factors that would indicate discrete subscales and justify the computation of subscale scores. If a higher order construct (here overall emotional intelligence) is present, a total score for the scale can be calculated only if all items on the subscales (i.e. emotion management, empathy, etc) also all have salient loadings when forced onto one factor.

Sample size is important when conducting EFA but experts disagree on the number of respondents required for each item in a scale. The number can vary from two to 10 respondents for every item in a scale. For a discussion on sample size in relation to factor analysis, see Kline (1993).

3.2.2 Confirmatory factor analysis

Confirmatory factor analysis (CFA) is used when researchers think they understand how a particular set of items of a scale work and wish to test their model to confirm the expected number of factors in the scale. It is a statistical process used to confirm or support hypotheses regarding the organisation of factors or the expected number of factors in a scale. CFA is performed to a much lesser extent than EFA due to the large sample sizes required, the need to specify a model prior to analysis, and the specialist software required for the analysis. However, it is increasingly used to test the structure of a scale in a new setting (e.g. when scale structure has been established in one language or population and the scale is being used for the first time in a new language or population). The interested reader is referred to Kline (1994) or Nunnally & Bernstein (1994).

¹⁹ Forced factor analysis differs significantly from confirmatory factor analysis (CFA) (see Section 3.2.2). In practical (not statistical) terms, using the forced factor analysis, the researcher specifies the number of subscales expected. Usually, this involves specifying one factor to see whether or not the items all load onto one unidimensional scale. In confirmatory factor analysis, the researcher implements a model of how each item is expected to load (i.e. specifying which item loads onto which factor). It is usually used to confirm that items load onto specific subscales, which in turn load onto one or more underlying scales. CFA is often used to confirm the structure of a new language version, where the psychometric properties of the original scale are well documented.

3.2.3 Item Response Theory

Classical test theory, in particular factor analyses and reliability (see Section 3.3 below), has traditionally been used in the development of questionnaires, because it is relatively simple to conduct (given appropriate training and statistical software) and suitable in most situations. **Item Response Theory** (IRT), the most popular method of which is **Rasch analysis**, is a relatively recent technique. It allows the development of scales with true interval levels of measurement, among other advantages. However, it is based on an assumption of **unidimensionality**, and requires complex analyses (with specialist software) and very large sample sizes, (perhaps 500 respondents for scales with multiple (rather than dichotomous) response options). For these reasons, IRT has not been widely used in the development of scales to measure positive mental health. Nunnally & Bernstein (1994) provide a description of IRT, or the interested reader is referred to an introductory text on Rasch analysis, such as Bond and Fox (2001).

3.3 Reliability

The **reliability** of a scale indicates whether it is measuring an attribute in a way that is reproducible and consistent. Reliability may be expressed as a ratio of the variability between individuals to the total variability in the scores (Streiner & Norman, 2003), thus high reliability will indicate that the scale is relatively free of **random error**, i.e. much more signal than noise. It is not a fixed property but depends upon the population being studied (Streiner & Norman, 2003) and therefore needs to be reassessed with new populations (e.g. a new patient population, a different cultural or ethnic group). There are different forms of reliability.

3.3.1 Internal consistency reliability

The key form of reliability is **internal consistency reliability**, an indication of the homogeneity of items within the scale, that they are all measuring a particular attribute. This is the degree to which scores on each item correlate with the scores on all the other items in its scale. The internal consistency reliability is the average of the correlations among all the scale items (Streiner & Norman, 2003). Reliability coefficient values range from 0 to 1, with higher values indicating high internal consistency. The most widely reported coefficients are **Cronbach's alpha** (Cronbach, 1951) and Kuder-Richardson 20 (a special type of Cronbach's alpha for scales with dichotomous responses) (Kuder & Richardson, 1937). Split-half reliability (calculated by randomly splitting scale items into two groups and then determining the correlation between the two groups/halves) is now seldom used (Nunnally & Bernstein, 1994) (having been replaced almost completely by the more statistically sophisticated Cronbach's alpha) and is always an underestimate of the true reliability (Kline, 1993).

Experts disagree on appropriate levels of internal consistency, particularly as Cronbach's alpha increases with increasing numbers of items in the scale. However, most agree that Cronbach's alpha should lie between 0.7 and 0.9 when using the scale for groups of respondents (Kline, 1993). Nunnally & Bernstein (1994) indicate that where decisions are to be made about individuals on the basis of their test results, then a reliability of 0.9 is the minimum and 0.95 more desirable. In general, too high a Cronbach's alpha coefficient, say greater than 0.95, may indicate some redundancy among items, and unnecessary increase in respondent burden.

The brevity of the scale needs to be borne in mind when assessing its reliability. While 10 homogeneous items is considered by some to be the probable minimum number of items for a reliable test (Kline, 1993), shorter scales or subscales may be considered reliable even when Cronbach's alpha is reported as below 0.7, perhaps as low as 0.5 for a 3-item scale (Todd & Bradley, 1994). For example, a Cronbach's alpha of 0.65 would be considered unreliable for a 10-item scale but acceptable for a 4-item scale.

Item-total correlations may also be reported in a description of a scale's development: these are the correlations of individual items with the whole scale total omitting that item. The minimum acceptable item-total correlation ranges from 0.2 (Kline, 1986) to 0.3 (Nunnally & Bernstein, 1994).

Another issue in the determination of an internal consistency reliability coefficient is the sample size. Again expert opinion varies: Streiner & Norman (2003) recommend a sample size of 130 respondents to obtain a Cronbach's alpha of 0.7, whereas Nunnally & Bernstein (1994) recommend at least 300. This should be borne in mind when assessing a reported reliability coefficient, noting that in psychosocial research, large sample sizes are not always practical or obtainable.

3.3.2 Test-retest reliability

Test-retest reliability (often referred to as the stability of a scale) indicates whether a scale yields similar results on two or more administrations in identical situations (i.e. where everything is kept constant in the same sample of individuals), assuming that there has been no actual change in respondents on the attribute being measured during the intervening period. One of the problems with this form of reliability is that individuals may remember their previous responses and repeat them at second administration (thus increasing the correlation between the two administrations). There is no agreement among experts on the appropriate time interval between the first and second assessments: it varies from two to 14 days (Streiner & Norman, 2003), two weeks (Nunnally & Bernstein, 1994), three months (Kline, 1993) and six months for an enduring attribute such as personality trait (Nunnally & Bernstein, 1994).

Another, more practical problem, is ensuring that there has, indeed, been no actual change in the attribute being measured. Test-retest reliability is reported as a Pearson product moment or an intra-class correlation coefficient. Tests of relatively stable traits (e.g. extraversion, introversion) might be expected to have test-retest reliabilities of greater than 0.70 when re-administered in the same year, but measures of states (e.g. anxiety) might have coefficients about 0.10 lower than trait measures (Streiner & Norman, 2003). Preferred sample size to determine **reproducibility** varies, but Kline suggests a minimum of 100 respondents (Kline, 1993).

3.4 Validity

The **validity** of a scale is an assessment of its scientific utility, in terms of how well it measures what it purports to measure (Nunnally & Bernstein, 1994) and thus is an indication of the level of confidence we may have in the inferences made on the

basis of scores on that scale (Streiner & Norman, 2003). The three principal forms of validity are **content**, **construct**, and **criterion validity**. Other forms of validity may be reported (namely **face**, **convergent**, **discriminant** (or **divergent**), **predictive** and **concurrent validity**), but these are essentially aspects of the three principal forms (Streiner & Norman, 2003) (see below).

3.4.1 Content validity

Content validity is an indication of the degree to which the construct of interest is comprehensively sampled by the items in the scale (Guyatt *et al.*, 1993). It is an entirely subjective judgement by experts, based on literature reviews, focus groups and interviews with the target group (referred to sometimes as pilot testing but increasingly as '**cognitive debriefing**') (Bowling, 2005; Willis, 2005). Content validity is therefore non-quantitative and best determined during the initial development of a scale (Nunnally & Bernstein, 1994).

Face validity is an aspect of content validity, a qualitative assessment of whether the items on a scale look reasonable; that is, whether the items measure what they appear to measure (Guyatt *et al.*, 1993). Although it is often assessed by researchers/experts themselves once a scale has been developed, some believe that the respondent should be the judge, not the expert (Nevo, 1985). A measure is likely to have higher face validity if respondents were involved in the development of the measure (i.e. opinions sought during interviews and/or focus groups), generating items and then confirming the subject matter (Fitzpatrick *et al.*, 1998b). One indication of good face validity can be a high item completion rate (although this is not a perfect measure). While high face validity may increase the motivation of respondents to complete the measure, the disadvantage is that in some fields of psychological testing (e.g. personality testing), respondents are likely to guess or seek out what the test is measuring, and this may lead to faking or socially desirable responses (Kline, 1993).

Although content and face validity are important, they are subjective judgements, whereas aspects of construct and criterion validity below are more formal and quantitative.

3.4.2 Construct validity

A scale has **construct validity** when there is evidence that supports the existence of the hypothetical construct that the scale purports to be measuring (e.g. pain or life satisfaction), but which cannot be directly observed. Construct validation therefore involves setting out and testing a number of hypotheses about the relationship of the construct with specific *variables* that *can* be measured. As part of the construct validation process, a measure might be hypothesised to have stronger (positive or negative) relationships with variables that are thought to be related to the construct (**convergent validity**) and weaker (positive or negative) relationships (or ideally no relationship at all) with variables that bear little relation to the construct (**discriminant validity** also known as **divergent validity**). Thus, the construct of perceived stress levels might be expected to have a high correlation with blood pressure, which can be measured objectively (convergent validity), but the construct of happiness would be expected to have low (or no) correlation with e.g. numeracy (discriminant validity). Another version of discriminant validity (sometimes called extreme groups validity) is

where different groups are hypothesised to have significantly different scores on a variable, and this is shown to be the case. Thus younger people might be hypothesised to have more vitality as measured by a particular scale than older people, or women more depression than men.

Thus, no single set of results will indicate that a measure has construct validity. Construct validation is an ongoing process consisting of making hypotheses about the construct as understanding of the construct increases, and then testing those theories. Factor analysis (see Section 3.2) is often reported as part of the construct validation process.

3.4.3 Criterion validity²⁰

Criterion validity only applies where a gold standard (or criterion) scale for an attribute already exists, whose validity has already been established or assumed, with which to compare a new scale measuring that attribute. For example, if a physicist were to develop a new method for measuring temperature, he/she would assess criterion validity by comparing the new measure with Celsius or Fahrenheit measures. However, in psychosocial research, a gold standard scale very rarely exists (and this may be given as a justification for developing a new scale) or there are disagreements about appropriate criterion measures.

There are two types of criterion validity: **concurrent** and **predictive**. Where a gold standard scale exists, both instruments are administered at the same time to the same set of respondents and scores correlated, concurrent validity is indicated if correlations between the two instruments fall in the range of 0.4-0.8 (Streiner & Norman, 2003). Lower correlations indicate that either the reliability of one of the instruments is unacceptably low or that they are measuring different attributes (Streiner & Norman, 2003). As for construct validity, correlations can be positive or negative. A test has predictive validity if it is able to predict a criterion score in the future. For example, does IQ measured in childhood predict class of degree gained at university? However, there is often difficulty in finding a clear criterion for prediction (Kline, 1993), and the results of the prediction may not be known for some time, even years later.

3.5 The relationship between validity and reliability

Kline points out that a test is valid when it measures what it claims to measure, thus a test cannot be valid if it is not reliable. On the other hand a reliable test is not

²⁰ Criterion validity differs from construct validity in that criterion validity involves comparison with another gold standard instrument or criterion score, whereas construct validity is concerned with the relationship with measurable variables or scales that are not accepted as gold standard. In practice, as these concepts appear rather similar, there is considerable confusion in the research literature over the names given to aspects of validity and, for example, the terms concurrent and convergent validity are frequently used interchangeably. This is reflected somewhat in the reporting of results for aspects of validity in the summary tables for scales included in the current review.

necessarily valid, therefore reliability is a necessary but not sufficient condition for validity (Kline, 1993). The mathematical relationship between validity and reliability is that the maximum validity of a test is the square root of its reliability coefficient (Streiner & Norman, 2003). Whereas reliability, at least in the form of internal consistency reliability, can and should be reported early in the life of a measure, validation is an ongoing process and the various forms of validity described above can take many years to demonstrate.

3.6 Responsiveness and sensitivity to change

Sensitivity to change has been defined as 'the ability of a scale to measure change in a state regardless of whether it is relevant or meaningful to the decision maker' (Liang, 2000) and **responsiveness** as 'the ability of a scale to detect clinically important change over time' (Guyatt *et al.*, 1989). The terms are, however, often used interchangeably, although Fitzpatrick *et al.* (1998) prefer responsiveness. Streiner and Norman (2003) quote sources as saying that sensitivity to change and responsiveness are aspects of validity, in particular criterion validity. Others, e.g. Guyatt *et al.*, 1989, regard them as separate from validity and reliability, particularly as some instruments may be both reliable and valid but not responsive.

Responsiveness can be measured using the **effect size** and **standardised response mean** (SRM) (for further details, see Fitzpatrick *et al.*, 1998a). However, in practice, responsiveness is most frequently indicated by a statistically significant change in scores attributable to a specified intervention. The effect size is the change score for a scale divided by the standard deviation (SD) of its baseline value. Effect sizes of 0.2, 0.5, 0.8 are considered small, medium or large respectively (Cohen, 1988), although Streiner & Norman (2003) consider an effect size of 0.5 to be a 'reasonable first approximation to a threshold of important change'. The SRM is the change score divided by the SD of the change score, but is reported less often than the effect size (Fitzpatrick *et al.*, 1998b).

Ceiling and floor effects, if present, reduce the responsiveness of a scale because item wording restricts the possibility of respondents indicating more extreme (i.e. higher or lower) levels of response. Thus, if there were a ceiling effect at baseline (e.g. if a respondent is *very satisfied* with his/her life at that time), the scale would not be able to detect improvements following an intervention even when the respondent would like to indicate that they are *much more satisfied* following the intervention. For example, when studying the general population, where a minority will be clinically anxious or depressed, general health status measures often display floor effects, i.e. respondents score at the very minimum because they do not have substantial mental health problems. This means that such scales are unable to detect improvements in the mental health of people without mental health problems, limiting the potential for identifying potentially significant improvements in mental health. Furthermore, the vast majority of people in the general population will score at this minimum level, and the scale is unable to distinguish between them. Thus, such measures can prove insensitive (i.e. incapable of detecting improvements following effective interventions because the respondent score cannot be improved upon at follow-up) and provide little information about the ways in which people's lives can be improved (Stewart-Brown, 2002). For further discussion, see Fitzpatrick *et al.* (1998b).

3.7 Appropriateness

Appropriateness refers to the need for researchers to judge that the content of a scale and its psychometric properties are suitable for the purpose of the study in which the scale is to be used. For example, when selecting a scale to evaluate the effect of an intervention on self-esteem, one might need to consider not only the aims and objectives of the study, but also whether or not a selected scale is responsive and appropriate for use with the given population. For further discussion, see Fitzpatrick *et al.* (1998b).

Scales often ask the respondent about important personal issues. As a result, one has to be mindful of the potential impact of asking such questions. Scales on social functioning are particularly good examples of this. Many of the questions could make a socially isolated person feel vulnerable and acutely aware of their lack of social support. Researchers therefore need to ensure that the use of such scales is justifiable and appropriate, and that adequate provision is made for respondents who may feel the need for counselling or other professional support.

3.8 Acceptability

The acceptability of a measure to respondents is an important issue because an acceptable measure is more likely to result in high completion rates and greater adherence to the accompanying instructions. Factors that affect the acceptability of a scale include:

- reading age and comprehensibility, i.e. how easy it is to understand the scale
- the use of value-laden items and jargon (Streiner & Norman, 2003)
- ambiguity and double-barrelled items (i.e. asking, within the same item, two or more questions that could require different responses)
- length of scale
- general layout and presentation.

In general the upper limit for **readability** (i.e. reading skills) should be those of a 12-year-old, but Flesch reading ease scores (Flesch, 1948) (available with standard word-processing packages) are usually inappropriate for scales where each item is an independent passage, often a short sentence or question, and where meaning may depend on one key word (Streiner & Norman, 2003). Reading ease is highly influenced by the complexity of words, which might be considered difficult by the general population but not so in a specific population (e.g. 'satisfaction' is a complex word (having four syllables), which would reduce the reading ease of a sentence, but it is likely to be easily understood by most adults and difficult to replace with another single word).

Another issue is that of positive and negative wording. To avoid **acquiescence** (i.e. the tendency of some respondents to agree with any given statement without considering their responses), some measures have equal numbers of positively and negatively worded items. However, this is not necessarily to be recommended as, among other things, there is a higher cognitive load (and increased respondent burden) when disagreeing with a negatively worded item (e.g. 'I do not have many friends') to indicate a positive response. This leads to a tendency to agree with negatively worded items. Furthermore, there is a strong tendency for items to load together in a factor analysis on the basis of wording direction (i.e. positive vs.

negative wording) rather than on the basis of the intended construct. For a fuller discussion of interpretability, see Streiner & Norman (2003).

Layout, appearance and legibility may have a strong influence on acceptability – respondents will not be inclined to complete a measure that they have to struggle to follow. VAS may be harder for respondents to understand compared to Likert response scales (Guyatt *et al.*, 1987). Completion time is another factor (likely to be longer on average with elderly respondents), and shorter instruments are assumed to be more acceptable to respondents, though there is no clear guidance available on how many items or pages will be tolerated by the average respondent. It is also necessary to minimise any potential distress to respondents caused by the subject matter of items, and note that the acceptability of topics may vary between different populations (e.g. dependent on age, sex, cultural background).

3.9 Feasibility

For researchers, the feasibility of using a scale includes:

- *cost to use the scale*: Is it available free of charge or with limited handling fee (at least for academic, medical or health services research)? If there is a price tag, is this a set fee or does it depend on the number of copies administered in a study?
- *number of pages/items*: Bulk/length could be relevant if the scale is to be posted and/or included in a battery with other instruments, especially where space/time is limited.
- *scoring guidelines*: Are guidelines available so that researchers can easily score the scale and perform data analysis themselves, or do the developers recommend that this is done by a commercial body for a fee?
- *staff training*: Training may be required in the administration of a measure or in interview techniques. Some scales (most often occupational or clinical measures) require that the user have a competency certificate.
- *missing data*: Does the scale developer provide guidance on the issue of dealing with missing data? That is, if a respondent misses out some items, can a total score for that individual still be calculated?
- *complexity of the measure*: Complex scales may need to be explained to respondents prior to administration, otherwise the measure may be more prone to low completion rates.

3.10 Translations and cross-cultural validity

Where a measure was originally developed in another language, it will need to be translated into the target language. **Linguistic validation** is a three-stage process to ensure that the translated version is equivalent to the original version, and is clear and easy to understand. It requires:

- The comparison of at least two independent forward translations into the target language performed by bilingual native target-language speakers, preferably collaborating with the person(s) who designed the original scale or are familiar with scale development (Bradley, 1994a). This may be followed by reconciliation (comparison and merging of two or more forward translations into a single version (Wild *et al.*, 2005).
- Back translations into the original language by bilingual native speakers of the original language of the scale (and who have not seen the original scale itself), followed by comparison of back translated versions with the original scale to

pinpoint any unintended semantic or other differences between translation and original

- Checks should then be made that the translations are acceptable and comprehensible to relevant respondents, are being interpreted by respondents as intended and that the translated scale is suitable for use in the different culture to the one for which the measure was originally designed. This process is called 'cognitive debriefing' (Wild *et al.*, 2005). This cultural equivalence is particularly important for PMH, the elements of which are likely to have different meanings in different cultures.

Streiner & Norman (2003) discuss the goal of translation in terms of:

- *Conceptual equivalence* (whether people in the two cultures see each concept in the same way).
- *Item equivalence* (whether specific items are relevant and acceptable to the target population). Some topics, such as sexual problems or alcohol consumption, may be taboo in some cultures.
- *Semantic equivalence* (whether the meaning attached to each item is the same in the two cultures). Streiner and Norman mention that in North America the colour blue is associated with sadness, black with depression, but this might not be the case in other cultures; for example, in China white is the colour of mourning. Hence the need to be wary of literal translations of, for example, 'I feel blue' or 'The future looks black'.
- *Operational equivalence* (whether the format of the scale, the instructions, and mode of administration are suitable for the target population). For example, respondent-completed scales would be unsuitable in populations with low literacy levels.
- *Measurement equivalence* (whether the psychometric properties of original and target language versions are equivalent). Thus, following linguistic validation, the newly translated scale's psychometric properties will need to be assessed to ensure that the scale performs in a similar way to the original version, particularly in terms of internal consistency, reliability, and factor structure. If it does not, problematic items may need to be dropped from the translated scale where not detrimental to reliability and validity, or they may need to be re-translated (Bradley, 1994a).

It should be noted that linguistic validation is not only required when a measure needs to be translated from one language into another, but also when the measure is used in two different countries which appear to share the same language, e.g. English for USA vs. English for UK, or French for France vs. French for Canada. For example, the item 'I often feel mad' may be interpreted by North Americans as 'I often feel angry' but by speakers of UK English as 'I often feel insane' (Loewenthal, 1996).

Connected and worthy of consideration is the fact that many of the scales have been developed using student samples, which are unlikely to be representative of the general population. Thus, although the scales are designed for use with the general population, the selection and wording of items may have been influenced by student perceptions, which may vary greatly from the general population.

Further Reading

For psychometric and statistical issues refer to a standard textbook on psychometric theory such as:

Nunnally, J. C. & Bernstein, I. H. (1994). *Psychometric theory*. (3rd ed.) New York: McGraw-Hill.

For practical information on testing in the psychological field, and the development, use and evaluation of scales see:

Streiner, D. L. & Norman, G. R. (2003). *Health Measurement Scales: a practical guide to their development and use*. (3rd ed.) Oxford: Oxford University Press.

Fitzpatrick, R., Davey, C., Buxton, M. J., & Jones, D. R. (1998b). *Evaluating patient-based outcome measures for use in clinical trials* (Rep. No. Vol. 2 No.14).

Kline, P. (1993). *The Handbook of Psychological Testing*. London: Routledge.

For in-depth consideration of issues of translation and cross-cultural adaptation:

Streiner, D. L. & Norman, G. R. (2003). *Health Measurement Scales: a practical guide to their development and use*. (3rd ed.) Oxford: Oxford University Press.

Bradley, C. (1994a). Translation of questionnaires for use in different languages and cultures. In Bradley, C. (Ed.), *Handbook of Psychology and Diabetes* (pp43-55). Chur, Switzerland: Harwood Academic Publishers.

Wild, D., Grove, A., Martin, M., Eremenco, S., McElroy, S., Verjee-Lorenz, A. *et al.* (2005). Principles of Good Practice for the Translation and Cultural Adaptation Process for Patient-Reported Outcomes (PRO) Measures: Report of the ISPOR Task Force for Translation and Cultural Adaptation. *Value in Health*, 8, 94-104.

4. Scales to assess aspects of positive mental health

4.1 Introduction

There is broad agreement that the concept of positive mental health (PMH) is more than the mere absence of mental illness or pathology. Moreover, it may also be present in people with a diagnosis of mental illness (the dual continuum model) (Tudor, 1996). There are, however, various ways of conceptualising PMH. It is unlikely with current understanding that any one model will meet with universal approval because the concept of PMH is so contentious. A distinction is often made between transient feelings of well-being (**hedonic** elements) and longer-term concepts such as 'good functioning' and 'personal growth' (**eudaimonic** elements) (Ryan & Deci, 2001). Huppert (2005a) argues effectively that PMH is not merely the presence of positive emotions (hedonic elements) because:

- positive emotions do not necessarily result in personal growth
- positive emotions may be temporary states and/or achieved by artificial means (e.g. alcohol or drugs)
- the achievement of sustained PMH may require some periods of negative emotion (e.g. grief).

For Huppert (2005a) and others, PMH is therefore not only concerned with the experience of pleasant emotions (i.e. positive affect) or satisfaction with life – the hedonic aspects of PMH; it is also about functioning and growth, at both a personal and a social level – the eudaimonic aspects of PMH (Ryan & Deci, 2001). This may include the promotion of self-esteem, resilience, sense of belonging and so on. Thus, PMH generally refers to a range of emotional and cognitive attributes associated with a self-reported sense of well-being and/or resilience in the face of adversity. Recent European work has taken PMH to refer to:

'the emotional aspects of well-being (affect balance, happiness, certain aspects of life satisfaction) and cognitive aspects (e.g. coping, optimism, certain features of life satisfaction)'

(Korkeila, 2000, p11)

Keyes maintains that PMH is 'best operationalised as a syndrome that combines symptoms' (Keyes, 2002, p210). Which 'symptoms' to include in the syndrome of PMH is fiercely debated. For Keyes, these include 'emotional well-being with symptoms of psychological and social well-being' (Keyes, 2002, p210). In contrast, Kahneman, Diener and Schwarz (1999) take a purely hedonic view of PMH as largely comprising subjective well-being; while Ryff (1989) takes the eudaimonic perspective, proposing an integrated model of six dimensions of psychological well-being: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, personal growth. Each of the dimensions represents the personal challenges of achieving PMH (Keyes & Magyar-Moe, 2003).

For the purposes of this review, PMH was taken to include both hedonic and eudaimonic perspectives, attempting to integrate these into one broad aspect of PMH, defined as:

'more than the absence of mental illness or pathology. It implies "completeness" and "full functioning". It includes emotional well-being,

satisfaction with life, optimism and hope, self-esteem, resilience and coping, spirituality, social functioning and emotional intelligence'

These eight aspects of PMH chosen for this review are listed below, along with the working definitions used.

Table 4.1 Aspects of positive mental health

Aspect	Working definition
Emotional well-being ²¹	More than the absence of psychological morbidity (e.g. anxiety and depression); a more positive concept that includes happiness, vitality.
Life satisfaction	Overall assessment of one's life, or a comparison reflecting some perceived discrepancy between one's aspirations and achievement; includes optimistic outlook, perception of life as pleasurable.
Optimism and Hope	Positive expectations of the future; a tendency to anticipate and plan for relatively favourable outcomes.
Self-esteem	A belief or evaluation that one is a person of value, accepting personal strengths and weaknesses; a sense of worth. Related to emotional safety/security, i.e. how one feels about self, confidence in and how good one feels in personal relationships (e.g. family, wider community).
Resilience and Coping	Resistance to mental illness in the face of adversity; hardiness; learned resourcefulness; a sense of coherence, i.e. confidence that internal and external events are predictable and that things will work out as can reasonably be expected; a cognitive evaluation of perceived resources to deal with perceived demands; personal control.
Spirituality	Sense of purpose/meaning in life; a sense that there is something beyond the material world; attempts to harmonise life with a deeper motivation.
Social functioning	<p>a) Personal relationships (interpersonal trust, respect and empathy) Overall assessment of the quality of personal relationships and social networks and social cohesion; the degree to which people function adequately as members of a community; includes role-related coping, social participation, family health, social functioning, sense of belonging; valuing oneself and others; perceiving fair treatment by others (with respect, without discrimination).</p> <p>b) Social support/social networks Interactive process in which emotional, instrumental or financial aid is received from one's social network; individual's belief that he/she is cared for, esteemed; mutual obligations; set of people with whom one maintains contacts and has some form of social bond; social reciprocity.</p>
Emotional intelligence	The potential to feel, use, communicate, recognise, remember, learn from, manage and understand emotions (self and others).

²¹ These scales include but are not confined to addressing positive affect. Scales with a more general focus on overall PMH are also included here.

Table 4.2 lists the scales included in this review and those excluded in accordance with the review criteria (see Section 2.1.4). The excluded scales may be of interest in certain circumstances. For example, when measurement of other constructs is required, a scale that includes an assessment of PMH but focuses on another construct may be of use.

For each of the eight aspects of PMH the rest of this section includes:

- a working definition of the aspect
- a brief description of the scales identified to measure the aspect²² (which met the inclusion criteria) and a general appraisal of these in a commentary
- a summary appraisal table comparing the scales on the multi-level appraisal criteria (psychometric properties, practicalities and overall rating)
- structured summaries for each of the reviewed scales (including characteristics, contents, psychometric evidence, the advantages and disadvantages and comments by experts). Note: information for characteristics – usefulness, advantages, disadvantages and recommendations – comes from the literature.²³

In the absence of a definition of PMH and agreement on its constituent elements, there are relatively few scales that can be considered to encompass PMH as a whole. The best proxies for a global measure of PMH will be found in the section on emotional well-being (Section 4.2). This is not to suggest that PMH is equivalent or restricted to emotional well-being (as defined here),²⁴ rather that those measures have been used more frequently to assess general PMH. With the development of a better understanding/definition of PMH, new scales to better assess overall PMH will be developed.

²² Developers of scales and researchers in this field use certain definitions/terminology, which may not be consistent with the definitions/terminology for the aspects used in this report. For each of the following scales, the descriptions have been extracted from the scale developers' or researchers' own account of the scale content. The terms used are not therefore necessarily consistent with those used throughout this review but from an assessment of the research papers, the scales have been included in the appropriate section.

²³ Where scales were developed originally in the USA, the cross-cultural validity of the scale for use in the UK has rarely been documented. For scales developed in countries other than the UK, the term UK validation has been used in this review to mean evidence of reliability and validity in the UK.

²⁴ Note that others may use the term emotional well-being in a different way to that used in this report.

Table 4.2 Scales included/excluded from review

Aspect	Scales included in review	Popular scales excluded from main review (summarised in Appendix D)			
		Focus not on PMH	No UK validation	In development	Training required
Emotional well-being	Affect Balance Scale© * (Bradburn, 1969) Affectometer 2 * (Kammann & Flett, 1983) Depression-Happiness Scale (McGreal & Joseph, 1993) Oxford Happiness Questionnaire * (Hills & Argyle, 2002) Oxford Happiness Questionnaire – Short-Form * (Hills & Argyle, 2002) Positive and Negative Affect Schedule * (Watson <i>et al.</i> , 1988) Psychological General Well-being Index© * (Dupuy, 1984) Short Depression-Happiness Scale * (Joseph <i>et al.</i> , 2004) Well-being Questionnaire – 12 * (Bradley, 1994b, 2000)	General Health Questionnaire * (Goldberg, 1978) General Well-being Index (Hunt & McKenna, 1992) Short-Form 36 (Ware & Sherbourne, 1992) Well-being Questionnaire – 22 (Bradley, 1994b) WHO – 5 Well-being Index (WHO, 1998, 2001)	Rand Mental Health Inventory * (Ware <i>et al.</i> , 1985) Single-Item Scale of Happiness * (Abdel-Khalek, 2006) Subjective Happiness Scale * (Lyubomirsky <i>et al.</i> , 1999)	European Social Survey – Personal and Social Well-being Module (Huppert <i>et al.</i> , 2005b) Mental Health Continuum * (Keyes, 2006) Warwick-Edinburgh Mental Well-being Scale* (developed from the Affectometer 2) (Tennant <i>et al.</i> , 2007a)	
Life satisfaction	Delighted-Terrible Scale (Andrews & Withey, 1976) Global Quality of Life	WHOQOL-100 (The WHOQOL Group, 1998)	Extended Satisfaction with Life Scale * (Alfonso <i>et al.</i> , 1996)		

Note: Items marked with an asterisk (*) are available to view in Appendix E.

Aspect	Scales included in review	Popular scales excluded from main review (summarised in Appendix D)			
		Focus not on PMH	No UK validation	In development	Training required
Optimism and Hope	Scale * (Hyland & Sodergren, 1996)		Personal Well-being Index - Adult* (International Well-being Group, 2005)		
	Satisfaction with Life Scale * (Diener <i>et al.</i> , 1985)		Quality of Life Questionnaire (Evans & Cope, 1989)		
	WHOQOL-BREF (The WHOQOL Group, 1998)		Temporal Satisfaction with Life Scale * (Pavot <i>et al.</i> , 1998)		
	Trait (Dispositional) Hope Scale * (Snyder <i>et al.</i> , 1991)		(Expanded) Attributional Styles Questionnaire * (Peterson & Villanova, 1988)		
	Generalised Expectancy for Success Scale – Revised* (Hale <i>et al.</i> , 1992)		Hunter Opinions and Personal Expectations Scale * (Nunn <i>et al.</i> , 1996)		
	Life Orientation Test * (Scheier <i>et al.</i> , 1985)		Optimism/Pessimism Instrument * (Dember <i>et al.</i> , 1989)		
	Life Orientation Test – Revised * (Scheier <i>et al.</i> , 1994)		Staats Hope Scale/Index * (Staats & Stassen, 1985, Staats 1989)		
	Positive and Negative Expectancy Questionnaire * (Olason & Roger, 2001)		State Hope Scale * (Snyder <i>et al.</i> , 1996)		
	Basic Self-Esteem Scale (Forsman & Johnson, 1996)	Multidimensional Self-Esteem Scale (previously known as the Revised Janis-Field Feelings of Inadequacy	Self-Acceptance Scale * (Ryff, 1989)		
	Coopersmith Self-Esteem		Self-Regard Questionnaire *		

Note: Items marked with an asterisk (*) are available to view in Appendix E.

Aspect	Scales included in review	Popular scales excluded from main review (summarised in Appendix D)			
		Focus not on PMH	No UK validation	In development	Training required
	Inventory * (Coopersmith, 1981) Robson Self-Concept Questionnaire * (Robson, 1989) Rosenberg Self-Esteem Scale (Rosenberg, 1965) Visual Analogue Self-Esteem Scale (Brumfitt & Sheeran, 1999)	Scale) * (Fleming & Courtney 1984) (and validated in US only)	(Horowitz <i>et al.</i> , 1996) State Self-Esteem Scale * (Heatherton & Polivy, 1991) Tennessee Self-Concept Scale: Second edition * (Fitts, 1965, TSC:2 Fitts & Warren, 1996)		
Resilience and Coping	Attributional Style Questionnaire (Seligman <i>et al.</i> , 1979; Peterson <i>et al.</i> , 1982) Brief COPE Scale * (Carver, 1997) COPE Scale * (Carver <i>et al.</i> , 1989) Coping Styles Questionnaire * (Roger <i>et al.</i> , 1993) Functional Dimensions of Coping Scale * (Ferguson & Cox, 1997) General Self-Efficacy Scale * (Schwarzer, R. & Jerusalem, M. 1995) Sense of Coherence	Health and Daily Living * (Moos <i>et al.</i> , 1986)	Connor-Davidson Resilience Scale (Connor & Davidson, 2003) Ego-Resiliency Scale * (Block & Kremen, 1996) Leddy Healthiness Scale * (Leddy, 1996) Life Effectiveness Questionnaire-H * (Neill, Marsh & Richards, 2003) Personal Views Survey III-R® * (Maddi <i>et al.</i> , 2006) (supersedes the Hardiness Scale (Kobasa & Maddi, 1977)		Coping Inventory for Stressful Situations (Endler & Parker, 1990) Coping Responses Inventory * (Moos, 1988)

Note: Items marked with an asterisk (*) are available to view in Appendix E.

Aspect	Scales included in review	Popular scales excluded from main review (summarised in Appendix D)			
		Focus not on PMH	No UK validation	In development	Training required
	Scale * (Antonovsky, 1987a) Ways of Coping * (Folkman & Lazarus, 1988)		Proactive Coping Inventory * (Greenglass <i>et al.</i> , 1999)		
Spirituality	Life Attitude Profile – Revised * (Reker, 1992) Meaning in Life Questionnaire * (Steger <i>et al.</i> , 2006) Purpose in Life Test (Crumbaugh & Maholick, 1964) Spiritual Well-being Scale * (Paloutzian & Ellison 1982)		Brief Multidimensional Measure of Religiousness/Spirituality * (Fetzer Institute, 2003) Life Regard Index (Battista & Almond, 1973) Mysticism Scale * (Hood 1975) Personal Growth Composite Scale * (1994, 2002, 2004) Personal Meaning Profile * (Wong, 1998) Purpose in Life Scale * (Ryff, 1989) Short Index of Self- Actualisation Scale * (Jones & Crandall, 1986) Sources of Meaning Profile – Revised * (Reker, 1996) Spiritual Meaning Scale * (Mascaro <i>et al.</i> , 2004)		

Note: Items marked with an asterisk (*) are available to view in Appendix E.

Aspect	Scales included in review	Popular scales excluded from main review (summarised in Appendix D)			
		Focus not on PMH	No UK validation	In development	Training required
Social functioning	Duke-UNC Functional Social Support Questionnaire * (Broadhead <i>et al.</i> , 1988) Interpersonal Support Evaluation List * (Cohen <i>et al.</i> , 1985) Interpersonal Trust Questionnaire (Forbes & Roger, 1999) Interpersonal Trust Scale * (Rotter, 1967) Inventory of Socially Supportive Behaviours * (Barrera Jr, 1981) MOS Social Support Survey * (Sherbourne & Stewart, 1991) Multidimensional Scale of Perceived Social Support * (Zimet <i>et al.</i> , 1988) Oslo 3-item Social Support Scale * (Dalgard, 1996) Perceived Social Support from Family and Friends * (Procidano & Heller, 1983) Social Support Questionnaire *	Duke Social Support Index * (Landerman <i>et al.</i> , 1989) (elderly population only) Katz Adjustment Scales (Katz & Lyerly, 1963) (psychiatric population only) Lubben Social Network Scale (Lubben, 1988) (elderly population only and measures degree of social isolation) Social Adjustment Scale (Weissman, 1976) (psychiatric population only)	Duke Social Support and Stress Scale * (Parkerson <i>et al.</i> , 1989) Family Relationship Index (Moos & Moos, 1984) (except one study in 85+ age group) Positive Relations with Others Scale * (Ryff, 1989) Quality of Relationships Inventory * (Pierce <i>et al.</i> , 1991) Social Support Appraisals Scale (Vaux <i>et al.</i> , 1986) Social Support Behaviours Scale (Vaux <i>et al.</i> , 1986)		Social Relationship Scale * (McFarlane, 1981)

Note: Items marked with an asterisk (*) are available to view in Appendix E.

Aspect	Scales included in review	Popular scales excluded from main review (summarised in Appendix D)			
		Focus not on PMH	No UK validation	In development	Training required
Emotional intelligence	(Sarason <i>et al.</i> , 1983) Social Support Questionnaire – Brief * (Sarason <i>et al.</i> , 1987) Emotional Intelligence Scale * (Schutte <i>et al.</i> , 1998) Trait Emotional Intelligence Questionnaire * (Petrides & Furnham, 2003) Trait Emotional Intelligence Questionnaire – Short-Form * (Petrides & Furnham, 2003)		Emotional Competency Inventory (Boyatzis & Goleman) (and training required)		Emotional Quotient Inventory (Bar-On, 1997) Mayer-Salovey-Caruso Emotional Intelligence Test (Mayer <i>et al.</i> , 2001)

Note: Items marked with an asterisk (*) are available to view in Appendix E.

Review of scales of positive mental health

4.2 Scales of emotional well-being

The working definition of emotional well-being was:

‘More than the absence of psychological morbidity (e.g. anxiety and depression); a more positive concept that includes happiness, vitality’.

4.2.1 Description of scales

Several scales of emotional well-being exist and these differ substantially in terms of their focus (coverage) and length. Self-report measures of emotional well-being usually require the respondent to indicate how frequently they experience various emotional states. Time frame is perhaps the most important feature of these measures. With shorter time frames (e.g. right now, today, at the current time), the scale is more likely to capture an emotional response, while with longer time frames (e.g. the past week, past few weeks, past month), the scale is more likely to capture mood or personality differences. Readers are advised to consider which aspect of emotional well-being they wish to study and to select a scale that fits their needs.

The following scales are recommended for use:

- **Affect Balance Scale**© (ABS) (Bradburn, 1969) Purports to measure the concept of emotional well-being, seen as a function of two independent dimensions – positive and negative affect, i.e. pleasurable and unpleasurable experience.
- **Affectometer 2** (Affect 2) (Kammann & Flett, 1983) Measures aspects of PMH using a balance of positive and negative feelings and thoughts.
- **Depression-Happiness Scale** (DHS) (McGreal & Joseph, 1993) Measures positive and negative affect, in terms of positive and negative thoughts, feelings and bodily experiences. The DHS remains unique in its dual measurement of depression and happiness as opposite ends of a single continuum.
- **Oxford Happiness Questionnaire** (OHQ) (Hills & Argyle, 2002) Provides a broad measure of happiness in three domains (life satisfaction, positive affect and negative affect).
- **Oxford Happiness Questionnaire – Short-Form** (OHQ-SF) (Hills & Argyle, 2002) Brief (8-item) measure of the above.
- **Positive and Negative Affect Schedule** (PANAS) (Watson *et al.*, 1988) Measures positive and negative affect, identified in research as the dominant dimensions of emotional experience. Consists of single-word items describing various feelings and emotions.
- **Psychological General Well-being Index**© (PGWBI) (Dupuy, 1984) Provides a detailed assessment of positive well-being, self-control and vitality, as well as aspects of mental health problems.
- **Short Depression-Happiness Scale** (SDHS) (Joseph *et al.*, 2004) Provides a brief (6-item) version of the DHS (above).
- **Well-being Questionnaire – 12** (W-BQ12) (Bradley, 1994b; 2000) Provides a brief (12-item) measure of positive well-being, energy and negative well-being (avoiding the use of somatic items, so as to be particularly suitable for use in patient populations).

Scales that have a general focus on PMH include the Affectometer 2, the Well-being Questionnaire (W-BQ12) and the Psychological General Well-being Index (PGWBI). Most other scales included here measure positive affect (with or without a measure

of negative affect). They typically include several statements (or single words) to describe a range of emotional states. There appears to be little attempt with the current instruments to delineate different types of positive affect, i.e. happiness, elation, calmness, momentary satisfaction. Rather, items can generally be summed (or otherwise aggregated) to form a scale that measures 'positive affect' or 'positive well-being' rather than more specific elements of the construct.

4.2.2 Appraisal of scales (Table 4.3)

Scales that measure emotional well-being are likely to be selected most appropriately if they are considered at two levels:

- (1) general measures – those that are designed to provide a brief overview of an individual's PMH; and
- (2) detailed measures – specific and discrete measures of positive affect.

- Scales to measure overall PMH are most likely to be found among this selection. Despite the fact that only the Affectometer 2 scale includes the eudaimonic aspect of PMH,²⁵ the scales included here are most likely to assess what many lay people would mean by PMH.
- If an overall measure of PMH is required, the Affectometer 2 appears to be a very promising scale. Despite being first published more than 20 years ago, there has been surprisingly little use of the Affectometer 2 (particularly in the UK). However, it has recently undergone substantial psychometric development in the UK (Tennant *et al.*, 2007b). Preliminary evidence indicates that it is a valid, reliable, acceptable measure of PMH. A short and substantially revised form of the Affectometer 2 (the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) (Appendix D)) is currently under development and is being validated for use in the UK.²⁶
- The PANAS is a valid and reliable, detailed scale of positive and negative affect, for which normative data are available but little evidence of responsiveness. The PANAS may well be useful for use in national surveys.
- The W-BQ12 is also valid and reliable, providing a brief overview of positive well-being, negative well-being and energy. While no normative data are available and it has not been used widely in the general population, there is strong evidence for its responsiveness, which makes it a strong contender for the purposes of evaluating interventions.
- If a particularly brief scale of emotional well-being is required, the Short Depression-Happiness Scale (6 items) offers good content validity, reliability and structural evidence, though its responsiveness has yet to be fully established.

²⁵ Due to the definition used for emotional well-being, the scales included here do not fully reflect the eudaimonic aspects of PMH. However, at this time, they are among the most general of the PMH scales reviewed. Until such a time as more general measures of PMH have been developed and well validated, the measures here may be useful where a global measure of PMH is needed.

²⁶ For a briefing paper on this new scale see <http://www.healthscotland.com/uploads/documents/3046-Measuring%20mental%20well-being%20%20Affectometer%20%20-%20WEMWBS%20briefing.pdf>

Further reading

- Carr, A. (2004). Chapter 1: Happiness. In *Positive Psychology: The Science of Happiness and Human Strengths*. New York: Brunner-Routledge.
- Diener, E., Lucas, R. E., & Oishi, S. (2005). Subjective well-being: the science of happiness and life satisfaction. In Snyder, C. R. & Lopez, S.J. (Eds.), *Handbook of Positive Psychology*, pp63-73. New York: Oxford University Press.
- Kahneman, D., Diener, E., & Schwartz, A. (1999). *Well-being: the foundations of hedonic psychology*. New York: Russell Sage Foundation.

Table 4.3 Appraisal of scales of emotional well-being

Scale ^a	Essential properties			Desirable properties			OVERALL RATING	Practicalities ^b		
	Content validity	Scale structure	Reliability	Construct validity	Responsiveness	Normative data		Items (Time)	Permission needed	Fee to use scale
ABS	★	★★	★	★(★)	★	★	★	10 items (5 min)	Yes	Fee
Affect 2	★★★	★★★★	★★★★	★★★	★	★	★★★	40 items (5 min)	No	No fee
DHS	★★	★★★(★)	★★★★	★★(★)	★	★	★★ (★)	25 items (5-10 min)	No	No fee
OHQ	★	★★(★)	★★★(★)	★★★	★	★	★★	29 items (unknown)	Unknown	Unknown
OHQ-SF	★	★(★)	★★(★)	★(★)	★	★	★(★)	8 items (5 min)	Unknown	Unknown
PANAS	★★	★★★★	★★★★	★★★(★)	★	★★★(★)	★★★	20 items (5-10 min)	Yes	No fee ^c
PGWBI	★★	★★★	★★★	★★(★)	★★(★)	★	★★(★)	22 items (10-15 min)	Yes	No fee ^c
SDHS	★★	★★★(★)	★★★(★)	★★★	★	★	★★(★)	6 items (< 5 min)	No	No fee
WBQ12	★★★	★★★★	★★★★	★★★(★)	★★★(★)	★	★★★(★)	12 items (5-10 min)	Yes	No fee ^c

a Summaries of each scale follow this table. Copies (and details of how to obtain permission to use, where necessary) can be found in Appendix E.

b Further information about obtaining permission to use scales and/or details of licence fees are provided in the summary reports for each scale. Where information is 'Unknown', contact the developer and/or copyright holder. However, every effort has been made to obtain as much information as possible.

c Free for non-commercial use.

ABS = Affect Balance Scale©; DHS = Depression-Happiness Scale; OHQ = Oxford Happiness Questionnaire; OHQ-SF = Oxford Happiness Questionnaire – Short-Form; PANAS = Positive and Negative Affect Schedule; PGWBI = Psychological General Well-being Index©; SDHS = Short Depression-Happiness Scale; WBQ12 = Well-being Questionnaire – 12.

Scales are given a maximum 5-star rating for each of the 6 psychometric properties reflecting both quantity and quality of evidence, where: ★★★★★ = excellent evidence, ★★★★ = very good evidence, ★★★ = good evidence, ★★ = moderate evidence, ★ = lack of evidence.

Overall rating = mean score of the essential and desirable properties (e.g. 24 stars / 6 properties = ★★★★★).

Affect Balance Scale© (ABS)

Bradburn, 1969

Summary

To measure the concept of psychological well-being, seen as a function of two independent dimensions – positive and negative affect, i.e. the pleasurable and unpleasurable aspects of an experience.

Access

Developer Address

Dr Norman M Bradburn
Email the copyright holders
the National Opinion
Research Center (NORC)

Focus	Emotional well-being	Email	norcinfo@norc.org
Time period	Past few weeks	Website	www.harrisschool.uchicago.edu/
No. of items	10 (Appendix E)		
Population	General/Adult	Permission	Required
Readability	-	Training	Not required
Completion time	5 minutes	Costs	Licence fee payable
Original language	English US		
Translations	May or may not have been fully validated: Cantonese, Catalan, Dutch, Laotian, Spanish for Spain, Vietnamese.		

Content

Scale label	Number of items, 'examples'
Affect-Balance	10 See below for examples

Single composite score obtainable?	Yes
---	-----

Subscales	Number of items, 'examples'
Positive Affect (PA)	5 'Did you ever feel that things were going your way?'
Negative Affect (NA)	5 'Did you ever feel upset because someone criticised you?'

Response format and item scoring	'Yes' = 1 'No' = 0
---	--------------------

Scoring interpretation	Scale score = PA subscale score minus NA subscale score (adding a constant of 5). Scores range from 0 (maximum negative affect) to 10 (maximum positive affect).
-------------------------------	---

Evidence

Content validity	Several items in the scale have been reported problematic for various reasons: out-of-date wording ('did you ever feel on top of the world?'), and too restrictive wording (e.g. 'did you ever feel upset because someone criticized you?' and 'did you ever feel proud because someone complimented you on something you had done?') (Kim & Mueller, 2001).
Scale structure	Confirmatory factor analysis results suggest there is a good fit of the correlated two-factor model to the data set, with a negative correlation between the two

Affect Balance Scale© (ABS)

Bradburn, 1969

Reliability	factors ($r = -0.37$) (Kim & Mueller, 2001).
Construct validity	<p>Low internal consistency (Kim & Mueller, 2001).</p> <p>The ABS subscales and total scale showed statistically significant positive associations with happiness (measured by the Subjective Happiness Scale ($r = 0.52 - 0.64$) (Lyubomirsky & Lepper, 1999), the Depression-Happiness Scale ($r = 0.62$, $p < 0.001$) (Lewis <i>et al.</i>, 2000) and the Oxford Happiness Index ($r = 0.47$ ($p < 0.001$) (Cheng & Furnham, 2003)).</p> <p>The ABS total correlated negatively ($r = -0.56$ ($p < 0.001$) with depression (Beck Depression Inventory) (Cheng & Furnham, 2003).</p> <p>Scores on well-being measures (e.g. Centre for Epidemiological Studies – Depression, life satisfaction, self-acceptance) all correlated with the ABS total, in the range $r = 0.41-0.60$ (Kim & Mueller, 2001).</p> <p>Moderately strong correlations in the expected direction were found with life satisfaction (Satisfaction with Life Scale) for Positive Affect ($r = 0.50$) and Negative Affect ($r = -0.37$) (Diener <i>et al.</i>, 1985).</p> <p>ABS correlated 0.21 ($p < 0.01$) with self-reported health and 0.12 ($p < 0.05$) with years of education (Kim & Mueller, 2001).</p>
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	The combination of these subscales, as 'affect-balance', constitutes a moderately good index of emotional well-being (Kim & Mueller, 2001) .
Advantages	The ABS has some favourable psychometric properties. Relatively low correlation with the Life Satisfaction Index is thought to be because the latter is a broader band scale including affective as well as life satisfaction content (Diener <i>et al.</i> , 1985).
Disadvantages	<p>The yes-no response option and the number of possible responses for positive and negative affect limit the range of responses, increasing the risk of floor effects (Charles <i>et al.</i>, 2001).</p> <p>A serious psychometric problem with the ABS is that most of the items have substantially skewed response distributions. Also, neither of these subscales taps a very focused or well-integrated construct. Both subscales have low internal consistencies, and both have items that load poorly on their respective factors.</p> <p>Further research needed to establish the discriminant validity of the scale (Charles <i>et al.</i>, 2001).</p>
Recommendations in the literature	No comments in the literature.
Comments obtained during expert consultation	This scale is rather out of date, and does not measure important aspects of emotional well-being. It has poor psychometric properties, and there is an extensive literature criticising it.

Affectometer 2 (Affect-2)

Kammann & Flett, 1983

Summary

To measure sense of well-being based on measuring the balance of positive and negative feelings in recent experience.

Access

Developer
Address

Dr Ross Flett
Senior Lecturer
School of Psychology
Massey University
New Zealand

Focus Emotional well-being
Time period Past few weeks
No. of items 40 (Appendix E)
Population General/Adult
Readability -
Completion time 5 minutes
Original language English NZ
Translations None

Email r.a.flett@massey.ac.nz
Website <http://www.massey.ac.nz/~psyweb/staff/rflett.htm>
Permission Not required
Training Not required
Costs Free of charge

Content

Scale label	Number of items, 'examples'	
Overall Happiness	40	20 statements (equal positive and negative) 20 adjectives (equal positive and negative) See below for examples
Single composite score obtainable?	Yes	
Subscales	Number of items, 'examples'	
Positive Affect (PA)	20	10 statements, e.g. 'My life is on the right track'. 10 adjectives, e.g. 'Satisfied'
Negative Affect (NA)	20	10 statements, e.g. 'I wish I could change some part of my life'. 10 adjectives, e.g. 'Discontented'
Adjectives	20	10 adjectives describing 'positive affect' 10 describing negative affect (see above for examples)
Statements	20	10 statements describing 'positive affect' 10 describing negative affect (see above for examples)
Response format and item scoring	Each adjective or statement is scored on a 5-item scale: 'Not at all', 'Occasionally', 'Some of the time', 'Often', 'All of the time' scored 0 to 4, respectively	
Scoring interpretation	Total score = sum of the positive item scores (PA subscale score) minus the sum of the negative item score (NA subscale score)	

Affectometer 2 (Affect-2)

Kammann & Flett, 1983

Evidence²⁷

Content validity	Items empirically selected from a candidate pool of 435 adjectives and sentences (Kammann & Flett, 1983).
Scale structure	In a two-factor solution, negative items loaded 0.40-0.75 on the first component, while positive items loaded 0.33-0.64 on the second component (Tennant <i>et al.</i> , 2007b).
Reliability	Internal consistency, Cronbach's alpha = 0.944 (Tennant <i>et al.</i> , 2007b).
Construct validity	Marital status was significantly associated with Affectometer score, highest for those married or in a relationship and lowest for those widowed or divorced ($p < 0.001$) (Tennant <i>et al.</i> , 2007b). A moderately strong correlation ($r = -0.60$) with the total score of the GHQ-12 (which focuses on mental distress) suggests that the Affectometer 2 captures more than the absence of mental illness and disturbance of affect (Tennant <i>et al.</i> , 2007b).
Responsiveness	No evidence on responsiveness to date but in a representative sample of 18–74-year-old people in the UK, there were no ceiling effects, suggesting that the measure has the potential for documenting overall improvements in mental health (Tennant <i>et al.</i> , 2007b).
Normative data	Developers suggest that individual scores should not be interpreted against population norms.
Usefulness	No comments in the literature.
Advantages	The four 20-item subscales (Adjectives, Sentences, Positive Affect, Negative Affect) show good (although high) internal consistency, comparable validity to, and high correlations with the full scale, implying that any of the subscales could be used (Tennant <i>et al.</i> , 2007b).
Disadvantages	The total variance explained was 36% by the one-factor solution and 43% by the two-factor solution. Lack of evidence available for face or content validity (Tennant <i>et al.</i> , 2007b). Affectometer 2 meets many of the accepted criteria for validity and reliability but the principal components analysis suggests that current scoring recommendations may need revision (Tennant <i>et al.</i> , 2007b).
Recommendations in the literature	No comments in the literature.
Comments obtained during expert consultation	Respondents like the scale, indicating that it has good face validity within the UK. However (despite being originally described in 1983), the Affectometer is at an early stage of development and validation. It measures parts of most of the eight aspects of PMH used in this review.

²⁷ Since completion of the review, further work on the validation of Affectometer 2 has been undertaken for NHS Health Scotland. For further information see www.healthscotland.com/understanding/population/mental-health-indicators.aspx

Depression-Happiness Scale (DHS)

McGreal & Joseph, 1993

Summary

Bipolar self-report scale designed to measure depression and happiness, in terms of positive and negative thoughts, feelings and bodily experiences. The DHS remains unique in its dual measurement of depression and happiness as opposite ends of a single continuum.

Access

Developer
Address

Dr Christopher Alan Lewis
Room MB020
School of Psychology
University of Ulster
Magee campus
Londonderry BT48 7JL
Northern Ireland

Focus Emotional well-being
Time period Past week
No. of items 25
Population General/Adult
Readability -
Completion time 5-10 minutes
Original language English UK
Translations None

Email ca.lewis@ulster.ac.uk
Website http://www.science.ulster.ac.uk/research/psychology/profiles/c_lewis/
Permission Not required
Training Not required
Costs Free of charge

Content

Scale label Subjective well-being
Number of items, 'examples' 25 'I felt happy', 'I felt I had failed as a person', 'I felt cheerful', 'I felt I couldn't make decisions'.

Single composite score obtainable? Yes

Subscales No

Response format and item scoring 4-point scale: 'Never' (0), 'Rarely' (1), 'Sometimes' (2), 'Often' (3)

Scoring interpretation Scale score is obtained by summing scores on each of the 25 items. Scores range from 0-75, where higher scores indicate a higher frequency of positive feelings and lower frequency of negative feelings.

Evidence

Content validity No evidence found.
Scale structure All 25 items loaded >0.5 on a single-factor solution (Joseph & Lewis, 1998).
Reliability Internal consistency, Cronbach's alpha = 0.93 (Joseph & Lewis, 1998). Test-retest reliability is acceptable: $r = 0.70$ over 2 weeks (Lewis & McCollum, 1999); $r = 0.55$ over 2 years (Lewis & Joseph, 1997).
Construct validity DHS scores are highly correlated with scores on the Oxford Happiness Questionnaire ($r = 0.90$, $p < 0.001$), indicating that the two scales measure highly related constructs (Hills & Argyle, 2002) and also positively associated with scores on the Oxford Happiness Questionnaire – Short-Form ($r = 0.76$, $p < 0.01$) (Cruise & Lewis, 2006). Higher scores on the DHS were associated with higher scores on the Oxford Happiness Inventory ($r = 0.59$, $p < 0.001$) and lower scores on the Beck

Depression-Happiness Scale (DHS)

McGreal & Joseph, 1993

	Depression Inventory ($r = -0.75$, $p < 0.001$) (Joseph & Lewis, 1998). As expected, higher scores significantly were associated with higher scores on Affect Balance Scale ($r = 0.62$, $p < 0.001$) (Lewis <i>et al.</i> , 2000).
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	A useful research scale with potential usefulness for clinicians, e.g. evaluating positive benefits of cognitive behavioural therapy (Joseph & Lewis, 1998).
Advantages	Provides a quick overall assessment of subjective well-being (Joseph & Lewis, 1998). Good evidence of convergent validity with a number of scales of subjective well-being (Lewis <i>et al.</i> , 2001).
Disadvantages	Less useful where more comprehensive assessment of cognitive, affective and bodily states are needed (Joseph & Lewis, 1998).
Recommendations in the literature	No comments in the literature.
Comments obtained during expert consultation	May not be appropriate for those with low literacy levels.

Oxford Happiness Questionnaire (OHQ)

Hills & Argyle, 2002

Summary

Provides a broad measure of happiness in three domains (life satisfaction, positive affect, and negative affect).

Access

Developer

Dr Peter Hills

Address

c/o Elsevier (see Email)

Focus

Emotional well-being

Time period

Not specified

No. of items

29 (Appendix E)

Population

General/Adult

Readability

-

Completion time

Unknown

Original language

English UK

Translations

German

Email

permissions@elsevier.com

Website

www.elsevier.com/permissions

Permission

Unknown

Training

Not required

Costs

Unknown

Content

Scale label

OHQ Scale

Number of items, 'examples'

29

Positively worded items: 'I am intensely interested in people', 'I often experience joy and elation'.

Single composite score obtainable?

Yes

Subscales

No

Response format and item scoring

6-point scale: 'strongly disagree' (1), 'moderately disagree' (2), 'slightly disagree' (3), 'slightly agree' (4), 'moderately agree' (5), 'strongly agree' (6)

Scoring interpretation

The sum of the item scores (reversed for negatively worded items) is an overall measure of happiness.

Scores range from 29 to 174 with higher scores indicating greater happiness.

Evidence

Content validity

No evidence found.

Scale structure

Eight factors accounted for 64.3% of the variance, but this was considered non-interpretable. Re-analysis extracted one component, suggesting that the construct of well-being measured by the OHQ can best be considered unidimensional (Hills & Argyle, 2002).

Reliability

Internal consistency, Cronbach's alpha = 0.91 (Hills & Argyle, 2002).

Construct validity

OHQ scores were significantly related to scores on an earlier, longer, parent scale (Oxford Happiness Inventory) ($r = 0.80$, $p < 0.001$), showing good convergent validity for the shorter, more compact measure (Hills & Argyle, 2002).

As expected, OHQ scores were positively associated with scores on the Depression-Happiness Scale ($r = 0.90$, $p < 0.001$) and with optimism on the Life Orientation Test ($r = 0.79$, $p < 0.001$). OHQ scores were also positively associated with extraversion ($r = 0.61$, $p < 0.001$) and negatively associated with neuroticism ($r = -0.59$, $p < 0.001$) (Hills & Argyle, 2002) consistent with the

Oxford Happiness Questionnaire (OHQ)

Hills & Argyle, 2002

	<p>literature on relationship between personality and happiness.</p> <p>Higher scores were significantly associated with higher scores on Affect Balance Scale ($r = 0.62$, $p < 0.001$) (Lewis <i>et al.</i>, 2000).</p> <p>Higher scores on the OHQ were associated with higher scores on the Depression-Happiness Scale ($r = 0.59$, $p < 0.001$) (Joseph & Lewis, 1998).</p> <p>The OHQ correlated highly with emotional intelligence (measured by the Trait Emotional Intelligence – Short-Form) ($r = 0.70$, $p < 0.01$) (Furnham & Petrides, 2003).</p> <p>There was a weak negative relationship with psychoticism ($r = -0.17$, $p < 0.05$).</p>
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	No comments in the literature.
Advantages	More compact than the multiple-choice parent scale (the Oxford Happiness Inventory) and contains roughly equal numbers of positive and negative items that are scored on a uniform 6-point Likert scale (Hills & Argyle, 2002).
Disadvantages	Although several factor analyses are reported, little evidence is provided for the single component solution (Hills & Argyle, 2002).
Recommendations in the literature	No comments in the literature.
Comments obtained during expert consultation	An excellent scale. It works well and has good reliability but, on the other hand, it is rather long. The only problem is that it is a mix of life satisfaction and happiness.

Oxford Happiness Questionnaire – Short-Form (OHQ-SF)

Hills & Argyle, 2002

Summary

Provides a brief measure of happiness.

Access

Developer

Dr Peter Hills

Address

c/o Elsevier (see Email)

Focus Emotional well-being

Email

permissions@elsevier.com

Time period Not specified

Website

www.elsevier.com/permissions

No. of items 8 (Appendix E)

Population General/Adult

Permission

Unknown

Readability -

Training

Not required

Completion time 5 minutes

Costs

Unknown

Original language English UK

Translations Unknown

Content

Scale label

Number of items, 'examples'

OHQ-SF Scale

8

Positive items: 'I feel that life is very rewarding'.

Negative items: 'I don't think I look attractive'.

Single composite score obtainable?

Yes

Subscales

No

Response format and item scoring

6-point scale: 'strongly disagree' (1), 'moderately disagree' (2), 'slightly disagree' (3), 'slightly agree' (4), 'moderately agree' (5), 'strongly agree' (6)

Scoring interpretation

Item scores summed with reverse-scoring of negatively worded items. Scores range from 8-48, with higher scores indicating a greater level of happiness.

Evidence

Content validity

No evidence found.

Scale structure

No evidence found.

Reliability

Internal consistency, Cronbach's alpha = 0.74 (Lewis *et al.*, 2005).

Test-retest, Cronbach's alpha = 0.62 (at Time 1) and 0.58 (2 weeks later), acceptable for an 8-item measure (Cruise & Lewis, 2006). Scores at Time 1 and Time 2 were significantly associated (test-retest correlation coefficient $r = 0.69$) with no significant difference found between the mean scores at Time 1 and Time 2 (Cruise & Lewis, 2006).

Construct validity

The short-form scale score was highly correlated ($r = 0.93$, $p < 0.001$) with the full 29-item measure.

OHQ-SF scores were positively associated with scores on the Depression-Happiness Scale ($r = 0.76$, $p < 0.01$) (Lewis *et al.*, 2005).

Responsiveness

No evidence found.

Normative data

No evidence found.

Oxford Happiness Questionnaire – Short-Form (OHQ-SF)

Hills & Argyle, 2002

Usefulness	No comments in the literature.
Advantages	The 8-item short-form is highly correlated with the substantially longer parent scale, providing a useful measure when brevity is required (Hills & Argyle, 2002). The OHQ-SF demonstrates internal consistency and test-retest reliability in a small and select group (university students) (Cruise & Lewis, 2006).
Disadvantages	The original paper (Hills & Argyle, 2002) provides no evidence of factor structure or reliability in support of the brief 8-item measure. Further evidence is required among larger and more representative samples and over longer testing periods (Cruise & Lewis, 2006).
Recommendations in the literature	No comments in the literature.
Comments obtained during expert consultation	No comments.

Positive and Negative Affect Schedule (PANAS)

Watson *et al.*, 1988

Summary

Provides a measure of positive and negative affect, identified in research as the dominant dimensions of emotional experience. Consists of single-word items describing various feelings and emotions.

Access

Developer Address

Prof David Watson
Dept of Psychology
University of Iowa
11 Seashore Hall E
Iowa City, IA 52242-1407
USA

Focus

Emotional well-being

Email

david-watson@uiowa.edu

Time period

Present (can also use other time frames)

Website

www.psychology.uiowa.edu

No. of items

20 (Appendix E)

Permission

Required

Population

General/Adult

Training

Not required

Readability

-

Costs

Free for non-commercial use.

Completion time

5-10 minutes

Note: Scale users need Permission from both Prof

Original language

English US

Watson and the American

Translations

English UK

Psychological Association.

Content

Scale label

Number of items, 'examples'

PANAS

20 See below for examples

Single composite score obtainable?

No

Subscales

Number of items, 'examples'

Positive Affect (PA)

10 'Interested', 'Excited', 'Strong', 'Inspired', 'Alive'.

Negative Affect (NA)

10 'Distressed', 'Irritable', 'Ashamed', 'Upset', 'Afraid'.

Response format and item scoring

5-point scale indicating intensity of feeling: 'very slightly or not at all' (1), 'a little' (2), 'moderately' (3), 'quite a bit' (4), 'extremely' (5)

Scoring interpretation

No further information available about scale scoring and interpretation.

Evidence

Content validity

Despite the indisputable success of the PANAS, controversies about the content of the scale remain. First, PANAS includes terms like 'alert', 'active' and 'strong' that do not clearly represent emotions. Second, happiness as the core positive emotion seems to be under-represented (Egloff *et al.*, 2003).

Scale structure

Two dominant factors of PA and NA emerged (loadings >0.52), accounting for 63-69% of the variance depending on the timescale instruction (i.e. 'moment', 'today', 'past few days', 'past week', 'year', 'general') (Watson *et al.*, 1988). Best fitting model (comparative fit index = 0.94) of the latent structure of the

Positive and Negative Affect Schedule (PANAS)

Watson *et al.*, 1988

Reliability	<p>PANAS consisted of 2 correlated factors corresponding to the PA and NA scales (Crawford & Henry, 2004).</p> <p>Internal consistency, Cronbach's alpha ranged from 0.86 to 0.90 for PA and from 0.84 to 0.87 for NA – reliability was unaffected by variations in the time frame used (see Time period above) (Watson <i>et al.</i>, 1988) (Crawford & Henry, 2004).</p>
Construct validity	<p>Test-retest reliability, after an 8-week interval, correlations with baseline scores ranged from 0.47 (today) to 0.68 (general) on the PA scale and from 0.39 (today) to 0.71 (general) on the NA scale (Watson <i>et al.</i>, 1988).</p> <p>NA scale showed positive associations with the Hopkins Symptom Checklist measure of general distress and dysfunction ($r = 0.74$) and the Beck Depression Inventory ($r = 0.56$); within-subject variations in stress were strongly correlated with fluctuations in NA (but not PA) while social activity was more related to PA than NA (Watson <i>et al.</i>, 1988).</p> <p>As expected, higher levels of PA were associated with lower levels of negative health symptoms, even controlling for smoking status, alcohol intake and NA; somewhat unexpectedly, NA did not emerge as a significant predictor of variations in health symptoms (Pettit <i>et al.</i>, 2001). PA was also significantly negatively correlated with depression (Beck Depression Inventory) ($r = -0.35$) (Watson <i>et al.</i>, 1988).</p> <p>NA was significantly associated positively with: Coping Style Questionnaire (CSQ) Emotional Coping subscale ($r = 0.38$), and the PANEQ Negative Affect/Pessimism subscale ($r = 0.63$) and negatively with: Sense of Coherence ($r = -0.61$), Basic Self-Esteem ($r = -0.40$), CSQ Detached Coping subscale ($r = -0.42$), Positive and Negative Expectancy Questionnaire (PANEQ) Fighting Spirit subscale ($r = -0.40$) (Johnson, 2004) (Olason & Roger, 2001).</p>
Responsiveness	No evidence found.
Normative data	<p>Using 'past week' as a time frame, in a sample of 1,003, the mean PA score was 31.31 (SD 7.65, range 10-50) and the mean NA score was 16.00 (SD 5.90, range 10-42, from low to high intensity feeling) with no significant difference for men ($n = 466$) or women ($n = 537$) (Crawford & Henry, 2004).</p>
Usefulness	<p>PANAS scales provide reliable, precise and largely independent measures of Positive Affect and Negative Affect, regardless of the subject population studied, the time frame and response format used (Watson <i>et al.</i>, 1988).</p> <p>PA may outperform NA in predicting changes in self-reported health, perhaps because PA may possess higher temporal stability than NA, which would increase the predictive ability of PA and limit the predictive ability of NA (Pettit <i>et al.</i>, 2001).</p>
Advantages	<p>The 10-item PA and NA scales are internally consistent, have good convergent and discriminant validity and demonstrate appropriate stability over a 2-month period. When used with short-term instructions (e.g. today) they are sensitive to fluctuations in mood, whereas they exhibit trait like stability when longer-term instructions (e.g. past year or general) are used (Watson <i>et al.</i>, 1988).</p> <p>The utility of this measure is enhanced by the provision of normative data (Crawford & Henry, 2004)</p> <p>Strongest predictor of self-reported health (cross-sectional design) among other adaptive dispositions and traits (Johnson, 2004).</p>
Disadvantages	<p>The PANAS is a reliable and valid measure of the constructs it was intended to assess although the hypothesis of complete independence between PA and NA must be rejected (Crawford & Henry, 2004).</p>
Recommendations in the literature	A reliable, valid and efficient means of measuring mood (Watson <i>et al.</i> , 1988).
Comments obtained	The PANAS works well in both clinical and non-clinical settings and is widely

Positive and Negative Affect Schedule (PANAS)

Watson *et al.*, 1988

during expert
consultation

used. It is fairly easy to administer. One problem is that the Scottish population might use different words to describe positive affect than the terms in this scale. Some interviewees report that their experience of using the measure is not positive.

Psychological General Well-being Index© (PGWBI)

Dupuy, 1984

Summary

Provides an index of self-representations of intrapersonal affective or emotional states, reflecting a sense of subjective well-being or distress.

Access

Developer
Address

Dr Harold Dupuy
Contact the copyright holder:
MAPI Research Trust
27 Rue de la Villette
F-69003, Lyon
France

Focus Emotional well-being
Time period Past month
No. of items 22 (Appendix E)
Population General/Adult
Readability -
Completion time 10-15 minutes
Original language English US
Translations Spanish, French

Email Ms Christelle Berne (MAPI)
cberne@mapi.fr
Website [www.mapi-research.fr/
t_03_serv_dist_
Cduse_pgwbi.htm](http://www.mapi-research.fr/t_03_serv_dist_Cduse_pgwbi.htm)
Permission Required
Training Not required
Costs Free for non-commercial use

Content

Scale label PGWB Index
Number of items, 'examples' 22 See below

Single composite score obtainable? Yes

Subscales	Number of items, 'examples' and response format (shown in <i>italics</i>)
Anxiety	5 'Have you been bothered by nervousness during the past month?' <i>6-point scale: 'extremely so' (0) to 'not at all' (5)</i>
Depressed Mood	3 'I felt downhearted and blue during the past month'. <i>6-point scale: 'none of the time' (5) to 'all of the time' (0)</i>
Positive Well-being	4 'How have you been feeling in general during the past month?' <i>6-point scale: 'in excellent spirits' (5) to 'in very low spirits' (0)</i>
Self-control	3 'Have you been in firm control of your behaviour, thoughts, emotions or feelings during the past month?' <i>6-point scale: 'Yes, definitely so' (5) to 'No, and I am very disturbed' (0)</i>
General	3 'Did you feel healthy enough to carry out the things you like to do or had to do during the past month?' <i>6-point scale: 'Yes, definitely so' (5) to 'I needed someone to help me with most/all of the things' (0)</i>
Vitality	4 'How much energy, pep, or vitality did you have during the past month?' <i>6-point scale: 'Very full of energy – lots of pep' (5) to 'No energy or pep at all – I felt drained' (0)</i>

Response format and item scoring For each item, 6 response options (see individual subscales above) are scored on a scale of 0 (most negative) to 5 (most positive), according to intensity or frequency.

Psychological General Well-being Index© (PGWBI)

Dupuy, 1984

Scoring interpretation

Item scores are summed to give PGWB Index scores ranging from 0 to 110. Scores 0-60 reflect 'severe', 61-72 'moderate', 73-110 'possible' distress.

Evidence

Content validity

Good.

Scale structure

6-factor solution produced confirming the six subscales using multi-trait and factor analysis (Dupuy, 1984).

Reliability

Internal consistency, Cronbach's alpha ranges from 0.72 to 0.88 for the six subscales and 0.90 to 0.94 for the PGWB Index (Dupuy, 1984). Test-retest reliability was good at one week, though less satisfactory at one month: at one week, Cronbach's alpha = 0.86; one month, Cronbach's alpha = 0.50; median alpha = 0.66 (Dupuy, 1984).

Construct validity

Correlations with 14 mental health scales, e.g. Centre for Epidemiological Studies – Depression ($r = -0.72$), Beck Depression Inventory ($r = -0.68$), Social Adjustment ($r = 0.61$), Affectometer 2 ($r = 0.74$) (Dupuy, 1984).

Responsiveness

6/6 subscales showed improvements ($p < 0.001$) following treatment of HIV+ adults with severe fatigue (Doob *et al.*, 1993); Positive Well-being, General Health and PGWB Index scores were sensitive to the benefits of testosterone in women with low sexual desire ($p < 0.05$) (Davis *et al.*, 2003).

Normative data

No evidence found.

Usefulness

Easy to administer and suitable for a range of applications.

Advantages

PGWB correlates well with other measures of subjective distress (e.g. Beck Depression Inventory) and positive affect (e.g. Affectometer) (Dupuy, 1984).

Disadvantages

No comments in the literature.

Recommendations in the literature

No comments in the literature.

Comments obtained during expert consultation

No comments in the literature.

Short Depression-Happiness Scale (SDHS)

Joseph *et al.*, 2004

Summary

Short version of DHS. Provides a brief, reliable and valid measure of depression and happiness.

Access

Developer
Address

Dr Stephen Joseph
Dept of Psychology
University of Warwick
Coventry
CV4 7AL

Focus Emotional well-being
Time period Past week
No. of items 6 (Appendix E)
Population General/Adult
Readability -
Completion time Less than 5 minutes
Original language English UK
Translations English US

Email s.joseph@warwick.ac.uk
Website www2.warwick.ac.uk/fac/sci/psych/people/academic/sjoseph/
Permission Not required
Training Not required
Costs Free of charge

Content

Scale label **Number of items, 'examples'**
SDHS Scale 6 'I felt dissatisfied with my life', 'I felt happy', 'I felt cheerless'.

Single composite score obtainable? Yes

Subscales No

Response format and item scoring 4-point scale: 'Never' (0), 'Rarely' (1), 'Sometimes' (2), 'Often' (3)

Scoring interpretation Item scores are summed to provide an SDHS scale score ranging from 0-18. Higher scores indicating greater frequency of positive thoughts and feelings and lower frequency of negative thoughts.

Evidence

Content validity Similar to many other measures of well-being widely used in the USA and the UK (Joseph *et al.*, 2004).

Scale structure Six items loaded (0.70 to 0.85) on one factor, with an eigenvalue of 3.62, accounting for 60% of the variance (Joseph *et al.*, 2004).

Reliability Internal consistency, Cronbach's alpha ranged from 0.77 to 0.92 in four separate student populations (age range: 18–50 years) (Joseph *et al.*, 2004). Test-retest reliability, good correlation at 2-week intervals ($r = 0.68$, $p < 0.001$) with no difference between Time 1 and Time 2 scores ($t = -0.84$, $p < 0.001$) (Joseph *et al.*, 2004).

Construct validity Scores on SDHS highly correlated with scores on the longer scale (25-item Depression-Happiness Scale) ($r = 0.93$, $p < 0.001$), positively associated with Oxford Happiness Inventory scores ($r = 0.59$, $p < 0.001$) and negatively associated with Beck Depression Inventory scores ($r = -0.068$, $p < 0.001$)

Short Depression-Happiness Scale (SDHS)

Joseph *et al.*, 2004

	(Joseph <i>et al.</i> , 2004). No statistically significant associations were found with phobic anxiety ($r = -0.15$, ns) or obsessiveness ($r = -0.17$, ns) (Joseph <i>et al.</i> , 2004).
Responsiveness	No evidence found.
Normative data	Preliminary evidence: 21 respondents scored 10 or above on the Beck Depression Inventory (mean = 15.76, SD = 4.83). Their median score on the SDHS was 9 (mean = 9.43, SD = 2.87) suggesting a score below 10 on the SDHS might be taken as a cut-off point for mild but clinically relevant depression (Joseph <i>et al.</i> , 2004).
Usefulness	Useful to practitioners and researchers in need of a short but reliable and valid measure of the depression-happiness continuum (Joseph <i>et al.</i> , 2004).
Advantages	Despite its brevity, the magnitude of correlations between the 6-item SDHS and the full 25-item Depression-Happiness Scale (indicating concurrent validity), together with comparable convergent and divergent validity, indicate the SDHS to be a reliable and valid measure of depression and happiness (Joseph <i>et al.</i> , 2004).
Disadvantages	Items were developed in both the US and the UK (Joseph <i>et al.</i> , 2004). Further work needed with more diverse populations and to report normative data (Joseph <i>et al.</i> , 2004).
Recommendations in the literature	Unlike many other measures, the SDHS includes measures of both depression and happiness in one scale, and promises to be a useful tool for researchers wishing to assess the effectiveness of interventions in positive psychology and with clinical and health-related populations (Joseph <i>et al.</i> , 2004).
Comments obtained during expert consultation	No comments.

Well-being Questionnaire – 12 (W-BQ12)

Bradley, 1994b

Summary

Described by the developer as providing a brief measure of 'positive well-being', 'negative well-being' and 'energy' (avoiding use of somatic items), to be suitable for use in patient populations.

Access

Developer Address

Prof Clare Bradley
Dept of Psychology
Royal Holloway
University of London
Egham, Surrey
TW20 0EX

Focus

Emotional well-being

Time period

Past few weeks

No. of items

12 (Appendix E)

Population

General/Adult

Readability

-

Completion time

5-10 minutes

Original language

English UK

Translations

More than 30 languages
(contact developer for details)

Email

c.bradley@rhul.ac.uk

Website

www.hprinternational.com

Permission

Required

Training

Not required

Costs

Free for non-commercial use.
Contact developer for details
of fees for commercial use.

Content

Scale label

Total Well-being

Number of items, 'examples'

12 See below

Single composite score obtainable?

Yes

Subscales

Number of items, 'examples'

Negative Well-being

4 'I feel downhearted and blue'.

Positive Well-being

4 'I feel eager to tackle my daily tasks or make new decisions'.

Energy

4 'I feel energetic, active or vigorous'.

Response format and item scoring

All items scored on a 4-point scale: 'not at all' (0) to 'all the time' (3)

Scoring

interpretation

Total Well-being = Reversed Negative Well-being score summed together with Energy and Positive Well-being.

Scores range from 0-36 for the Total Well-being scale and from 0-12 for all subscales, with higher scores reflecting greater levels of the named domain.

Evidence

Content validity

No evidence found.

Scale structure

A forced single-factor solution supported use of the whole scale to measure total general well-being (Mitchell & Bradley, 2001).

Reliability

Good internal consistency, Cronbach's alpha: Total Well-being = 0.88-0.91; Positive Well-being = 0.80-0.83; Negative Well-being = 0.78-0.84; Energy = 0.77-0.82 (Pouwer *et al.*, 1999), and Total Well-being = 0.87 and for the three subscales >0.78 (Mitchell & Bradley, 2001).

Well-being Questionnaire – 12 (W-BQ12)

Bradley, 1994b

	Test-retest reliability, after a 14-day interval, Time 2 scores correlated with Time 1 scores 0.83 (Total Well-being), 0.66 (Positive Well-being), 0.77 (Negative Well-being), 0.80 (Energy) (Pouwer <i>et al.</i> , 1999).
Construct validity	<p>The Total Well-being score correlated between 0.80 and 0.88 with the W-BQ12 subscales; the Total Well-being score showed negative associations with the Hospital Anxiety and Depression Scale (HADS) – Depression scale ($r = -0.74$, $p < 0.001$) and the HADS Anxiety scale ($r = -0.76$); and positive association with the State Trait Anxiety Inventory Positive Affect scale ($r = 0.76$) (Pouwer <i>et al.</i>, 1999).</p> <p>In a sample of people with diabetes, self-reported blood glucose control showed no association with Negative Well-being ($r = 0.09$, ns) or Positive Well-being ($r = 0.01$, ns) and low correlations with Energy ($r = -0.10$, $p < 0.001$) (Pouwer <i>et al.</i>, 1999).</p> <p>Expected subgroup differences in the macular disease sample indicated significantly poorer well-being in women than in men and also in participants who were registered blind or partially sighted compared to those who were not (Mitchell & Bradley, 2001).</p>
Responsiveness	Good evidence of responsiveness in several trials of diabetes treatments (Witthaus <i>et al.</i> , 2001); (The DAFNE Study Group, 2002).
Normative data	No normative data available for the general population.
Usefulness	No comments in the literature.
Advantages	Described by the author and other researchers as a brief, reliable measure of psychological well-being, with proven responsiveness in a number of clinical trials. In addition, use of non-somatic items makes it particularly suitable for use in patient populations.
Disadvantages	Despite being a sensitive generic measure, the W-BQ12 has mostly been used in patient populations rather than the general population.
Recommendations in the literature	The W-BQ12 will be useful in measuring outcomes in rehabilitative and medical interventions (Mitchell & Bradley, 2001).
Comments obtained during expert consultation	No comments.

4.3 Life satisfaction

The working definition of life satisfaction was:

‘Overall assessment of one’s life, or a comparison reflecting some perceived discrepancy between one’s aspirations and achievement; includes optimistic outlook, perception of life as pleasurable.’

4.3.1 Description of scales

Several scales of life satisfaction exist, which differ largely in the way that they are measured. The following scales are recommended for use:

- **The Delighted-Terrible Scale (DTS)** (Andrews & Withey, 1976) Measures satisfaction with life in general, or with more specific topics, e.g. health.
- **The Global Quality of Life Scale (GQOL)** (Hyland & Sodergren, 1996) Provides a measure of a respondent’s overall judgement of their quality of life/life satisfaction.
- **Satisfaction with Life Scale (SWLS)** (Diener *et al.*, 1985) Designed to assess a person’s global judgement of life satisfaction, which is theoretically predicted to depend on a comparison of life circumstances to one’s standards.
- **World Health Organization Quality of Life – BREF (WHOQOL-BREF)** (The WHOQOL Group, 1998) Provides a brief measure of quality of life (in terms of various dimensions (e.g. physical health, social relationships, environment), valid for cross-cultural assessments.

4.3.2 Appraisal of scales (Table 4.4)

- Life satisfaction is one of the few constructs that has been reliably measured on a single **rating scale** (e.g. *How satisfied are you with your life?*) with a number of possible answers to choose from on 5-, 7- or 10-point Likert scales. Where an extremely brief scale is required, the single-item measures show equivalence, with the DTS having greater reliability while the GQOL shows greater responsiveness. When response burden is a major concern, the single-item scales may well provide a useful measure of life satisfaction.
- The SWLS is also brief, with 5 items designed to assess various perspectives on life satisfaction (e.g. close to my ideal, life conditions). However, it has much better psychometric properties and is the favoured choice, with the added benefit of normative data being available.
- The WHOQOL-BREF has similar psychometric properties to the SWLS and can be recommended where a more detailed measure is required or where completion time/respondent burden is not an issue. It has a much more general focus than other scales and may be suitable for those interested in assessing wide-ranging factors that may influence *life satisfaction*. It also includes a global item (*How would you rate your quality of life?*) rated on a 5-point scale.

Further reading

- Diener, E., Lucas, R. E., & Oishi, S. (2005). Subjective well-being: the science of happiness and life satisfaction. In Snyder, C. R. & Lopez, S. J. (Eds.), *Handbook of Positive Psychology*, pp63-73. New York: Oxford University Press.
- Kahneman, D., Diener, E., & Schwartz, A. (1999). *Well-being: the foundations of hedonic psychology*. New York: Russell Sage Foundation.

Table 4.4 Appraisal of scales of life satisfaction

Scale ^a	Essential properties			Desirable properties			OVERALL RATING	Practicalities ^b		
	Content validity	Scale structure	Reliability	Construct validity	Responsiveness	Normative data		Items (Time)	Permission needed	Fee to use scale
DTS	★★	N/A	★★	★★	★	★	★★	1 item (< 5 min)	Yes	Unknown
GQOL	★★	N/A	★	★★	★★	★	★★	1 item (< 5 min)	No	No fee
SWLS	★★★	★★★★★	★★★★★	★★★	★★★	★★★★★	★★★★★	5 items (5 min)	No	No fee
WHOQOL-BREF	★★★	★★★★★	★★★★★	★★★	★★★	★	★★★	26 items (15-20 min)	Yes	No fee ^c

a Summaries of each scale follow this table. Copies (and details of how to obtain permission to use, where necessary) can be found in Appendix E.

b Further information about obtaining permission to use scales and/or details of licence fees are provided in the summary reports for each scale. Where information is 'Unknown', contact the developer and/or copyright holder (contact information provided in summary reports). However, the authors have made every effort to obtain as much information as possible.

c Free for non-commercial use.

DTS = Delighted-Terrible Scale; GQOL = Global Quality of Life Scale; SWLS = Satisfaction With Life Scale; WHOQOL-BREF = World Health Organization Quality of Life – BREF.

Scales are given a maximum 5-star rating for each of the 6 psychometric properties reflecting both quantity and quality of evidence, where: ★★★★★ = excellent evidence, ★★★★ = very good evidence, ★★★ = good evidence, ★★ = moderate evidence, ★ = lack of evidence.

Overall rating = mean score of the essential and desirable properties (e.g. 24 stars / 6 properties = ★★★★★).

Delighted-Terrible Scale (DTS)

Andrews & Withey, 1976

Summary

Assesses satisfaction with life in general (or with more specific topics such as health or economic status).

Access

Developer
Address

Dr F M Andrews
c/o copyright holder:
Springer

Focus Life satisfaction
Time period Not specified
No. of items 1 (in various formats)
Population General/Adult
Readability -
Completion time Less than 5 minutes
Original language English US
Translations Unknown

Email -
Website www.springerlink.com
Permission Required
Training Unknown
Costs Unknown

Content

Scale label (various formats)	Number of items, 'examples' and response format (shown in italics)	
D-T Scale	1	'We want to find out how you feel about various parts of your life... How do you feel about?' <i>7-point scale, where 7 = 'Delighted' and 1 = 'Terrible'</i>
D-T Faces	1	'Which face comes closest to expressing how you feel about your.....?' <i>7 stylised faces ranging from wide smile (7) to turned down mouth (1)</i>
D-T Ladder	1	'Here is a picture of a ladder ... Where on the ladder is your.....?' <i>9-rung ladder: 1 'worst life I could expect to have' to 9 'best life I could expect to have'</i>
D-T Circle	1	'Which circle comes closest to matching how you feel about.....?' <i>9 circles each divided into 8 slices, containing + or - signs, ordered from 0 plus signs to 8 plus signs</i>

Single composite score obtainable? Yes
Individual items (presented in various styles/formats) provide global measures.

Subscales No

Scoring interpretation Higher scores indicate greater satisfaction with life in general or with more specific topics.

Evidence

Content validity Good acceptance of the scale by respondents. Median validity coefficients of 0.82 for the D-T Scale, 0.82 for the D-T Faces, 0.70 for the D-T Ladder and 0.80 for the D-T Circles (Andrews & Withey, 1976).

Scale structure Not applicable.

Reliability Average test-retest reliability, correlation coefficient of about 0.70 for each scale format (applied twice in the same interview) and 0.40 for the D-T Ladder over 2 years (Andrews & Withey, 1976).

Construct validity The DTS showed a statistically significant positive association with the Subjective Happiness Scale (0.59-0.70) (Lyubomirsky & Lepper, 1999). Moderately strong positive correlation with the Satisfaction with Life Scale ($r =$

Delighted-Terrible Scale (DTS)

Andrews & Withey, 1976

	0.68) (Diener <i>et al.</i> , 1985).
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	Brief, simple to use and there are advantages to the non-verbal format (Andrews & Withey, 1976).
Advantages	Several formats of the DTS are represented pictorially rather than using words (e.g. D-T Faces). As a result, the developers indicated that the non-verbal format may provide a more direct assessment of satisfaction with life than would a verbal response (Andrews & Withey, 1976).
Disadvantages	Scant evidence for validity and reliability (Andrews & Withey, 1976).
Recommendations in the literature	Further psychometric validation is needed (Andrews & Withey, 1976).
Comments obtained during expert consultation	A good measure that overcomes the problem of translation into multiple languages. Can be useful for children or those with learning disabilities. Others have indicated that it works well with children but that adults would find it insulting.

Global Quality of Life Scale (GQOL)

Hyland & Sodergren, 1996

Summary

Provides a measure of a respondent's overall judgement of their quality of life.

Access

Developer Address

Prof Michael Hyland
Dept of Psychology
University of Plymouth
Plymouth
PL4 8AA

Focus Life satisfaction
Time period None specified
No. of items 1 (Appendix E)
Population General/Adult
Readability -
Completion time Less than 5 minutes
Original language English UK
Translations None

Email m.hyland@plymouth.ac.uk
Website www.plymouth.ac.uk/staff/mhyland
Permission Not required
Training Not required
Costs Free of charge

Content

Scale label **Number of items, 'examples'**
GQOL 1 Write any number between 0 and 100 that describes your quality of life'.

Single composite score obtainable? Yes
Single global item

Subscales No

Response format and item scoring Global quality of life is assessed on a 100-point scale:
From 'perfect quality of life' (100) to 'no quality of life' (0) through 'nearly perfect quality of life' (95), 'very good' (85), 'good' (70), 'moderately good' (~57), 'somewhat good' (40), 'bad' (~27), 'very bad' (15), 'extremely bad' (5)

Scoring interpretation Higher scores indicating greater quality of life.

Evidence

Content validity Respondents compared various types of rating scale and chose where to place labels along the scale and their preferred type of scale (Hyland & Sodergren, 1996).

Scale structure Not applicable.

Reliability No evidence found.

Construct validity No evidence found.

Responsiveness Cross-sectional comparisons showed self-assessed quality of life for: students was about 72% (marginally better than 'good quality of life'), elderly people about 60% ('moderately good'); people with asthma 66%, while those with Parkinson's disease 30% ('bad quality of life') (Hyland & Sodergren, 1996).

Normative data No evidence found.

Usefulness There is no universal preference for one type of scale compared with another but when overall preferences were considered, the visual analogue scales

Global Quality of Life Scale (GQOL)

Hyland & Sodergren, 1996

	fared worst (Hyland & Sodergren, 1996).
Advantages	No comments in the literature.
Disadvantages	No evidence of test-retest reliability as yet (Hyland & Sodergren, 1996).
Recommendations in the literature	When two formats for the GQOL were compared (100-point scale vs. 20-point scale), the 100-point scale was preferable and is recommended for use (Hyland & Sodergren, 1996).
Comments obtained during expert consultation	With a single-item scale it is crucial to have some data on construct validity.

Satisfaction With Life Scale (SWLS)

Diener *et al.*, 1985

Summary

Designed to assess a person's global judgement of life satisfaction, which is theoretically predicted to depend on a comparison of life circumstances to one's standards.

Access

Developer

Prof Ed Diener

Address

Dept of Psychology
University of Illinois
603 E. Daniel Street
Champaign, IL 61820
USA

Focus

Life satisfaction

Time period

Current state

No. of items

5 (Appendix E)

Population

General/Adult

Readability

6th to 10th grade

Completion time

5 minutes

Original language

English US

Translations

Dutch, French, Hebrew,
Korean, Mandarin (Chinese),
Russian

Email

ediener@s.psych.uiuc.edu

Website

www.psych.uiuc.edu/~ediener

Permission

Not required

Training

Not required

Costs

Free of charge (see website)

Content

Scale label

SWLS Total

Number of items, 'examples'

5
'In most ways my life is close to my ideal'.
'The conditions of my life are excellent'.

Single composite score obtainable?

Yes

Subscales

No

Response format and item scoring

Each item is scored 1-7: 'Strongly agree' (7), 'agree' (6), 'slightly agree' (5), 'neither agree or disagree' (4), 'slightly disagree' (3), 'disagree' (2), to 'strongly disagree' (1)

Scoring interpretation

Item scores are summed to form one SWLS score, ranging from 5 (low satisfaction) to 35 (high satisfaction).

Evidence

Content validity

Ten items loaded (>0.60) on a 'Life satisfaction' factor and was reduced to five items to eliminate redundancies of wording with minimal cost to reliability (Pavot & Diener, 1993).

Scale structure

All five items loaded (>0.61) on one factor, accounting for 66% of the variance (Diener *et al.*, 1985) and (>0.60) on a single factor; replicated in several studies (Pavot & Diener, 1993).

Reliability

Internal consistency, Cronbach's alpha ranges from 0.79 to 0.89 in various studies (Pavot & Diener, 1993) and Cronbach's alpha = 0.81 (Roysamb & Strype, 2002).
Test-retest reliability, 2-month test-retest correlation coefficient was 0.82

Satisfaction With Life Scale (SWLS)

Diener *et al.*, 1985

	(Diener <i>et al.</i> , 1985). As expected, stability reduces over time: 2 weeks ($r = 0.83$), 1 month ($r = 0.84$), 2 months ($r = 0.64-0.82$), 10 weeks ($r = 0.50$), 4 years ($r = 0.54$) (Pavot & Diener, 1993). Over a 7-week interval: $r = 0.78$ (Roysamb & Strype, 2002).
Construct validity	<p>The SWLS showed a statistically significant positive association with the Subjective Happiness Scale ($r = 0.61-0.69$) (Lyubomirsky & Lepper, 1999). Moderately strong positive correlations with other measures of satisfaction and well-being: e.g. Delighted Terrible Scale ($r = 0.68$), Affect Balance (PA $r = 0.50$, NA $r = -0.37$), Life Satisfaction Index ($r = 0.46$) (Diener <i>et al.</i>, 1985).</p> <p>Among Northern Irish adults, those with a more positive attitude towards Christianity are more satisfied with life (men ($r = 0.43$, $p < 0.05$), women ($r = 0.54$, $p < 0.01$)). This was not true for Northern Irish students, where no association was found (Lewis, 1998).</p> <p>The SWLS subscale was moderately associated with the Positive Affect/Optimism scale of the Positive and Negative Expectancy Questionnaire ($r = 0.36$) (Olason & Roger, 2001).</p> <p>Individual difference dimensions such as affect intensity and impulsivity have been found to be uncorrelated with the SWLS (Pavot & Diener, 1993).</p>
Responsiveness	Significantly higher scores have been found in a group of outpatients receiving therapy for 1-2 months (mean = 14.1, SD = 1.9 at Time 1 compared with mean = 26.9, SD = 3.6 at Time 2 ($p < 0.01$)) (Pavot & Diener, 1993).
Normative data	Normative data are available for diverse populations: older adults, prisoners, abused women, persons with physical disabilities, elderly caregivers of demented spouses, college student samples and some cross-cultural data are available. Score for most groups fall in the range of 23-28 (slightly satisfied to satisfied) (Pavot & Diener, 1993).
Usefulness	Although many agree about which factors are important for 'the good life' (e.g. health, relationships), individuals are likely to assign different weights to these components and this has resulted in considerable debate about the measurement of quality of life and life satisfaction. The SWLS avoids the debate about which factors are important for a 'good life', allowing an individual to make a global judgement about their life satisfaction (Pavot & Diener, 1993).
Advantages	The SWLS has favourable psychometric properties. Relatively low correlation with the Life Satisfaction Index is thought to be because the latter is a broader band scale including affective as well as life satisfaction content (Diener <i>et al.</i> , 1985).
Disadvantages	<p>Further research is needed to establish the discriminant validity of the scale (Diener <i>et al.</i>, 1985).</p> <p>Several strengths of the SWLS can also be seen as liabilities, e.g. an unambiguous interpretation of the test score, thus more research is needed to understand the processes involved in arriving at a life satisfaction judgement (Pavot & Diener, 1993).</p>
Recommendations in the literature	The brief format of the SWLS means that it can be incorporated into an assessment questionnaire or survey with minimal cost in time (Pavot & Diener, 1993).
Comments obtained during expert consultation	This scale has been widely used over many years. It is very good, very brief, with good reliability and validity. Even though it is an early scale, there have been no further adaptations, as the author got it right first time. There is some controversy about the final item <i>If I were to live my life over again I would change almost nothing</i> , as most people would want to change some aspects of their past life.

World Health Organization Quality of Life-BREF (WHOQOL-BREF)

The WHOQOL Group, 1998

Summary

Provides a brief measure of quality of life, valid for cross-cultural assessments.

Access

Developer

UK Contact:
Address

WHOQOL Group
Prof Suzanne Skevington
University of Bath
Bath
BA2 7AY

Focus	Life satisfaction
Time period	Past 2 weeks
No. of items	26
Population	General/Adult
Readability	-
Completion time	15-20 minutes
Original language	English UK
Translations	Cross-cultural development in 15 international centres; available in more than 20 different languages

Email

whoqol@bath.ac.uk

Website

www.bath.ac.uk/whoqol

Permission

Required

Training

Not required

Costs

Free for non-commercial use.
Copyright jointly owned by University of Bath and WHO.

Content

Scale label	Number of items, 'examples'
WHOQOL-BREF	26 See below for examples

Single composite score obtainable?	No Although, single global items are included
---	--

Subscales	Number of items, 'examples' and response formats (shown in <i>italics</i>)
Physical health	7 'To what extent do you feel that physical pain prevents you from doing what you need to do?' 5-point scale ' <i>Not at all</i> ', ' <i>A little</i> ', ' <i>A moderate amount</i> ', ' <i>Very much</i> ', ' <i>An extreme amount</i> '
Psychological	6 'To what extent do you feel your life to be meaningful?' 5-point scale ' <i>Not at all</i> ', ' <i>A little</i> ', ' <i>A moderate amount</i> ', ' <i>Very much</i> ', ' <i>Extremely</i> '
Social relationships	3 'How satisfied are you with the support you get from your friends?' 5-point scale 'Very dissatisfied', 'Dissatisfied', 'Neither satisfied nor dissatisfied', 'Satisfied', 'Very satisfied'
Environment	8 'How safe do you feel in your daily life?' 5-point scale ' <i>Not at all</i> ', ' <i>A little</i> ', ' <i>A moderate amount</i> ', ' <i>Very much</i> ', ' <i>Extremely</i> '
Overall quality of life	1 'How would you rate your quality of life?' 5-point scale 'Very poor', 'Poor', 'Neither poor nor good', 'Good', 'Very good'
Overall health	1 'How satisfied are you with your health?' 5-point scale 'Very dissatisfied', 'Dissatisfied', 'Neither satisfied nor

World Health Organization Quality of Life-BREF (WHOQOL-BREF)

The WHOQOL Group, 1998

dissatisfied', 'Satisfied', 'Very satisfied'

Response format and item scoring Items are rated on a range of 5-point scales (see above for some examples)

Scoring interpretation Subscale scores (each referring to a specific life domain) are calculated by multiplying the mean of scores of all items included within the (four multi-item) subscales by four.

Evidence

Content validity	The parent scale, WHOQOL-100, was piloted on approximately 300 people in each of 15 international centres. It was agreed that 24 aspects of life (plus two global items) ought to be included in an abbreviated version of the WHOQOL-100. The most general question was chosen from each aspect of life to best represent it (The WHOQOL Group, 1998).
Scale structure	Confirmatory factor analysis suggested a 4-domain solution was most appropriate (Comparative Fit Index = 0.90) (The WHOQOL Group, 1998).
Reliability	Internal consistency, Cronbach's alpha ranged from 0.66 (Social Relationships) to 0.84 (Physical Health) (The WHOQOL Group, 1998). Interval for testing ranged from 2-8 weeks: test-retest reliabilities were: 0.66 Physical Health, 0.72 Psychological, 0.76 Social Relationships and 0.87 Environment (The WHOQOL Group, 1998).
Construct validity	WHOQOL-BREF subscale scores were highly correlated with WHOQOL-100 subscale scores: $r = 0.89$ (Social Relationships) to 0.95 (Physical Health) (The WHOQOL Group, 1998). WHOQOL-BREF was comparable with the full scale in discriminating between 'well' and 'ill' respondents in all domains (The WHOQOL Group, 1998). In over 300 people who were in contact with health services in Italy, only the Physical and Psychological domains were able to discriminate between healthy and unhealthy respondents (De Girolamo <i>et al.</i> , 2000). Generally, the WHOQOL-BREF discriminates between patient groups in a wide range of conditions (The WHOQOL Group, 1998).
Responsiveness	Both the WHOQOL-100 and the WHOQOL-BREF were sensitive to change following transplant and remained stable on repeat assessment in non-transplanted control patients. However, the sensitivity to change was significantly reduced for the Social domain in the WHOQOL-BREF (O'Carroll <i>et al.</i> , 2000).
Normative data	No evidence found.
Usefulness	Although only one-quarter of the length of the WHOQOL-100, the BREF incorporates good breadth and comprehensiveness by including items from each of the 24 facets of quality of life included in the longer scale (The WHOQOL Group, 1998).
Advantages	Despite the heterogeneity of items included in the domains, the WHOQOL-BREF displays good internal consistency (The WHOQOL Group, 1998).
Disadvantages	Slightly longer than many other short-forms but encompasses a larger number of domains that are integral to the assessment of quality of life (The WHOQOL Group, 1998). The difficulty with reviewing the overall psychometric properties is that the studies all relate to different translations and populations (Bowling, 2005).
Recommendations in the literature	All 4 WHOQOL-BREF domain scores made a significant contribution to explaining variance observed in 'overall quality of life' and 'overall health',

World Health Organization Quality of Life-BREF (WHOQOL-BREF)

The WHOQOL Group, 1998

suggesting all four domains should be taken into consideration when evaluating overall quality of life.

Recommended for use where a brief assessment of quality of life is appropriate, for large-scale epidemiological studies and for clinical trials (The WHOQOL Group, 1998).

Comments obtained during expert consultation

There are some good questions, but the measure seems rather verbose, and perhaps overly comprehensive, mixing up both mental health and non-mental-health items. Another expert remarked that they were confident that the domains and subscales had been identified properly.

4.4 Optimism and Hope

The working definition of optimism and hope was:

‘Positive expectations of the future; a tendency to anticipate and plan for relatively favourable outcomes.’

4.4.1 Description of scales

Various scales exist that are designed to assess an individual's outlook on life. These differ in their emphasis but generally share the same underlying concept. The following scales of optimism and hope are recommended for use:

- **Generalised Expectancy for Success Scale – Revised (GESS-R)** (Hale *et al.*, 1992) Assesses optimism by presenting respondents with particular situations and evaluating their expectations of success in those situations.
- **Life Orientation Test (LOT)** (Scheier & Carver, 1985) Assesses dispositional optimism (or generalised expectancies) for positive vs. negative outcomes.
- **Life Orientation Test – Revised (LOT-R)** (Scheier *et al.*, 1994) A brief (10-item) version of the LOT (above).
- **Positive and Negative Expectancy Questionnaire (PANEQ)** (Olason & Roger, 2001) Measures optimism, pessimism and 'fighting spirit'.
- **Trait (Dispositional) Hope Scale (T(D)HS)** (Snyder *et al.*, 1991) Measures the degree to which an individual has the perceived motivation to move towards his or her goals (agency) and the perceived ability to generate workable routes to goals (pathways).

4.4.2 Appraisal of scales (Table 4.5)

- When selecting scales of optimism and hope, it is important to consider the theoretical underpinnings of the scale, the study population and the cultural context. In particular, while optimism and hope are universal constructs, their meanings and the value placed on them differs widely from culture to culture.
- The scales differ in their cognitive complexity.
- Readers are advised to consider carefully the aspect of optimism and hope that they wish to assess, the psychometric properties and the practicalities of each scale.
- Given the similarities in overall ratings between the scales, it is difficult to recommend one scale over another. However, where a very brief measure is required, the LOT-R appears to be a good choice.

Further reading

- Carr, A. (2004). Chapter 3: Hope and optimism. In *Positive Psychology: The Science of Happiness and Human Strengths*. New York: Brunner-Routledge..
- Carver, C. S. & Scheier, M. F. (2005). Optimism. In Snyder, C. R. & Lopez, S. J. (Eds.), *Handbook of Positive Psychology*, pp231-243. New York: Oxford University Press.
- Lopez, S. J., Snyder, C. R., & Pedrotti, J. T. (2003.) Hope: many definitions, many measures. In Lopez, S. J. & Snyder, C. R. (Eds.), *Positive Psychological Assessment: A Handbook of Models and Measures*, pp91-107. Washington, DC: American Psychological Association.

Table 4.5 Appraisal of scales of optimism and hope

Scale ^a	Essential properties			Desirable properties			OVERALL RATING	Practicalities ^b		
	Content validity	Scale structure	Reliability	Construct validity	Responsiveness	Normative data		Items (time)	Permission needed	Fee to use scale
GESS-R	★★	★	★★★★	★★(★)	★	★	★★	25 items (5-10 min)	Yes	No fee
LOT	★	★(★)	★★(★)	★★★(★)	★	★	★★	12 items (5-10 min)	Yes	No fee ^c
LOT-R	★★★★	★★★★	★★★★	★★★(★)	★	★	★★★★	10 items (5 min)	Yes	No fee ^c
PANEQ	★★	★★★	★★★★	★★★	★	★	★★(★)	48 items (5-10 min)	Yes	NZ \$1
T(D)HS	★★	★★	★★★★	★★★	★★	★	★★(★)	12 items (<5 min)	No	No fee

a Summaries of each scale follow this table. Copies (and details of how to obtain permission to use, where necessary) can be found in Appendix E.

b Further information about obtaining permission to use scales and/or details of licence fees are provided in the summary reports for each scale. Where information is 'Unknown', contact the developer and/or copyright holder (contact information provided in summary reports). However, the authors have made every effort to obtain as much information as possible.

c Free for non-commercial use.

DHS = Dispositional Hope Scale; GESS-R = Generalised Expectancy for Success Scale – Revised; LOT = Life Orientation Test; LOT-R = Life Orientation Test – Revised; PANEQ = Positive and Negative Expectancy Questionnaire.

Scales are given a maximum 5-star rating for each of the 6 psychometric properties reflecting both quantity and quality of evidence, where: ★★★★★ = excellent evidence, ★★★★ = very good evidence, ★★★ = good evidence, ★★ = moderate evidence, ★ = lack of evidence.

Overall rating = mean score of the essential and desirable properties (e.g. 24 stars / 6 properties = ★★★★★).

Generalised Expectancy for Success Scale – Revised (GESS-R)

Hale, Fiedler & Cochran, 1992

Summary

Assesses optimism by presenting respondents with particular situations and evaluating their expectations of success in those situations.

Access

Developer Address

Prof W Daniel Hale
Dept of Psychology
Stetson University
Unit 8378
421 N Woodland Blvd
Deland, FL 32723
USA

Focus Optimism and Hope
Time period Not specified
No. of items 25 (Appendix E)
Population General/Adult
Readability -
Completion time 5-10 minutes
Original language English US
Translations Spanish

Email dhale@stetson.edu
Website -

Permission Required
Training Not required
Costs Free of charge

Content

Scale label **Number of items, 'examples'**
GESS-R Scale 25 'In the future I expect that I will...' '... succeed at most things I try'.

Single composite score obtainable? Yes

Subscales No

Response format and item scoring 5-point scale: 'highly improbable' (1), 'improbably' (2), 'equally improbably and probable, not sure' (3), 'probably' (4), 'highly probable' (5)

Scoring interpretation Item scores are summed to provide an overall score.
Scores range from 25 to 125, with higher scores indicating greater optimism.

Evidence

Content validity No evidence found.
Scale structure No evidence found.
Reliability Internal consistency, Split-half reliability coefficient was 0.92 (n = 199) (Hale *et al.*, 1992).
Test-retest reliability, at a 6-week interval: $r = 0.69$ ($p < 0.05$) (Hale *et al.*, 1992).
Construct validity Moderate significant correlations were found with the Dispositional Hope Scale Agency and Pathways subscales ($r = 0.55$ and 0.54), indicating that optimism is moderately related to emotional well-being (Snyder *et al.*, 1991).
The GESS-R was moderately associated with the Positive and Negative Expectancy Questionnaire (PANEQ) Positive Affect/Optimism scale ($r = 0.27$) (Olason & Roger, 2001) and the Life Orientation Test (LOT) ($r = 0.40$, $p < 0.05$), suggesting that the GESS-R measures optimism in a different way than either

Generalised Expectancy for Success Scale – Revised (GESS-R)

Hale, Fiedler & Cochran, 1992

	the PANEQ or the LOT. The GESS-R was moderately correlated with Rosenberg's Self-Esteem Scale ($r = 0.46$, $p < 0.05$) (Hale <i>et al.</i> , 1992), suggesting that greater optimism is associated with greater self-esteem. Divergent validity was established using Eysenck's measures of extraversion ($r = 0.16$, ns) or neuroticism ($r = -0.22$, ns), indicating no association between GESS-R and these personality traits (Hale <i>et al.</i> , 1992).
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	The GESS-R has an acceptable level of reliability over time, a high level of internal consistency and only a moderate correlation with the LOT, suggesting that they are measuring somewhat different aspects of optimism (Hale <i>et al.</i> , 1992).
Advantages	Benefits from being shorter and containing fewer controversial items than the original version (Hale <i>et al.</i> , 1992) and is a reliable and valid measure of optimism. The LOT is briefer but it may not be as capable of assessing behavioural outcomes as the GESS-R (Hale <i>et al.</i> , 1992), and according to Smith <i>et al.</i> (1989), the GESS-R is less susceptible to the confounding effects of neuroticism.
Disadvantages	No comments in the literature.
Recommendations in the literature	The GESS-R and the LOT are reliable and valid measures of optimism. The LOT is briefer but it may not be as capable of assessing behavioural outcomes as the GESS-R (Hale <i>et al.</i> , 1992).
Comments obtained during expert consultation	Caution is needed if using this with the general population. The response format may deter some people (especially the mid-item 'Equally probable and improbable, not sure (3)'). Also phrases such as 'my endeavours'/'rewarding intimate relationships' 'achieve recognition in my profession' are unlikely to be suitable for those with low literacy levels.

Life Orientation Test (LOT)

Scheier & Carver, 1985

Summary

To assess dispositional optimism (or generalised expectancies for positive vs. negative outcomes).

Access

**Developer
Address**

Prof Michael Scheier
Dept of Psychology
Carnegie Mellon University
Baker Hall 246C
Pittsburgh, PA 15213
USA

Focus Optimism and Hope
Time period Not specified
No. of items 12 (including 4 filler items unscored) (Appendix E)
Population General/Adult
Readability -
Completion time 5-10 minutes
Original language English US
Translations Arabic, French Canadian, Japanese

Email Scheier+@andrew.cmu.edu
Website www.psy.cmu.edu/faculty/sheier/index.html

Permission Required
Training Not required
Costs Free for non-commercial use

Content

Scale label **Number of items, 'examples'**
LOT total 8 As below

Single composite score obtainable? Yes

Subscales **Number of items, 'examples'**
LOT Optimism (LOT-O) 4 'It's easy for me to relax'.
'Overall I expect more good things to happen to me than bad'.
LOT Pessimism (LOT-P) 4 'I hardly ever expect things to go my way'.
'If something can go wrong for me it will'.

Response format and item scoring All items scored on a 5-point scale: 'strongly disagree' (0), 'disagree' (1), 'neutral' (2), 'agree' (3), 'strongly agree' (4)

Scoring interpretation 8 of the 12 items are scored (0-4) (the 4 negatively worded items of LOT-P are reversed) and summed to produce total optimism scores in the range 0-32. Higher scores representing greater optimism.
The four filler items remain unscored and do not contribute to the scale total.

Evidence

Content validity No evidence found.
Scale structure No evidence found.
Reliability Internal consistency, Cronbach's alpha = 0.67-0.72 (Roysamb & Strype, 2002), = 0.82 (Scheier *et al.*, 1994).
Test-retest reliability over a 7-week interval was high, ranging from $r = 0.67$ to r

Life Orientation Test (LOT)

Scheier & Carver, 1985

	= 0.74 (Roysamb & Strype, 2002).
Construct validity	<p>The LOT was moderately associated with the Generalised Expectancy for Success Scale – Revised (GESS-R) ($r = 0.40$, $p < 0.05$) (Hale <i>et al.</i>, 1992) but was only moderately correlated with the Dispositional Hope Scale Agency and Pathways subscales ($r = 0.60$ and 0.50) (Snyder <i>et al.</i>, 1991). The LOT was moderately associated with the Positive and Negative Affect Questionnaire Positive Affect/Optimism subscale ($r = 0.33$) (Olason & Roger, 2001).</p> <p>In a meta-analytic review, the personal construct of optimism (using the full LOT scale) was associated with measures of coping, symptom reporting and most clearly (and negatively) with negative affect (Andersson, 1996).</p> <p>LOT scores are positively associated with scores on the Oxford Happiness Questionnaire ($r = 0.79$, < 0.001) (Hills & Argyle, 2002), indicating that greater optimism is related to greater happiness. In addition, the LOT showed statistically significant positive associations with the Subjective Happiness Scale ($r = 0.47-0.60$) (Lyubomirsky & Lepper, 1999).</p> <p>As expected, LOT showed moderate significant and positive associations with self-mastery ($r = 0.55$), and self-esteem ($r = 0.54$), and moderate significant and negative associations with trait anxiety ($r = -0.59$), neuroticism ($r = -0.50$) (Scheier <i>et al.</i>, 1994).</p> <p>Demonstrating divergent validity, and as expected, LOT-O and LOT-P were significantly negatively correlated with each other ($r = -0.62$), their relevant Optimism/Pessimism Instrument counterparts ($r = 0.58$ and $r = 0.64$ respectively) and modestly but significantly related to explanatory style indices ($r = -0.18$ and 0.34 respectively) (Reilley <i>et al.</i>, 2005).</p>
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	The LOT is a viable scale for assessing people's generalised sense of optimism, only moderately correlated with other predictors (Scheier <i>et al.</i> , 1994).
Advantages	The GESS-R and the LOT are reliable and valid measures of optimism. The LOT is briefer but it may not be as capable of assessing behavioural outcomes as the GESS-R (Hale <i>et al.</i> , 1992).
Disadvantages	<p>According to Smith <i>et al.</i> (1989) the LOT is more susceptible to the confounding effects of neuroticism than the GESS-R.</p> <p>The LOT may just be another measure of negative affect or neuroticism, which may explain the well-documented associations between optimism and health and coping with illness (Andersson, 1996).</p> <p>Includes 2 items (e.g. 'I'm a believer in the idea that 'every cloud has a silver lining') that refer more to a particular way of reacting to problems and stress rather than focusing specifically on the expectation of positive outcomes, a criticism that has led to the development of the LOT – Revised (Scheier <i>et al.</i>, 1994).</p>
Recommendations in the literature	No comments in the literature.
Comments obtained during expert consultation	This is the best measure of optimism and has a very good reputation. The revised version is even better. It's a dispositional optimism scale, and shows how people respond to adversity.

Life Orientation Test – Revised (LOT-R)

Scheier *et al.*, 1994

Summary

To assess dispositional optimism (or generalised expectancies for positive vs. negative outcomes) in a brief measure (based on the LOT).

Access

**Developer
Address**

Prof Michael Scheier
Dept of Psychology
Carnegie Mellon University
Baker Hall 346C
Pittsburgh, PA 15213
USA

Focus Optimism and Hope
Time period Not specified
No. of items 10 (including 4 filler items unscored) (Appendix E)

Email Scheier+@andrew.cmu.edu
Website www.psy.cmu.edu/faculty/Scheier/index.html

Population General/Adult
Readability -
Completion time 5 minutes
Original language English US
Translations Chinese, Finnish, French, Japanese, Korean, Persian

Permission Required
Training Not required
Costs Free for non-commercial use

Content

Scale label LOT-R Total
Number of items, 'examples' 6 See below

Single composite score obtainable? Yes

Subscales **Number of items, 'examples'**
LOT-R Optimism (LOT-R O) 3 'I'm always optimistic about my future'.
LOT-R Pessimism (LOT-R P) 3 'If something can go wrong for me, it will'.

Response format and item scoring All items scored on a 5-point scale: 'strongly disagree' (0), 'disagree' (1), 'neutral' (2), 'agree' (3), 'strongly agree' (4)

Scoring interpretation 6 of the 10 items are scored (0-4) (the 3 negatively worded items of LOT-R P are reversed) and summed to produce total optimism scores in the range 0-24. Higher scores representing greater optimism.
The four filler items remain unscored and do not contribute to the scale total.

Evidence

Content validity No evidence found.
Scale structure The 6 LOT-R items yielded one factor accounting for 48.1% of the variance, with all items loading >0.58 on this factor (mean = 0.69). Confirmatory factor analyses showed that the single-factor solution yielded a good fit (Scheier *et al.*, 1994).

Life Orientation Test – Revised (LOT-R)

Scheier *et al.*, 1994

Reliability	<p>Internal consistency, Cronbach's alpha = 0.75 (Day & Maltby, 2005) and Cronbach's alpha = 0.78, an acceptable level of internal consistency for a 6-item scale (Scheier <i>et al.</i>, 1994).</p> <p>The LOT-R was shown to be fairly stable across time: test-retest reliability 4 months ($r = 0.68$), 12 months ($r = 0.60$), 24 months ($r = 0.56$) and 28 months ($r = 0.79$) (Scheier <i>et al.</i>, 1994).</p>
Construct validity	<p>Dispositional optimism was highly correlated with the Rosenberg's Self-Esteem Scale ($r = 0.75$ for men and 0.73 for women) (Makikangas & Kinnunen, 2003). Significant moderate associations were found with the Trait (Dispositional) Hope Scale (Agency subscale: $r = 0.27$, Pathways subscale: $r = 0.54$) and 'Belief in Good Luck' ($r = 0.28$) (Day & Maltby, 2005).</p> <p>The LOT-R was highly correlated with the parent scale, LOT ($r = 0.95$, $p < 0.001$) and moderately correlated with several other constructs, e.g. self-mastery ($r = 0.48$), Self-Esteem Scale ($r = 0.50$), trait anxiety ($r = -0.53$) (Scheier <i>et al.</i>, 1994).</p> <p>No differences in LOT-R scores have been found between men and women (Day & Maltby, 2005).</p>
Responsiveness	No evidence found.
Normative data	<p>Among 2,055 college students, the mean Optimism score was 14.33 (SD = 4.28), while among 159 bypass patients, the mean score was 15.15 (SD = 4.05). There were no differences between men and women (Scheier <i>et al.</i>, 1994).</p>
Usefulness	<p>It has been suggested that 'Optimism and pessimism are not bipolar indicators of a single trait continuum, they represent two correlated but distinct traits'. Thus, the LOT-R provides a useful and brief measure of these two correlated by distinct traits (Chang & Bride-Chang, 1996, p328).</p> <p>Despite its brevity, the LOT-R remains a highly reliable and valid measure of generalised optimism (Scheier <i>et al.</i>, 1994).</p>
Advantages	<p>The LOT-R shares only a modest amount of variance with scales measuring conceptually related concepts, making it easy for future researchers to distinguish between the effects of optimism and other constructs (Scheier <i>et al.</i>, 1994).</p>
Disadvantages	<p>Global, context-free measures may be less suitable than context-specific measures for some purposes (e.g. situational optimism may be more appropriate in studies in occupational settings). Such measures are susceptible to socially desirable responses and people who are pessimistic may be unable to admit to themselves or to others that they feel incompetent (Makikangas & Kinnunen, 2003).</p> <p>The LOT-R measures 'trait' attributes, whereas the Optimism Pessimism Instrument measures 'state' attributes, which are likely to show greater variation; researchers need to be aware of this important distinction when selecting measures (Burke <i>et al.</i>, 2000).</p>
Recommendations in the literature	<p>The high correlation between the LOT-R and the original LOT indicates that the brief form is a good measure of optimism and can be recommended where brevity and respondent burden are an issue.</p> <p>Good factor structure makes the LOT-R preferable for research purposes (Scheier <i>et al.</i>, 1994).</p>
Comments obtained during expert consultation	<p>The LOT is the best measure of optimism and has a very good reputation. The revised version is even better. It is a dispositional optimism scale, and shows how people respond to adversity.</p>

Positive and Negative Expectancy Questionnaire (PANEQ)

Olason & Roger, 2001

Summary

To measure optimism, pessimism and 'fighting spirit'.

Access

Developer
Address

Dr Dani Olason
Dept of Psychology
University of Canterbury
Christchurch
New Zealand

Focus Optimism and Hope
Time period Not specified
No. of items 48 (Appendix E)
Population General/Adult
Readability -
Completion time 5-10 minutes
Original language English
Translations None

Email derek.roger@canterbury.ac.nz
Website www.psyc.canterbury.ac.nz/people

Permission Required
Training Not required
Costs Licence fee payable: NZ \$1

Content

Scale label **Number of items, 'examples'**
PANEQ 48 See below for examples

Single composite score obtainable? No

Subscales **Number of items, 'examples'**
Positive Affect/Optimism (PAO) 10 'I am easily pleased', 'I am a fortunate person'.
Negative Affect/Pessimism (NAP) 23 'My feelings often irritate me', 'If I had a test tomorrow, I would expect to fail'.
Fighting Spirit (FS) 15 'I am a strong person', 'I am a fighter', 'I am a determined person'.

Response format and item scoring All items scored on a 4-point scale: 'strongly disagree' (1) to 'strongly agree' (4) (although version in Appendix E gives just true and false categories)

Scoring interpretation Unknown

Evidence

Content validity Ten short vignettes were sent to a sample of 300 undergraduates who were asked to indicate how they would think, feel and react in each situation. The response yielded 200+ statements which were reduced to 76 (rejecting inappropriate and repetitious items) (Olason & Roger, 2001).

Scale structure 48 items loaded on 3 factors (23 on factor 1, 15 on factor 2 and 10 on factor 3) (Olason & Roger, 2001).

Reliability Internal consistency, Cronbach's alpha = 0.77 (Johnson, 2004). For the subscales, Cronbach's alpha = 0.753 (PAO), 0.865 (FS) and 0.903 (NAP) (Olason & Roger, 2001).
Test-retest reliability, inter-test interval of 6 weeks: FS ($r = 0.802$), PAO ($r =$

Positive and Negative Expectancy Questionnaire (PANEQ)

Olason & Roger, 2001

Construct validity	<p>0.819), NAP ($r = 0.824$) (Olason & Roger, 2001).</p> <p>PANEQ FS subscales significantly associated with: Sense of Coherence ($r = 0.39$), Basic Self-Esteem ($r = 0.55$), Coping Styles Questionnaire (CSQ) Detached Coping subscale ($r = 0.36$), Positive and Negative Affect Schedule Negative Affect subscale ($r = -0.40$) (Johnson, 2004).</p> <p>PA0 subscale moderately associated with the Life Orientation Test ($r = 0.33$), the GESS-R ($r = 0.27$) and the Satisfaction With Life Scale ($r = 0.36$).</p> <p>There was no association with CSQ Emotional Coping subscale ($r = 0.01$, ns) (Johnson, 2004).</p> <p>Moderate correlations between PANEQ subscales: NAP & FS ($r = -0.39$, $p < 0.01$), NAP & PAO ($r = -0.47$, $p < 0.01$) and FS & PAO ($r = 0.39$, $p < 0.01$) (Olason & Roger, 2001).</p> <p>The PAO was not associated with the PANAS Negative Affect subscale ($r = -0.04$, ns) while the NAP was moderately associated ($r = 0.63$, $p < 0.01$) and the FS showed a weak association ($r = 0.17$, $p < 0.01$) (Olason & Roger, 2001).</p>
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	The PANEQ attempts to reconcile the conflicting findings that the LOT is associated with negative affect resulting in a measure that does not distinguish between affect and optimism (Olason & Roger, 2001).
Advantages	There is clear empirical discrimination between the 3 PANEQ subscales, confirming that they are distinct factors despite moderate correlations between them (Olason & Roger, 2001).
Disadvantages	The PANEQ scales do not distinguish between positive affect and optimism or between negative affect and pessimism, which makes interpretation difficult (Olason & Roger, 2001).
Recommendations in the literature	No comments in the literature.
Comments obtained during expert consultation	The questions look good insofar as they sample the broad range of factors that impinge on 'optimism'.

Trait (Dispositional) Hope Scale (T(D)HS)

Snyder *et al.*, 1991

Summary

Measures the degree to which an individual has the perceived motivation to move towards his or her goals (Agency) and the perceived ability to generate workable routes to goals (Pathways).

Access

Developer
Address

Prof C Richard Snyder
Dept of Psychology
University of Kansas
1415 Jayhawk Blvd
Lawrence, Kansas
66045-7556
USA

Focus Optimism and Hope
Time period Current state
No. of items 8 (plus 4 filler items
unscored) (Appendix E)
Population General/Adult
Readability -
Completion time Less than 5 minutes
Original language English US
Translations Unknown

Email crsnyder@ku.edu
Website www.psych.ku.edu/faculty_Richard_Snyder.html

Permission Not required
Training Not required
Costs Free of charge

Content

Scale label **Number of items, 'examples'**
Hope 8 See below

Single composite score obtainable? Yes

Subscales **Number of items, 'examples'**
Agency 4 'I meet the goals I set for myself', 'My past experiences have prepared me well for my future'.
Pathways 4 'I can think of many ways to get out of a jam'.

Response format and item scoring 4-point Likert scale: 'definitely false' (1), 'mostly false' (2), 'mostly true' (3), 'definitely true' (4)

Scoring interpretation Total Hope scale score ranges from 8 to 32 (or 8 to 64 in recent applications), with higher scores indicating greater hope.

Evidence

Content validity 45 items designed to reflect hope were administered to almost 400 students. They were then condensed into a pool of items based on psychometric testing (Snyder *et al.*, 1991).
Scale structure High factor loadings (0.45 - 0.85) supporting 2 separate factors (52 - 63% of variance) in 8 separate samples (6 samples of college students (n = 145 - 508), 97 outpatients at a stress centre and 109 psychiatric inpatients) (Snyder *et al.*, 1991).
Reliability Internal consistency, Cronbach's alpha = 0.81 (Pathways) and 0.82 (Agency) (Day & Maltby, 2005) and more recently found to range from 0.74 to 0.84 (Hope Scale), 0.71 - 0.76 (Agency subscale) and 0.63 - 0.80 (Pathways subscale)

Trait (Dispositional) Hope Scale (T(D)HS)

Snyder *et al.*, 1991

	(Snyder <i>et al.</i> , 1991).
	Test-retest reliability 3-week interval: $r = 0.85$ ($p < 0.01$); 8-week interval: 0.73 ($p < 0.01$); 0.76 and 0.82 in two samples over 10 weeks (Snyder <i>et al.</i> , 1991).
Construct validity	Significant moderate associations with the Life Orientation Test – Revised (Agency subscale: $r = 0.27$, Pathways subscale: $r = 0.54$) and 'Belief in Good Luck' (Agency subscale: $r = 0.36$, Pathways subscale: $r = 0.33$) (Day & Maltby, 2005). Positive relationship between Agency and Pathways ($r = 0.38-0.57$, $p < 0.01$); moderate significant correlations with Life Orientation Test ($r = 0.60$ and 0.50), the Generalised Expectancy for Success Scale ($r = 0.55$ and 0.54), the Self-Esteem Scale – Revised ($r = 0.58$), the Hopelessness Scale ($r = -0.51$), the Beck Depression Inventory ($r = -0.42$) (Snyder <i>et al.</i> , 1991). No association with Self-Consciousness Scale (Private: $r = 0.06$, ns; Private $r = -0.03$, ns) (Snyder <i>et al.</i> , 1991).
Responsiveness	People in psychological treatment exhibited a lower level of hope compared with college students, but surprisingly there were no differences between men and women's scores (Snyder <i>et al.</i> , 1991).
Normative data	No evidence found.
Usefulness	The Hope Scale may provide a useful scale for understanding how people relate to their goals in several different life arenas (Snyder <i>et al.</i> , 1991).
Advantages	Though optimism shares a significant positive correlation with hope, they appear to be distinct psychological constructs.
Disadvantages	No comments in the literature.
Recommendations in the literature	Hope appears to be a potentially useful construct for exploring health-related matters (Snyder <i>et al.</i> , 1991).
Comments obtained during expert consultation	No comments.

4.5 Scales of self-esteem

The working definition of self-esteem was:

‘A belief or evaluation that one is a person of value, accepting personal strengths and weaknesses; a sense of worth. Related to emotional safety/security, i.e. how one feels about self, confidence in and how good one feels in personal relationships (e.g. family, wider community).’

4.5.1 Description of scales

Several scales of self-esteem exist and these differ in terms of their complexity and length. The following scales are recommended for use:

- **Basic Self-Esteem Scale (BSES)** (Forsman & Johnson, 1996) Designed to assess the respondent’s fundamental ‘self-love’.
- **Coopersmith Self-Esteem Inventory (CSEI)** (Coopersmith, 1981; original work published in 1967) Assesses personal judgement of worthiness that is expressed in the attitudes the individual holds towards him/herself.
- **Robson Self-Concept Questionnaire (RSCQ)** (Robson, 1989) Assesses the sense of contentment/self-acceptance that results from a person’s appraisal of self-worth, significance, attractiveness, competence and ability to satisfy aspirations.
- **Rosenberg Self-Esteem Scale (RSES)** (Rosenberg, 1965) Provides a measure of global attitudes about the self. Self-esteem is a positive or negative orientation towards oneself, an overall evaluation of one’s worth or value. High self-esteem indicates positive self-regard, not egotism.
- **Visual Analogue Self-Esteem Scale (VASES)** (Brumfitt & Sheeran, 1999) A non-verbal measure of self-esteem, which includes ten pictorial items depicting various aspects of self-esteem, i.e. cheerful, trapped, optimistic, confident, frustrated, confused, misunderstood, outgoing, intelligent, angry.

4.5.2 Appraisal of scales (Table 4.6)

- The most widely used, and arguably the best, scale of general self-esteem is Rosenberg’s Self-Esteem Scale. Used for over 40 years it is a relatively brief measure of ten short, simple statements about feelings towards oneself.
- For a more detailed assessment, there is good evidence for Robson’s Self-Concept Questionnaire. It includes 30 items but can be completed in 5–10 minutes.
- More recently, the Visual Analogue Self-Esteem Scale has been developed, which includes pictures instead of items. Although not used widely, it has good preliminary evidence and is particularly suitable for use with language-impaired people or those with ‘questionnaire fatigue’.

Further reading

- Carr, A. (2004). Chapter 7: Positive self. In *Positive Psychology: The Science of Happiness and Human Strengths*. New York: Brunner-Routledge.
- Heatherton, T. F. & Wyland, C. L. (2003). Assessing self-esteem. In Lopez, S.J. & Snyder, C. R. (Eds.). *Positive Psychological Assessment: A Handbook of Models and Measures*, pp91-107. Washington, DC: American Psychological Association.

Association.

Hewitt, J. P. (2005). The social construction of self-esteem. In Snyder, C. R. & Lopez, S. J. (Eds.), *Handbook of Positive Psychology*, pp231-243. New York: OUP.

Table 4.6 Appraisal of scales of self-esteem

Scale ^a	Essential properties			Desirable properties			OVERALL RATING	Practicalities ^b		
	Content validity	Scale structure	Reliability	Construct validity	Responsiveness	Normative data		Items (time)	Permission needed	Fee to use scale
BSES	★★	★(★)	★★★	★★(★)	★	★	★★	20 items (Unknown)	Unknown	Unknown
CSEI	★★	★(★)	★★	★★	★	★★(★)	★★	25 items (5-10 min)	Yes	Fee
RSCQ	★★	★(★)	★★★	★★★★	★★★★	★	★★(★)	30 items (5-10 min)	No	No fee
RSES	★★★★	★★★★	★★★★	★★★★	★★	★★★★	★★★★	10 items (5 min)	No	No fee
VASES	★★★	★★★	★★★★	★★★(★)	★★	★	★★★	10 items (Unknown)	Unknown	Unknown

a Summaries of each scale follow this table. Copies (and details of how to obtain permission to use, where necessary) can be found in Appendix E.

b Further information about obtaining permission to use scales and/or details of licence fees are provided in the summary reports for each scale. Where information is 'Unknown', contact the developer and/or copyright holder (contact information provided in summary reports). However, the authors have made every effort to obtain as much information as possible.

BSES = Basic Self-Esteem Scale; CSEI = Coopersmith Self-Esteem Inventory; RSCQ = Robson Self-Concept Questionnaire; RSES = Rosenberg Self-Esteem Scale; VASES = Visual Analogue Self-Esteem Scale.

Scales are given a maximum 5-star rating for each of the 6 psychometric properties reflecting both quantity and quality of evidence, where: ★★★★★ = excellent evidence, ★★★★ = very good evidence, ★★★ = good evidence, ★★ = moderate evidence, ★ = lack of evidence.

Overall rating = mean score of the essential and desirable properties (e.g. 24 stars / 6 properties = ★★★★★).

Basic Self-Esteem Scale (BSES)

Forsman & Johnson, 1996

Summary

Designed to assess respondent's fundamental 'self-love'; individual's ego-integrated libidinous and aggressive drives and their derivatives.

Access

Developer Dr Maarit Johnson
Address -

Focus	Self-esteem	Email	maarit.johnson@chello.se
Time period	Present	Website	http://members.chello.se/psychlab/maarit1.htm
No. of items	20	Permission	Unknown
Population	General/Adult	Training	Not required
Readability	-	Costs	Unknown
Completion time	Unknown		
Original language	Swedish		
Translations	Unknown		

Content

Scale label	Number of items, 'examples'
Basic Self-Esteem	20 'I can freely express what I feel', 'I find it easy to say no to others' demands and expectations'.

Single composite score obtainable? Yes

Subscales No

Response format and item scoring All items scored on a 5-point scale from 'strongly disagree' (1) to 'strongly agree' (5)

Scoring interpretation Unknown

Evidence

Content validity	No evidence found.
Scale structure	No evidence found.
Reliability	Internal consistency, Cronbach's alpha varied between 0.81 and 0.88 across 6 measurements, with a mean alpha of 0.85 (Johnson, 1998). Over short-term (7 weeks) and long-term (9 months), BSES showed high test-retest stability, with all correlation coefficients exceeding 0.80 (Johnson, 1998).
Construct validity	BSES showed concurrent validity being highly correlated ($p < 0.001$) with both Rosenberg's and Coopersmith's self-esteem scales (Forsman & Johnson, 1996) – Rosenberg's Self-Esteem Scale ($r = 0.87$, $p < 0.01$) (Johnson, 1998). BSES significantly associated with: Sense of Coherence scale ($r = 0.64$), Coping Styles Questionnaire (CSQ) Detached Coping subscale ($r = 0.40$), CSQ Emotional Coping subscale ($r = -0.27$), Positive and Negative Expectancies Questionnaire Fighting Spirit subscale ($r = 0.55$), and the Positive and Negative Affect Schedule Negative Affect subscale ($r = -0.40$) (Johnson, 2004).
Responsiveness	No evidence found.
Normative data	No evidence found.

Basic Self-Esteem Scale (BSES)

Forsman & Johnson, 1996

Usefulness	BSES (conceptualised as an individual's basic sense of self-worth) was shown to be more stable over time (as predicted) than global, generally evaluative self-esteem (as measured by the Rosenberg Self-Esteem Scale) (Johnson, 1998).
Advantages	BSES showed greater long-term stability than Rosenberg's Self-Esteem Scale (Johnson, 1998). Unsurprisingly, BSES, indicating inner contentment and integrity, was related to Sense of Coherence (Johnson, 2004).
Disadvantages	No comments in the literature.
Recommendations in the literature	No comments in the literature.
Comments obtained during expert consultation	No comments.

Coopersmith Self-Esteem Inventory (CSEI)

Coopersmith, 1981 (original work published in 1967)

Summary

To assess personal judgement or worthiness that is expressed in the attitudes the individual holds towards him/herself.

Access

Developer
Address

Dr Coopersmith
c/o copyright holders:
Mind Garden
855 Oak Grove Road
Suite 215, Menlo Park
CA 94025
USA

Focus	Self-esteem	Email	info@mindgarden.com
Time period	Not specified	Website	www.mindgarden.com/products/cseis/htm
No. of items	25 (Appendix E)	Permission	Required
Population	General/Adult	Training	Not required
Readability	-		(manual available)
Completion time	5-10 minutes	Costs	Licence fee payable
Original language	English US		
Translations	French, Japanese, Persian, Spanish, Vietnamese		

Content

Scale label	Number of items, 'examples'
CSEI Total	25 'I can make up my mind without too much trouble', 'Things are all mixed up in my life'.

Single composite score obtainable? Yes

Subscales No

Response format and item scoring All statements are rated 'like me' (1) or 'unlike me' (0)

Scoring interpretation Scores are summed and multiplied by 4, to range from 0 to 100. Higher scores indicate higher self-esteem.

Evidence

Content validity	Scale derived by 5 psychologists for use with children (originally) who classified items according to high or low self-esteem to derive a 50-item scale (for children) later reduced to 25 items for adults (Bowling, 2005).
Scale structure	Robinson & Shaver (1973) carried out factor analyses showing that the CSEI is multidimension, i.e. not supporting the calculation of a single scale score.
Reliability	Internal consistency, Cronbach's alpha ranges from 0.71 - 0.80 (Mind Garden, 1989).
Construct validity	Correlation of 0.59 and 0.60 with the Rosenberg Self-Esteem Scale (Robinson & Shaver, 1973).
Responsiveness	No evidence found.

Coopersmith Self-Esteem Inventory (CSEI)

Coopersmith, 1981 (original work published in 1967)

Normative data	The CSEI manual (Mind Garden, 1989) offers several sources of population norms.
Usefulness	The CSEI is one of the most widely used measures of self-esteem, though this is based largely on use of the original children's version (Mauthner & Platt, 1998).
Advantages	No comments in the literature.
Disadvantages	Limited testing of reliability and validity of the adult version of the measure, and used mostly with students rather than general adult population (Bowling, 2005).
Recommendations in the literature	No comments in the literature.
Comments obtained during expert consultation	No comments.

Robson Self-Concept Questionnaire (RSCQ)

Robson, 1989

Summary

To assess the sense of contentment/self-acceptance that results from a person's appraisal of self-worth, significance, attractiveness, competence, and ability to satisfy aspirations.

Access

Developer

Dr Philip Robson

Address

Director
Cannabinoid Research
Institute, Magdalen Centre
Oxford Science Park
Oxford
OX4 4GA

Focus

Self-esteem

Email

pir@gwpharm.com

Time period

Not specified

Website

phil.robson@psych.ox.ac.uk
[www.gwpharm.com/
research-cri.asp](http://www.gwpharm.com/research-cri.asp)

No. of items

30 (Appendix E)

Population

General/Adult

Readability

-

Permission

Not required

Completion time

5-10 minutes

Training

Not required

Original language

English UK

Costs

Free of charge
(Copies from Dr Robson)

Translations

Polish and Spanish

Content

Scale label

Global Self-esteem

Number of items, 'examples'

30

'I'm easy to like', 'I'm glad I'm who I am', 'It's pretty tough to be me', 'I look awful these days'.

Single composite score obtainable?

Yes

Subscales

No

Response format and item scoring

All items scored 0-7, from 'completely disagree' (0) through 'disagree' and 'agree' to 'completely agree' (7)

Scoring interpretation

Scores on the 30 items are summed to give a score ranging from 0 to 210. Higher scores indicating higher self-esteem.

Evidence

Content validity

50 trait items devised/modified and classified into 7 components of self-esteem (or rejected) by experts, resulting in 30 items (Robson, 1989).

Scale structure

Under investigation (Robson, 1989).

Reliability

Internal consistency, Cronbach's alpha = 0.89; split half correlation = 0.93 (Robson, 1989).

Test-retest reliability following interval of 4 weeks, $r = 0.87$ ($p < 0.001$, $n = 21$) (Robson, 1989).

Construct validity

Global score highly correlated with Rosenberg's Self-Esteem Scale in general population ($r = 0.80$, $p < 0.001$) and in anxiety group ($r = 0.85$, $p < 0.001$). In anxiety group, RSCQ score negatively correlated with Beck Depression Inventory ($r = -0.69$) (Robson, 1989).

As expected, RSCQ score differentiated between anxiety group (mean=108,

Robson Self-Concept Questionnaire (RSCQ)

Robson, 1989

	SD = 24.8) and general population (mean = 137, SD = 20.2) ($p < 0.001$) (Robson, 1989).
Responsiveness	Successful treatment of anxiety group showed improvements in RSCQ score (from 109 to 166, $p < 0.001$) (Robson, 1989). In an evaluation of a community child mental health programme, following intervention with a parent counsellor, mothers' self-esteem improved (score change = 8.9, $p = 0.002$) while control mothers' self-esteem declined (score change = 17.0, $p = 0.001$) (Davis & Spurr, 1998).
Normative data	No evidence found.
Usefulness	The RSCQ was found to be quick to complete, acceptable to respondents, reliable, with good evidence for convergent and discriminant validity (Robson, 1989).
Advantages	No comments in the literature.
Disadvantages	No evidence in development paper (Robson, 1989) for factor structure to support the summing into an overall composite score.
Recommendations in the literature	No comments in the literature.
Comments obtained during expert consultation	No comments.

Rosenberg Self-Esteem Scale (RSES)

Rosenberg, 1965

Summary

Provides a measure of global attitudes about the self. Self-esteem is a positive or negative toward oneself, an overall evaluation of one's worth or value. High self-esteem indicates positive self-regard, not egotism.

Access

Developer
Address

Dr M Rosenberg
The Morris Rosenberg
Foundation
c/o Dept of Sociology
University of Maryland
2112 Art/Soc Building
College Park
MD 20742-1315
USA

Focus Self-esteem
Time period Current state
No. of items 10
Population General/Adult
Readability -
Completion time 5 minutes
Original language English US
Translations Translated widely
(including most
European languages)

Email -
Website www.bsos.ums.edu/socy/grad/socpsy_rosenberg.html
Permission Not required
Training Not required
Costs Free of charge.
However, please be sure to credit Dr Rosenberg when using the scale, citing his work in publications, papers and reports.

Content

Scale label **Number of items, 'examples'**
RSES Total 10 See below

Single composite score obtainable? Yes

Subscales **Number of items, 'examples'**
RSES Negative 5 'I feel I do not have much to be proud of', 'I wish I could have more respect for myself'.
RSES Positive 5 'On the whole, I am satisfied with myself', 'I take a positive attitude toward myself'.

Response format and scoring All items scored on a 4-point scale: 'strongly agree' (4) to 'strongly disagree' (1)
Occasionally scored 3 to 0

Scoring interpretation Item scores are summed to produce a range of scores from 10 to 40.
Higher scores indicate higher self-esteem.

Evidence

Content validity No evidence found.
Scale structure Confirmatory factor analysis indicated that a single-factor model described the data well (goodness-of-fit statistic Chi-square = 45.98, df = 35, p = 0.10; GFI =

Rosenberg Self-Esteem Scale (RSES)

Rosenberg, 1965

	0.96, AGFI = 0.94) (Shevlin <i>et al.</i> , 1995). In an international study, in most of the 53 translation versions, all 10 items loaded (>0.4) on a single factor, explaining 25-54% of the variance (mean = 41%). Item 8 (more respect) was problematic in some languages, suggesting cultural variation in interpretation (Schmitt & Allik, 2005).
Reliability	Internal consistency, Cronbach's alpha = 0.88 (Scheier <i>et al.</i> , 1994). When simultaneously administered across 53 nations, mean Cronbach's alpha = 0.81. Lowest was Democratic Republic of the Congo (0.45) and highest was shared by Israel and the UK (0.90) (Schmitt & Allik, 2005).
Construct validity	The RSES correlated highly with the Self-Regard Scale ($r = 0.85$, $p < 0.01$) and moderately with the General Self-Efficacy Scale ($r = 0.61$) (Chen <i>et al.</i> , 2004) and with the Generalised Expectancy for Success Scale – Revised ($r = 0.46$, $p < 0.05$) (Hale <i>et al.</i> , 1992) and showed a statistically significant positive association with the Subjective Happiness Scale ($r = 0.53-0.58$) (Lyubomirsky & Lepper, 1999). Moderate significant correlation shown with the Dispositional Hope Scale ($r = 0.58$) (Snyder <i>et al.</i> , 1991) and both high correlation with the LOT – Revised (LOT-R) ($r = 0.75$ for men and 0.73 for women) (Makikangas & Kinnunen, 2003) and moderate correlation with the Life Orientation Test ($r = 0.54$) and LOT-R ($r = 0.50$) (Scheier <i>et al.</i> , 1994). When simultaneously administered across 53 nations, in all 53 nations, RSES scores were negatively correlated with neuroticism and positively correlated with extraversion (controlling for gender) (Schmitt & Allik, 2005) and across most nations, scores were either weakly or not at all related to scores on 'Openness' (measured using the Big Five Inventory), providing some support for the discriminant validity of the RSES (Schmitt & Allik, 2005). There was no relationship between the RSES and exam performance ($r = 0.11$, ns) (Chen <i>et al.</i> , 2004).
Responsiveness	No evidence found.
Normative data	In the UK population ($n = 480$), the RSES mean score was 30.55 (SD = 4.95) (Schmitt & Allik, 2005).
Usefulness	Data show that self-esteem (as measured by the RSES) is empirically as well as conceptually distinct from self-efficacy (Chen <i>et al.</i> , 2004). RSES remains the most widely used scale for the measurement of global self-esteem (Shevlin <i>et al.</i> , 1995). It appears that the RSES is psychometrically sound across many languages and cultures (Schmitt & Allik, 2005).
Advantages	On theoretical grounds, a single-factor solution is more parsimonious than a two-factor solution, with interpretation simplified if self-esteem can be conceptualised as a single coherent construct (Shevlin <i>et al.</i> , 1995). Popularity of the RSES is in part due to its long history of use, uncomplicated language, brevity, one-dimensional factor structure and considerable number of translations (Schmitt & Allik, 2005).
Disadvantages	Global, context-free measures may be less suitable than context-specific measures for some purposes (e.g. organisation-based self-esteem may be more appropriate in studies in occupational settings). Furthermore, such measures are susceptible to socially desirable responses and people who are low in self-esteem may be unable to admit to themselves or to others that they feel incompetent (Makikangas & Kinnunen, 2003). Disagreement concerning the factor structure of the scale. Researchers have reported both single-factor (Hensley, 1977) and two-factor (Negative self-esteem and Positive self-esteem) solutions (Hensley & Roberts, 1976; Carmines & Zeller, 1974).

Rosenberg Self-Esteem Scale (RSES)

Rosenberg, 1965

	Some cultures possess a negative item bias while collectivist cultures exhibit a neutral response bias, avoiding the extreme ends of the scale (Schmitt & Allik, 2005).
Recommendations in the literature	Motivational researchers (focusing on performance and achievement) are advised to focus on general self-efficacy, while those interested in well-being might do best to focus on self-esteem (Chen <i>et al.</i> , 2004). Future research will benefit from examining negative and neutral item bias across cultures (Schmitt & Allik, 2005).
Comments obtained during expert consultation	The RSES is the nearest you get to a gold standard. It is the most widely used measure but it is not necessarily the best measure as it does not account for explicit vs. implicit self-esteem. More recent measures are more involved in the psychology of self-esteem and are therefore longer. Some items are rather harsh ('Do you consider yourself a failure?').

Visual Analogue Self-Esteem Scale (VASES)

Brumfitt & Sheeran, 1999

Summary

A non-verbal measure of self-esteem (10 pictorial items depict cheerful, trapped, optimistic, confident, frustrated, confused, misunderstood, outgoing, intelligent, angry).

Access

Developer
Address

Dr Shelagh Brumfitt
Dept of Human
Communication Sciences
University of Sheffield
Sheffield
S10 2TA

Focus

Self-esteem

Time period

Not specified

No. of items

10

Population

General/Adult

Readability

Uses pictures

Completion time

Unknown

Original language

English UK

Translations

Unknown

Email

s.m.brumfitt@sheffield.ac.uk

Website

www.shef.ac.uk/hcs/staff/brumfitt

Permission

Unknown

Training

Not required

Costs

Unknown

Content

Scale label

VASES

Number of items, 'examples'

10 Pairs of pictures represent bipolar constructs, e.g. cheerful, confident, outgoing, intelligent.

Single composite score obtainable?

Yes

Subscales

No

Response format and item scoring

++ below a picture = 'very true of me'; + below a picture = 'true of me'; 0 = 'in-between'; scored 1-5 with, i.e., 1 = ++ below a negative self-esteem image, while 5 = ++ below a positive self-esteem image.

Scoring interpretation

Scale scores derived by averaging scores (1-5) across items. Higher scores indicate higher self-esteem.

Evidence

Content validity

Using an 'expert' sample (21 staff in the Psychology Department, University of Sheffield), of the original 24 pairs of constructs, 18 had 75% or greater agreement with the intended meaning, plus medium to strong correlation with equivalent written items (Brumfitt & Sheeran, 1999).

Scale structure

Principal components analysis revealed one clear factor, explaining 44.6% of the variance, with all 10 items loading >0.3 on the single factor (Brumfitt & Sheeran, 1999).

Reliability

Internal consistency, Cronbach's alpha = 0.86 in 243 undergraduate psychology students and 0.78-0.87 in groups of language-impaired people (Brumfitt & Sheeran, 1999).
Test-retest reliability over a one-month interval, $r = 0.73$, $p < 0.001$ (Brumfitt & Sheeran, 1999).

Visual Analogue Self-Esteem Scale (VASES)

Brumfitt & Sheeran, 1999

Construct validity	Significant positive correlation with the Rosenberg Self-Esteem Scale ($r = 0.60$) in student and ($r = 0.61-8$) in aphasic sample (Brumfitt & Sheeran, 1999). A small but statistically significant negative correlation with the Visual Analogue Mood Scale ($r = -0.15$)(Brumfitt & Sheeran, 1999).
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	Findings from two studies show the VASES to be a reliable and valid measure of self-esteem, which may be particularly suitable for use with language-impaired people or those with 'questionnaire fatigue' (Brumfitt & Sheeran, 1999).
Advantages	Student participants found the VASES a refreshing alternative to traditional pencil and paper tests and indicated that completing this scale was more engaging and enjoyable than traditional measures. It is suggested that the VASES could be easily adapted for use with children (Brumfitt & Sheeran, 1999).
Disadvantages	Unable to demonstrate that the VASES was significantly more strongly related with self-esteem than with depression and anxiety among aphasic patients; perhaps a larger sample would enable this distinction to be shown (Brumfitt & Sheeran, 1999).
Recommendations in the literature	A short and easy-to-administer measure of self-esteem suitable for use with general adult and language-impaired adults (Brumfitt & Sheeran, 1999).
Comments obtained during expert consultation	No comments.

4.6 Resilience and Coping

The working definition of resilience and coping was:

‘Resistance to mental illness in the face of adversity; hardiness; learned resourcefulness; a sense of coherence, i.e. confidence that internal and external events are predictable and that things will work out as can reasonably be expected; a cognitive evaluation of perceived resources to deal with perceived demands; personal control.’

4.6.1 Description of scales

The following scales of resilience and coping are recommended for use:

- **Attributional Style Questionnaire (ASQ)** (Seligman *et al.*, 1979; Peterson *et al.*, 1982) Measures explanatory style for good and bad events using three causal dimensions: internal versus external, stable versus unstable, and global versus specific causes
- **Brief COPE Scale (BCOPE)** (Carver, 1997) A 28-item short-form of the original COPE scale (see below), designed to assess 14 conceptually distinct methods of coping (e.g. active, positive reframing, denial, acceptance, humour, self-blame).
- **The COPE** (Carver *et al.*, 1989) A 60-item multidimensional coping scale designed to assess 15 conceptually distinct methods of coping (e.g. active, positive reinterpretation and growth, denial, seeking of social support for emotional reasons).
- **Coping Styles Questionnaire (CSQ)** (Roger *et al.*, 1993) Measures four styles of coping. Rational Coping and Detached Coping are considered to be adaptive styles, while Emotional Coping and Avoidance Coping are considered maladaptive.
- **Functional Dimensions of Coping (FDC)** (Ferguson & Cox, 1997) Measures what an individual believes a coping style (or styles) will achieve for them psychologically, e.g. an individual may cry (style of emotional release) believing that this will alleviate emotional distress (function).
- **General Self-Efficacy Scale (GSE)** (Schwarzer & Jerusalem, 1995) Assesses a general sense of perceived self-efficacy with the aim of predicting coping with daily hassles as well as adaptation after experiencing all kinds of stressful life events.
- **Sense of Coherence Scale (SOC)** (Antonovsky, 1987a; Antonovsky, 1987b) Measures one’s general orientation to life. A core element in the concept is that SOC is a global orientation, a way of looking at the world, a dispositional orientation rather than a response to a specific situation.
- **Ways of Coping (WAYS)** (Folkman & Lazarus, 1985) Measures coping as a process taking place within a particular context, rather than coping as a disposition or style. WAYS can assess and identify thoughts and actions that individuals use to cope with the stressful encounters of everyday living.

The scales can be categorised broadly into two measurement approaches:

- **Resilience:** Scales (i.e. GSE, SOC) focus on the capacity of the individual to cope in times of stress, that is, their sense of self-efficacy or self-perception of their ability to cope (in a demanding situation).
- **Coping style:** Scales (i.e. BCOPE, COPE, CSQ, WAYS) assess the approach that individuals use to deal with stressful/demanding situations. Related to this, the Attributional Style Questionnaire assesses how an individual explains good and

bad events (which provides a quasi-measure of the way in which they cope with negative events). Finally, the FDC goes one step further to assess what the individual expects a coping style (e.g. crying) will achieve for them (e.g. relief of emotional distress).

4.6.2 Appraisal of scales (Table 4.7)

- For scales that provide a measure of resilience, the General Self-Efficacy Scale (GSE) and the Sense of Coherence Scale (SOC) can be distinguished more in terms of their approach to measurement, with each having equivalent and reasonable evidence for their psychometric properties.
- The construct of perceived self-efficacy reflects an optimistic self-belief that one can cope with adversity or perform novel or difficult tasks. With only 10 items (and reportedly taking less than 5 minutes to complete), the GSE is a brief and widely used scale.
- The SOC, on the other hand, offers a similar approach in its domain of 'manageability', i.e. the extent to which the individual feels able to cope with demands, but also offers domains that assess 'comprehensibility', i.e. the extent to which events make sense to the individual, and 'meaningfulness', i.e. the feeling that life is challenging and has purpose. However, with 29 items, the SOC is likely to require longer completion time and may be burdensome for the respondent.
- For scales of coping style, it is difficult to differentiate between the scales available with respect to psychometric properties. In order to assess several different styles of coping reliably (which requires several items for each style), most scales include 40–70 items and even the Brief COPE includes 28 items. The ASQ includes only 12 items but has a potential limitation in its use of hypothetical scenarios.

Further reading

- Carr, A. (2004). Chapter 7: Positive self. In *Positive Psychology: The Science of Happiness and Human Strengths*. New York: Brunner-Routledge.
- Schwarzer, R. & Schwarzer, C. (1996). A Critical Survey of Coping Instruments. In Zeidner, M. & Endler, N. S. (Eds.), *Handbook of Coping*, pp107-132. New York: Wiley.
- Schwarzer, R. & Knoll, N. (2003). Positive coping: mastering demands and searching for meaning. In Lopez, S. J. & Snyder, C. R. (Eds.), *Positive Psychological Assessment: A Handbook of Models and Measures*, pp393-409. Washington, DC: American Psychological Association.

Table 4.7 Appraisal of scales of resilience and coping

Scale ^a	Essential properties			Desirable properties			OVERALL RATING	Practicalities ^b		
	Content validity	Scale structure	Reliability	Construct validity	Responsiveness	Normative data		Items (time)	Permission needed	Fee to use scale
ASQ	★(★)	★(★)	★★	★★	★	★	★(★)	12 items (20 min)	Yes	US \$20
BCOPE	★★	★★	★★	★★(★)	★	★	★★	28 items (Unknown)	No	No fee
COPE	★★	★★	★★(★)	★★(★)	★	★	★★	60 items (Unknown)	No	No fee
CSQ	★★★★	★★(★)	★★★★(★)	★★	★	★	★★	48 items (Unknown)	Yes	NZ \$1
FDC	★★(★)	★★(★)	★★★★(★)	★★★★	★	★	★★	16 items (Unknown)	No	No fee
GSE	★★(★)	★★★★	★★★★	★★★★	★	★★★★	★★★★	10 items (4 min)	No ^c	No fee
SOC	★★★★(★)	★★(★)	★★★★(★)	★★★★	★	★(★)	★★(★)	29 items (10-15 min)	Yes	Unknown
WAYS	★★	★★(★)	★★	★★(★)	★	★	★★	66 items (Unknown)	No	No fee

a Summaries of each scale follow this table. Copies (and details of how to obtain permission to use, where necessary) can be found in Appendix E.

b Further information about obtaining permission to use scales and/or details of licence fees are provided in the summary reports for each scale. Where information is 'Unknown', contact the developer and/or copyright holder (contact information provided in summary reports). However, the authors have made every effort to obtain as much information as possible.

c Permission required for commercial use.

ASQ = Attributional Style Questionnaire; BCOPE = Brief COPE Scale; COPE = COPE Scale; CSQ = Coping Styles Questionnaire; FDC = Functional Dimensions of Coping; GSE = General Self-Efficacy Scale; SOC = Sense of Coherence Scale; WAYS = Ways of Coping.

Scales are given a maximum 5-star rating for each of the 6 psychometric properties reflecting both quantity and quality of evidence, where: ★★★★★ = excellent evidence, ★★★★ = very good evidence, ★★★ = good evidence, ★★ = moderate evidence, ★ = lack of evidence.

Overall rating = mean score of the essential and desirable properties (e.g. 24 stars / 6 properties = ★★★★★).

Attributional Style Questionnaire (ASQ)

Seligman *et al.*, 1979; Peterson *et al.*, 1982

Summary

Yields scores for explanatory style for bad events and for good events using three causal dimensions: internal vs. external, stable vs. unstable, and global vs. specific causes.

Access

Developer
Address

Dr Martin E P Seligman
University of Pennsylvania
3720 Walnut Street
Philadelphia, PA 19104
USA

Focus Resilience and Coping

Time period None

No. of items 12

Population General/Adult

Readability -

Completion time 20 minutes

Original language English US

Translations French

Email

Website

Permission

Training

Costs

SeligmanInfo@psych.upenn.edu

[www.ppc.sas.upenn.edu/
testproc.htm](http://www.ppc.sas.upenn.edu/testproc.htm)

Required

Not required

Licence fee payable: \$10
inside US, \$20 outside US

Content

Scale label **Number of items, 'examples'**
ASQ 12 (see examples below)

Single composite score obtainable? No

Subscales

Number of items, 'examples'

The construction of the scale allows for the derivation of 20 different subscales based on different composites of items. At the finest level of analysis, 12 subscales are derived based on 3 items each (e.g. rated stability of the attributions for the 3 positive achievement-related events). Collapsing across an achievement-affiliation distinction, one can obtain 6 subscales based on 6 items each (e.g. rated stability of the attributions for the 6 positive outcome events). Finally, one can combine the internality, stability and globality scales (see response format and item scoring) into two composite attributional-style scores, one for positive events and one for negative events, based on 18 items each (i.e. 3 ratings for each of the 6 items). Examples of the positive/negative outcomes for affiliation-related and achievement-related events are:

Positive Events (CoPos)	6	'You meet a friend who compliments you on your appearance' (affiliation). 'You become very rich' (achievement).
Negative Events (CoNeg)	6	'You go out on a date and it goes badly' (affiliation). 'You can't get all the work done that others expect of you' (achievement).

Response format and item scoring Respondents are asked to generate their own causes for positive and negative events, and subsequently rate these on three 7-point Likert scales anchored to correspond to the causal dimensions of locus (external/internal), stability (unstable/stable), and globality (specific/global).

Scoring interpretation Three attributional dimension rating scales associated with each event description (positive and negative; achievement-related, affiliation-related) are

Attributional Style Questionnaire (ASQ)

Seligman *et al.*, 1979; Peterson *et al.*, 1982

scored in the directions of increasing internality, stability, and globality. Self-serving bias scores are calculated by subtracting internality scores for negative events from internality scores for positive events.

Evidence

Content validity	Between 6.7% and 15.9% missing data per question suggests that the scale wording may not be acceptable to respondents (Hewitt <i>et al.</i> , 2004).
Scale structure	Confirmatory factor analysis of the Negative Events subscale (CoNeg) provides support for the proposed 3 components of attributional style: internality, globality, and stability in a study of depression (n = 1,101 university students) (Hewitt <i>et al.</i> , 2004). The positive events subscale (CoPos) was not used in this study.
Reliability	Internal consistency, Cronbach's alpha = 0.75 (for good events – CoPos) and 0.72 (for bad events – CoNeg); the 6-item subscales reflecting separate attributional dimensions achieved a mean reliability of 0.54 (0.44 to 0.69); at the finest level of analysis, 3-item subscales did not attain sufficient reliability to make them useful in future research (mean alpha = 0.38; range 0.21 to 0.53) (Peterson <i>et al.</i> , 1982). Test-retest reliability, 5-week stability (n = 100) ranged from r = 0.57 to r = 0.69 for positive and negative events using 6-item subscales (internality, stability, and globality) and 0.70 for CoPos (18 ratings) and 0.64 for CoNeg (18 ratings).
Construct validity	No evidence found.
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	No comments in the literature.
Advantages	The ASQ has been used extensively as a research tool; construct and criterion validity have been well supported in the literature (Tennen & Herzberger, 1985).
Disadvantages	The ASQ has been criticised on the basis that attributional style needs to be assessed using real life success and failure situations. Although hypothetical situations used in the ASQ provide an approximation of the type of affiliative and achievement events that most people might experience, assessing attributional style in relation to different types of actual success and failure events might be more ego involving (Hirschy & Morris, 2002). Missing data (reported by Hewitt <i>et al.</i> , 2004) suggests that there may be some problems with content or the ease of performing the tasks.
Recommendations in the literature	Researchers are recommended not to calculate 3-item subscales or to make a distinction between affiliation-related and achievement-related events, unless there is specific reason to do so (Peterson <i>et al.</i> , 1982).
Comments obtained during expert consultation	While some believe it to be a good questionnaire, others have criticised the underlying model and have indicated that it should not be included as a scale of PMH, i.e. attributions lead to PMH outcomes but are not outcomes in themselves.

Brief COPE Scale (BCOPE)

Carver, 1997

Summary

The BCOPE is a 28-item short-form of the original COPE Scale designed to assess 14 conceptually distinct methods of coping (e.g. active coping, positive reframing, denial, acceptance, humour, self-blame).

Access

**Developer
Address**

Prof Charles S Carver
University of Miami
Department of Psychology
P.O.Box 248185
Coral Gables
FL 33124-0751
USA

Focus	Resilience and Coping	Email	Ccarver@umiami.ir.miami.edu
Time period	None		
No. of items	28 (Appendix E)	Website	www.psy.miami.edu/faculty/ccarver/index.html
Population	General/Adult		
Readability	-	Permission	Not required
Completion time	Unknown	Training	Not required
Original language	English US	Costs	Free of charge
Translations	French and Spanish		

Content

Scale label	Number of items, 'examples'
BCOPE	28

Single composite score obtainable?	No Carver recommends looking at each subscale separately.
---	--

Subscales	Number of items, 'examples'
Active Coping	2 'I've been concentrating my efforts on doing something about the situation I'm in'.
Planning	2 'I've been trying to come up with a strategy about what to do'.
Positive Reframing	2 'I've been trying to see it in a different light, to make it seem more positive'.
Acceptance	2 'I've been learning to live with it'.
Humour	2 'I've been making jokes about it'.
Religion	2 'I've been praying or meditating'.
Using Emotional Support	2 'I've been getting emotional support from others'.
Using Instrumental Support	2 'I've been getting help and advice from other people'.
Self-Distraction	2 'I've been turning to work or other activities to take my mind off things'.

Brief COPE Scale (BCOPE)

Carver, 1997

Denial	2	'I've been saying to myself "this isn't real" '.
Venting	2	'I've been expressing my negative feelings'.
Substance Use	2	'I've been using alcohol or other drugs to help me get through it'.
Behavioural Disengagement	2	'I've been giving up trying to deal with it'.
Self-Blame	2	'I've been blaming myself for things that happened'.

Response format and item scoring Items are scored on a 4-point scale: 'I haven't been doing this at all' (0), 'I've been doing this a little bit' (1), 'I've been doing this a medium amount' (2), 'I've been doing this a lot' (3)

Scoring interpretation Subscales scores range from 0-6, with higher scores indicating more of the particular coping style.

Note: other researchers have combined subscales into the following coping strategies (though this is not something that Carver does in his own use of the scales):

Emotion-focused	10	Combines: Acceptance, Emotional Support, Humour, Positive Reframing, Religion
Problem-focused	6	Combines: Active Coping, Instrumental Support, Planning
Dysfunctional Coping	12	Behavioural Disengagement, Denial, Self-Distraction, Self-Blame, Substance Use, Venting

Evidence

Content validity	When shortening the scale from the 60-item original COPE Scale to the 28-item Brief COPE (Carver, 1997), the Restraint Coping and Suppression of Competing Activities subscales were omitted (because the former had not been of value in previous research and the latter had proven redundant with that of the Active Coping scale). For the remaining items, two criteria were used to select two items for each subscale: high loading on the relevant scale in the original factor analyses (Carver <i>et al.</i> , 1989) and item clarity/ease of communication with non-student populations; an additional subscale (not in the original COPE) was included: Self-Blame, because this has been found in previous research to be a predictor of poor adjustment under stress (Carver, 1997).
Scale structure	Exploratory factor analysis yielded 9 factors with eigenvalues greater than 1.0, accounting for 72.4% of the variance; all primary loadings exceeded 0.4, and 22 of 28 were above 0.6, only 6 secondary loadings exceeded 0.3 and only one of those exceeded 0.4. Four a priori subscales formed distinct factors: Substance Use, Religion, Humour, and Behavioural Disengagement. Using Emotional Support and Using Instrumental Support formed a single factor, as did Active Coping and Planning (as occurred in the original analyses of the full COPE), but Positive Reframing also loaded on the latter factor. Venting and Self-Distraction loaded on one factor, as did Denial and Self-Blame. In brief, the factor structure was not perfect but remarkably similar to that reported earlier for the full COPE (Carver, 1997).

Brief COPE Scale (BCOPE)

Carver, 1997

	<p>The Brief COPE has also been described as having 9 scales (which relate to the factors identified by Carver (above) and combine scales (intended to be separate) that load together, e.g. Active Coping and Planning are combined into an Active Coping/Planning scale (McPherson <i>et al.</i>, 2003)).</p>
Reliability	<p>Internal consistency, Cronbach's alpha ranged from 0.50-0.90 (median 0.68), meeting or exceeding the value of 0.50, regarded as minimally acceptable for 2-item scales; all exceeded 0.60 except Venting, Denial and Acceptance (Carver, 1997).</p>
Construct validity	<p>COPE Dysfunctional subscale scores were significantly higher for caregivers who scored high on the Hospital Anxiety and Depression Scale (HADS) Anxiety subscale (18.9, SD 4.9 vs. 14.8, SD 3.4, $p < 0.001$) but there were no significant differences in emotion or problem-focused scores between anxious and non-anxious caregivers (Cooper <i>et al.</i>, 2006).</p> <p>In a sample of emergency doctors in the UK, a variety of coping strategies were reported, some of which were associated with more stress than others; Active Coping/Planning was associated with lower scores on the General Health Questionnaire (GHQ) ($r = -0.48$, $p < 0.05$) and the HADS Anxiety scale ($r = -0.38$, $p < 0.05$), suggesting it to be a useful strategy in preventing stress, while Venting (i.e. expressing negative feelings) was related to higher scores (GHQ $r = 0.29$, ns; HADS Anxiety $r = 0.34$, $p < 0.05$) as was Substance Use (GHQ $r = 0.20$, ns; HADS Anxiety $r = 0.35$, $p < 0.05$), suggesting this strategy may be unhelpful (McPherson <i>et al.</i>, 2003).</p>
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	<p>Research on the effects of coping has evolved to a point where more work is being done in applied settings, where response burden is a major issue and there is a great need for brief measures; in such settings, the Brief COPE provides researchers with a way to assess quickly 14 conceptually different coping strategies/reactions (some of which are known to be adaptive and some of which are problematic) (Carver, 1997).</p>
Advantages	<p>The items presented here assume a retrospective, situational format, but they can assume a concurrent, situational format (e.g. 'I'm doing things to take my mind off the situation') or even a dispositional format (e.g. 'I do things to try to take my mind off the situation'); each of these changes in format necessitates changes to the response options and orienting instructions (Carver, 1997).</p>
Disadvantages	<p>The factor structure is not perfect but given the brevity of the subscales and the relatively small ratio of participants to items in the sample, the clarity of the factor structure might even be regarded as surprisingly good (Carver, 1997).</p>
Recommendations in the literature	<p>The Brief COPE is intended to foster a wider examination of coping in naturally occurring settings; researchers who have very focused interests or who have extreme time demands can selectively use the scales that are of greatest interest in their samples (Carver, 1997).</p>
Comments obtained during expert consultation	<p>Despite being a short-form, one still has to assess all the dimensions of coping, and cannot extract a single coping subscale.</p>

COPE Scale (COPE)

Carver, Scheier & Weintraub, 1989

Summary

The COPE is a 60-item multidimensional coping instrument designed to assess 15 conceptually distinct methods of coping (e.g. active coping, positive reinterpretation and growth, denial, seeking of social support for emotional reasons).

Access

**Developer
Address**

Prof Charles S. Carver
University of Miami
Department of Psychology
P.O. Box 248185
Coral Gables
FL 33124-0751
USA

Focus Resilience and Coping
Time period None
No. of items 60 (Appendix E)
Population General/Adult
Readability -
Completion time Unknown
Original language English US
Translations French and Spanish

Email Ccarver@umiami.ir.miami.edu

Website www.psy.miami.edu/faculty/ccarver/index.html

Permission Not required
Training Not required
Costs Free of charge

Content

Scale label **Number of items, 'examples'**
COPE 60

Single composite score obtainable? No
Carver recommends looking at each subscale separately.

Subscales	Number of items, 'examples'	
Active Coping	4	'I've been concentrating my efforts on doing something about it'.
Planning	4	'I've been trying to come up with a strategy about what to do'.
Positive Reinterpretation	4	'I've been trying to see it in a different light, to make it seem more positive'.
Acceptance	4	'I've been learning to live with it'.
Humour	4	'I've been making jokes about it'.
Religion	4	'I've been praying more than usual'.
Emotional Social Support	4	'I've been getting emotional support from friends or relatives'.
Instrumental Social Support	4	'I've been trying to get advice from someone about what to do'.
Mental	4	'I've been turning to work or other substitute activities to take my mind off

COPE Scale (COPE)

Carver, Scheier & Weintraub, 1989

Disengagement		things'.
Denial	4	'I've been saying to myself "this isn't real" '.
Focus on/Vent Emotions	4	'I've been letting my feelings out'.
Substance Use	4	'I've been using alcohol or other drugs to help me get through it'.
Behavioural Disengagement	4	'I've been giving up the attempt to get what I want'.
Suppression of Competing Activities	4	'I focus on dealing with this problem, and if necessary let other things slide a little'.
Restraint	4	'I make sure not to make matters worse by acting too soon'.
Response format and item scoring	Items are scored on a 4-point scale: 'I usually don't do this at all' (1), 'I usually do this a little bit' (2), 'I usually do this a medium amount' (3), 'I usually do this a lot' (4)	
Scoring interpretation	Subscales scores range from 4-16 with higher scores indicating more of the particular coping style.	

Note: other researchers have combined subscales into Emotion-focused, Problem-focused, Dysfunctional Coping strategies (see BCOPE) (though this is not something that Carver does in his own use of the scales).

Evidence

Content validity	The scale went through several generations in its development, as item sets were administered to several hundred subjects, items with weak loadings were revised or discarded, new items written, and the scale re-administered (Carver <i>et al.</i> , 1989).
Scale structure	Several studies reported in a single development paper show the items to load 0.19-0.95 on the intended subscales (Carver <i>et al.</i> , 1989).
Reliability	In general, internal consistency, Cronbach's alpha was acceptably high, with only one (Mental Disengagement, which differs from the others in being more of a multiple-act criterion) falling below 0.6 (Carver <i>et al.</i> , 1989). Test-retest reliability, 8-week stability ($r = 0.46-0.86$) was shown in a sample of 89 students; 6 week stability ($r = 0.42-0.89$) in a sample of 116 students (Carver <i>et al.</i> , 1989).
Construct validity	As expected, Active Coping and Planning were positively associated with optimism (Life Orientation Test), self-esteem (Rosenberg Self-esteem Scale), hardiness (Personal Views Survey) and Type A behaviour pattern; COPE Denial and Behavioural Disengagement subscales displayed essentially the opposite pattern of associations, i.e. positively correlated with trait anxiety (measured using the State Trait Anxiety Inventory) and negatively correlated with optimism; Venting Emotions was inversely associated with being able to cope with stressful situations and with internal locus of control (Carver <i>et al.</i> , 1989). Positive Reframing correlated positively with Affectometer 2 scores ($r = 0.25$, p

COPE Scale (COPE)

Carver, Scheier & Weintraub, 1989

	<p><0.05) in a sample of UK breast cancer patients, while significant negative relationships ($r > -0.25$, $p < 0.05$) were found between Affectometer 2 scores and seven other subscales: Suppression of Competing Activities, Restraint, Instrumental Social Support, Focus on/Vent Emotions, Denial, Behavioural Disengagement, Self-Distraction (Thomas & Marks, 1995).</p> <p>No significant relationship was found between coping strategies and time since diagnosis (Thomas & Marks, 1995).</p>
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	Carver <i>et al.</i> (1989) suggest that it is useful to probe specific aspects of the coping process that may be important despite the fact they do not come to mind most immediately as coping tactics.
Advantages	The items assume a retrospective, situational format, but they can assume a concurrent, situational format (e.g. 'I'm doing things to take my mind off the situation') or even a dispositional format (e.g. 'I do things to try to take my mind off the situation'); each of these changes in format necessitates changes to the response options and orienting instructions (Carver, 1997).
Disadvantages	<p>Within a given subscale, the item content has considerable redundancy; patient samples become impatient with completing the full COPE, partly because of its length and partly because of this redundancy, which has led to the development of a short version, the Brief COPE (Carver, 1997).</p> <p>In a sample of UK breast cancer patients, the COPE was poor at discriminating between coping strategies, with acceptance and positive reframing reported by virtually all respondents and highly related; it is possible that the more abstract wording of the problem-focused subscales may have caused problems in the completion of at least some of these items, with these being the most difficult to comprehend (Thomas & Marks, 1995).</p>
Recommendations in the literature	The COPE has produced results that were interesting but failed to sufficiently discriminate between coping strategies; it may not, after all, provide a valid measure of coping strategies or be an appropriate choice of coping scale for administration to British cancer patients. The problem may have been cultural, an instance of measurement incongruence, whereby a scale developed and validated with a mainly student population of one country is assumed (wrongly) to be applicable to the patient population of another; the length, wordiness and perceived repetitiveness of the items may all have contributed towards the feeling that the scale was irrelevant in these circumstances (Thomas & Marks, 1995).
Comments obtained during expert consultation	Despite wide scale use, it has been criticised for its length and the number of subscales, one for each method of coping. A short-form exists, but for scoring you still have to assess all the dimensions of coping, and cannot extract a single coping subscale.

Coping Styles Questionnaire (CSQ)

Roger *et al.*, 1993

Summary

Measures four styles of coping: Rational Coping and Detached Coping are considered to be adaptive styles, while Emotional Coping and Avoidance Coping are considered maladaptive.

Access

**Developer
Address**

Dr Derek Roger
Department of Psychology
University of Canterbury
Private Bag 4800
Christchurch
New Zealand

Focus Resilience and Coping
Time period None
No. of items 48 (Appendix E)
Population General/Adult
Readability -
Completion time Unknown
Original language English UK
Translations None

Email derek.roger@canterbury.ac.nz
Website www.psyc.canterbury.ac.nz/people/roger%20.shtml
Permission Required
Training Not required
Costs Licence fee payable NZ \$1

Content

Scale label CSQ
Number of items 48

Single composite score obtainable? No

Subscales	Number of items, 'examples'
Rational Coping	12 'Work out a plan for dealing with what has happened'.
Detached Coping	12 'See the problem as something separate from myself so I can deal with it'.
Emotional Coping	12 'Become miserable if depressed'.
Avoidance Coping	12 'Sit tight and hope it all goes away'.

Response format and item scoring Items are scored on a 4-point Likert scale: 'always', 'often', 'sometimes', 'never'

Scoring interpretation Unknown

Evidence

Content validity The initial item pool was created from a variety of sources: the first author's experience in stress management training, consultations with colleagues, reference to the clinical literature, and existing scales such as the Ways of Coping. After deleting duplicates, an initial pool of 78 items was completed by 210 university students and the data were subjected to factor analyses and further modifications. A second sample of 310 students completed a 90-item scale (Roger *et al.*, 1993).

Coping Styles Questionnaire (CSQ)

Roger *et al.*, 1993

Scale structure	60 items loaded >0.30 on four factors: Rational Coping (16 items), Detached Coping (15 items), Emotional Coping (16 items) and Avoidance Coping (13 items); comparable factor structures were found for male and female subgroups (Roger <i>et al.</i> , 1993). NB: The CSQ has since been reduced to 48 items and although it was not possible to locate the evidence for that, it is likely that this has enhanced the structure of the scale.
Reliability	Internal consistency, Cronbach's alpha = 0.85 (Rational), 0.90 (Detached), 0.74 (Emotional) and 0.69 (Avoidance) (Roger <i>et al.</i> , 1993) and also 0.81 (Rational), 0.77 (Detached), 0.79 (Emotional) and 0.66 (Avoidance) (Elklit, 1996). Test-retest reliability, after an inter-test interval of 3 months: $r = 0.80$ (Rational), $r = 0.79$ (Detached), $r = 0.77$ (Emotional), $r = 0.70$ (Avoidance) (Roger <i>et al.</i> , 1993) and after an inter-test interval of 4 weeks: $r = 0.85$ (Rational), $r = 0.80$ (Detached), $r = 0.79$ (Emotional), $r = 0.74$ (Avoidance) (Elklit, 1996).
Construct validity	Significant associations (in the expected directions) were found with: Basic Self-Esteem (Detached Coping $r = 0.40$, Emotional Coping $r = -0.27$), Sense of Coherence (Detached Coping $r = 0.36$, Emotional Coping $r = -0.33$), Positive and Negative Expectancy Questionnaire (PANEQ) Fighting Spirit subscales (Detached Coping $r = 0.36$), Positive and Negative Affect Schedule Negative Affect subscale (Detached Coping $r = -0.42$, Emotional Coping $r = 0.38$) (Johnson, 2004). No association was found between Emotional Coping and PANEQ Fighting Spirit ($r = 0.01$).
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	The inclusion of Detachment Coping in the CSQ suggests that a previously neglected dimension of coping may significantly influence the relationship between stress and illness (Roger <i>et al.</i> , 1993).
Advantages	Scales for assessing coping typically assess three primary components (rational (or task), emotional and avoidance). The CSQ confirmed this structure but added a new style, Detachment, defined by the feeling of being independent of the event and the emotion associated with it (Roger <i>et al.</i> , 1993). Test-retest reliability was good for all four subscales, demonstrating that they represent relatively stable ways of responding to stressful events (Roger <i>et al.</i> , 1993).
Disadvantages	No comments in the literature.
Recommendations in the literature	No comments in the literature.
Comments obtained during expert consultation	There are likely to be serious comprehension issues with the CSQ, e.g. items such as 'resolve the issue by not becoming identified with it' are overly complex and may not be easily understood by those with low literacy levels.

Functional Dimensions of Coping Scale (FDC)

Ferguson & Cox, 1997

Summary

Functional coping describes what an individual believes a coping style (or styles) will achieve for them psychologically, e.g. an individual may cry (style of emotional release) believing that this will alleviate emotional distress (function).

Access

Developer
Address

Prof Eamonn Ferguson
School of Psychology
University of Nottingham
University Park
Nottingham
NG2 7RD

Focus Resilience and Coping
Time period None specified
No. of items 16 (Appendix E)
Population General/Adult
Readability -
Completion time Unknown
Original language English UK
Translations Unknown

Email eamonn.ferguson@nottingham.ac.uk
Website www.psychology.nottingham.ac.uk/staff/ef/
Permission Not required
Training Not required
Costs Free of charge

Content

Scale label **Number of items, 'examples'**
FDC 16

Single composite score obtainable? No

Subscales **Number of items, 'examples'**

Approach	4	'Provide you with information useful in solving the problem'.
Emotion Regulation	4	'Allow you to handle any anxiety caused by the event'.
Reappraisal	4	'Allow you to learn more about yourself and others'.
Avoidance	4	'Allow you to deny that anything was wrong'.

Response format and item scoring Each item (or function) is rated on a 7-point Likert scale, from 0 'not at all' to 6 'very much so'

Scoring interpretation High scores indicate that the particular coping behaviours/style used are seen to perform that particular coping function.

Evidence

Content validity The initial coding frame was based on 21 coping styles (e.g. emotional social support, acceptance, direct action), which were identified as part of an extensive review of the coping literature (89% agreement between the two raters) (Ferguson & Cox, 1997).

Scale structure All loadings were substantial and significant (>0.49) and there were no cross-loadings, indicating that the structure of the FDC is robust (Ferguson & Cox, 1997).

Functional Dimensions of Coping Scale (FDC)

Ferguson & Cox, 1997

Reliability	In two separate studies, internal consistency reliability was satisfactory: Cronbach's alpha = 0.74-76 (Approach), 0.71-79 (Emotion), 0.75- 0.82 (Reappraisal), 0.73-79 (Avoidance) (Ferguson & Cox, 1997).
Construct validity	<p>All of the subscales of the FDC scale demonstrated significant associations with each other, except Avoidance and Reappraisal (which makes sense as it is not possible to avoid and reappraise a situation simultaneously); Approach and Avoidance were negatively associated with each other while all others were positively associated (Ferguson & Cox, 1997).</p> <p>No significant associations between the FDC subscales and social desirability were found (Ferguson & Cox, 1997).</p> <p>When considering life stress, those with health anxieties (e.g. hypochondriacal concerns, symptom experience and frequency of treatments) tended to ascribe the functions of their coping in terms of reappraisal and avoidance (Ferguson & Cox, 1997).</p>
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	The demonstration that coping function can be transactionally determined means that researchers in the future are not really justified in inferring function from style or behaviour, as the FDC provides the means to assess this (Ferguson & Cox, 1997).
Advantages	The FDC scale factors show good reliability, and construct validity and factorial clarity, were not associated with social desirability and showed predicted patterns of association with health anxieties (Ferguson & Cox, 1997).
Disadvantages	Requires the respondent to report a stressful situation that he/she has encountered in the past three months and then make an assessment of the coping styles/behaviours they adopted at that time – this process is likely to be relatively time-consuming and potentially cognitively demanding.
Recommendations in the literature	No comments in the literature.
Comments obtained during expert consultation	Potential comprehension issues, e.g. terms like 'stressor'.

General Self-Efficacy Scale (GSE)

Schwarzer & Jerusalem, 1995

Summary

The GSE was created to assess a general sense of perceived self-efficacy with the aim of predicting coping with daily hassles as well as adaptation after experiencing all kinds of stressful life events.

Access

Developer
Address

Dr Ralph Schwarzer
Freie Universität Berlin
Psychologie
Habelschwerdter Allee 45
14195 Berlin
Germany

Focus Resilience and Coping
Time period None
No. of items 10 (Appendix E)
Population General/Adult
Readability -

Email health@zedat.fu-berlin.de
Website <http://userpage.fu-berlin.de/~health/engscal.htm>

Permission Not required
Training Not required

Completion time 4 minutes

Costs Free of charge

Original language German

Note: permission needed

Translations Approx. 30 translations
(including French, Spanish,
Greek, Italian, Dutch, Danish,
English UK, English US,
Syrian, Korean, Japanese,
see www.healthpsych.de)

for commercial use

Content

Scale label **Number of items, 'examples'**

General Self-Efficacy (GSE) 10 'I can always manage to solve problems if I try hard enough'.
'I can handle whatever comes my way'.

Single composite score obtainable? Yes

Subscales No

Response format and item scoring Items are scored on a 4-point scale: 'Not at all true' (1), 'Hardly true' (2), 'Moderately true' (3), 'Exactly true' (4)

Scoring interpretation Responses can be summed to provide a total score ranging from 10 to 40 or a mean score can be computed (i.e. sum divided by number of items).

Evidence

Content validity The construct of perceived self-efficacy reflects an optimistic self-belief, the belief that one can perform novel or difficult tasks or cope with adversity, in various domains of human functioning. Ten items are designed to tap this construct. Each item refers to successful coping and implies an internal-stable attribution of success (<http://userpage.fu-berlin.de/~health/engscal.htm>).

Scale structure Principal components analysis revealed loadings >0.54 for a one-factor solution (with an eigenvalue of 4.39), supported by confirmatory factor analyses indicating the GSE as a unidimensional scale: GFI >0.90, AGFI >0.90 (Scholz

General Self-Efficacy Scale (GSE)

Schwarzer & Jerusalem, 1995

	<i>et al.</i> , 2002).
Reliability	The GSE scale has been used in numerous research projects, where it typically yielded satisfactory (and sometimes highly satisfactory) internal consistencies between Cronbach's alphas 0.75 and 0.91 (cited in Scholz <i>et al.</i> , 2002). Cronbach's alpha = 0.88 (Roysamb & Strype, 2002). Internal consistency for 25 translations in a study of 25 nations (n = 19,120) was alpha 0.86, ranging from 0.75-0.91, UK alpha = 0.88 (Scholz <i>et al.</i> , 2002). Test-retest reliability stability has been assessed in several longitudinal studies, e.g. 246 cardiac patients (6-month interval, r = 0.67), 140 teachers (1-year interval, r = 0.75) (Scholz <i>et al.</i> , 2002) and over a 7-week interval was satisfactory: r = 0.82 (Roysamb & Strype, 2002).
Construct Validity	Lowest mean scores were found for the Japanese sample (20.2), while highest values were found for a Costa Rican sample (33.2), Danish (32.9) and French (32.2), English UK (30.0) suggesting that GSE discriminates between nations (p < 0.001), though this may simply reflect different research methods employed between nations (Scholz <i>et al.</i> , 2002).
Responsiveness	No evidence found.
Normative data	Norms are available based on: a heterogeneous adult population (n = 1,660), with the weighted mean found to be 29.28 (weighted variance = 25.91) (http://www.ralfschwarzer.de).
Usefulness	Results using the GSE in 25 countries (including the UK) support the assumption that general perceived self-efficacy is a unidimensional and universal construct (Scholz <i>et al.</i> , 2002).
Advantages	Good procedures for linguistic and psychometric validation have been used to support the translation of the GSE into 29 languages. The scale has been used internationally with success for two decades and is suitable for a broad range of applications. It can be taken to predict adaptation after life changes, but it is also suitable as an indicator of quality of life at any point in time (http://userpage.fu-berlin.de/~health/engscal.htm).
Disadvantages	As a general scale, it does not tap specific behaviour change. Therefore, in most applications, it is necessary to add a few items to cover the particular content of the survey or intervention (e.g. smoking cessation self-efficacy, or physical exercise self-efficacy). How to write such items is described in Schwarzer & Fuchs (1996) (http://userpage.fu-berlin.de/~health/engscal.htm).
Recommendations in the literature	Perceived self-efficacy is an operative construct, i.e. it is related to subsequent behaviour and, therefore, is relevant for clinical practice and behaviour change (http://userpage.fu-berlin.de/~health/engscal.htm).
Comments obtained during expert consultation	Generally considered to be a good scale of self-efficacy.

Sense of Coherence Scale (SOC)

Antonovsky, 1987a

Summary

A measure of one's general orientation to life. A core element in the concept is that SOC is a global orientation, a way of looking at the world, a dispositional orientation rather than a response to a specific situation.

Access

Developer

Dr Aaron Antonovsky
c/o Dr Avishai Antonovsky
Dept of Psychology
The Open University
PO Box 808
Raanana 43107
Israel

Address

Focus	Resilience and Coping	Email	-
Time period	None	Website	-
No. of items	29 (Appendix E)	Permission	Required
Population	General/Adult	Training	Not required
Readability	-	Costs	Unknown
Completion time	10-15 minutes		
Original language	English US		
Translations	Available in 33 languages (unknown whether English UK has been linguistically validated).		

Content

Scale label

Number of items, 'examples'

SOC total	29	<p>11 items on comprehensibility (the stimuli deriving from one's internal and external environments in the course of living are structured, predictable and explicable): 'Does it happen that you have the feeling that you don't know exactly what's about to happen?' 'Very often' (1) to 'Very seldom or never' (7)..</p> <p>10 items on manageability (the resources that are available to one to meet the demands posed by the above stimuli): 'When you think of difficulties you are likely to face in important aspects of your life, do you have the feeling that: 'You will always succeed in overcoming the difficulties' (1) to 'You won't succeed in overcoming the difficulties' (7).</p> <p>8 items on meaningfulness (these demands are challenges, worthy of investment and engagement): 'How often do you have the feeling that there's little meaning in the things you do in your daily life?' 'Very often' (1) to 'Very seldom or never' (7).</p>
-----------	----	---

Single composite score obtainable? Yes

Subscales No

Sense of Coherence Scale (SOC)

Antonovsky, 1987a

Response format and item scoring Items are scored on a 7-point scale (1-7), with different anchors for each item.

Scoring interpretation Item scores are summed to give a total. Scores range from 29 to 203 (13 items requiring reverse-scoring), the higher the score the stronger the sense of coherence (i.e. that the world is comprehensible, manageable and meaningful).

Evidence

Content validity	Interviews were conducted with 51 people (aged 21–91, except for four adolescents, 30 male). Transcripts were coded independently by 4 raters, with 62% of adult respondents placed in the same category by 3+ raters. Items were then designed to express one of three components (comprehensibility, manageability, meaningfulness) and one of four facets: modality of the stimulus (e.g. instrumental, cognitive, affective), its source (e.g. internal, external or both), the nature of the demand it posed (e.g. concrete, diffuse or abstract), and its time reference (past, present, future) (Antonovsky, 1987a).
Scale structure	Although each item is either a Comprehensibility, Manageability or Meaningfulness item, each (apparent) subscale shares elements with other (apparent) subscales. For example, 11 Comprehensibility items have 3 references to the past, 6 to present, and 2 to future stimuli, while the 10 Manageability items have 4, 3 and 3 respectively. Use of a technique called smallest-space analysis provides evidence that this is indeed the case (Antonovsky, 1987a).
Reliability	Consistently satisfactory internal consistency reliability found across 11 studies: Cronbach's alpha = 0.84-0.93 (Antonovsky, 1987a) and Cronbach's alpha = 0.85 (85 UK therapists) (Linley <i>et al.</i> , 2005). Test-retest reliability, stability ranged from $r = 0.91$ over 2 weeks to $r = 0.54$ over 2 years (Antonovsky, 1993).
Construct validity	Statistically significant relationships found between SOC and fear of recurrence (of cancer) and post-traumatic stress symptomatology (Black & White, 2003). SOC significantly and positively associated with: Basic Self-Esteem ($r = 0.64$), Coping Styles Questionnaire (CSQ) Detached Coping subscale ($r = 0.36$), Positive and Negative Expectancy Questionnaire Fighting Spirit subscale ($r = 0.39$), while significantly and negatively correlated with the Positive and Negative Affect Scale Negative Affect subscale ($r = -0.61$) and CSQ Emotional Coping subscale ($r = -0.33$), (Johnson, 2004). SOC was significantly associated with both positive and negative changes (as measured by the Change in Outlook scale) ($r = -0.52$ for negative changes, $p < 0.001$, $r = 0.27$ for positive changes, $p < 0.01$) (Linley <i>et al.</i> , 2005).
Responsiveness	No evidence found.
Normative data	Though no evidence of normative data is available for the UK, the equivalence of the UK version with other language versions (where normative data are available) is promising.
Usefulness	SOC has importance for predicting good health, above the strong impact of Negative Affect (NA); when controlling for NA, SOC had the strongest association with self-reported health among adaptive dispositions and traits (Johnson, 2004). Reviews suggest that SOC encapsulates the key elements of related personality constructs such as hardiness, locus of control and self-efficacy and is associated with adversarial growth, although this has not been tested empirically (Linley <i>et al.</i> , 2005). The SOC has been used as a measure of purpose in life as well as a measure of resilience.

Sense of Coherence Scale (SOC)

Antonovsky, 1987a

Advantages	No comments in the literature.
Disadvantages	SOC is cognitively complex, potentially limiting its use in low literacy groups.
Recommendations in the literature	No comments in the literature.
Comments obtained during expert consultation	Good scale, several versions. Good psychometric properties. Fairly good general scale, but not as widely used as other scales. Problem that scoring direction and/or anchors are different for each scale, which increases respondent burden.

Ways of Coping (WAYS)

Folkman & Lazarus, 1985

Summary

To study coping as a process taking place within a particular context, rather than coping as a disposition or style. WAYS can assess and identify thoughts and actions that individuals use to cope with the stressful encounters of everyday living.

Access

**Developer
Address**

Prof Susan Folkman
Box 1726
UCSF
San Francisco
CA 94143-1726
USA

Focus Resilience and Coping
Time period Past month
No. of items 50 (plus 16 filler items
unscored) (Appendix E)
Population General/Adult
Readability -
Completion time Unknown
Original language English US
Translations French, Hebrew and Spanish

Email folkman@ocim.ucsf.edu
Website http://cc.ucsf.edu/people/folkman_susan.html
Permission Not required
Training Not required
Costs Free of charge

Content

Scale label **Number of items, 'examples'**
WAYS 50 See below for examples

Single composite score obtainable? No but two component scores can be formed (Problem-focused and Emotion-focused).

Subscales	Number of items, 'examples'
Confrontive Coping	6 'Stood my ground and fought for what I wanted'.
Distancing	6 'Tried to forget the whole thing'.
Self-controlling	7 'I tried to keep my feelings to myself'.
Seeking Social Support	6 'I asked a relative or friend I respected for advice'.
Accepting Responsibility	4 'Realized I brought the problem on myself'.
Escape-avoidance	8 'Avoided being with people in general'.
Planful problem-solving	6 'I made a plan of action and followed it'.
Positive reappraisal	7 'Changed or grew as a person in a good way'.

Response format and item scoring Items are rated on a 4-point Likert frequency scale: 'does not apply/not used' (0), 'used somewhat' (1), 'used quite a bit' (3), 'used a great deal' (4)

Ways of Coping (WAYS)

Folkman & Lazarus, 1985

Scoring interpretation No information found.

Evidence

Content validity No evidence found.

Scale structure The WAYS has included several different item sets over the past 26 years, the most recent of which includes 50 items (plus 16 filler items) with eight empirically derived scales (Folkman & Lazarus, 1988).
Structural changes have not always been supported by good evidence (Schwarzer & Schwarzer, 1996).
Intercorrelations between the 8 subscales are low, confirming their desired distinctiveness (Schwarzer & Schwarzer, 1996).
Exploratory factor analysis with a young adult sample showed 7 reliable factors; confirmatory factor analysis results supported these findings in that sample (Murphy *et al.*, 2003).

Reliability Reliability is not always satisfactory (Schwarzer & Schwarzer, 1996).
Test-retest reliabilities are never reported; according to the theory, high stability is not expected or desired because individuals are expected to adjust their actual coping responses to the requirements of each specific situation (Schwarzer & Schwarzer, 1996).

Construct validity Correlations between the 7 subscales and other scales used for construct validation were generally as predicted (Murphy *et al.*, 2003).

Responsiveness No evidence found.

Normative data No evidence found.

Usefulness The Ways of Coping is an established scale and a standard in the field.

Advantages The authors encourage researchers to adapt the WAYS to the specific study context in order to achieve a close match between the stress experience and the coping statements (Schwarzer & Schwarzer, 1996).

Disadvantages The Ways of Coping scale is employed idiosyncratically across different studies, limiting the comparability of results from the scale across different samples and situations. Moreover, because the specific coping strategies are determined by factor analysis, the factor structure, as well, varies across studies (Taylor, 1998).

Recommendations in the literature The WAYS can be used (1) to help counsellors work with clients to develop practical coping skills, by evaluating their style, strengths and weaknesses and providing models of alternative coping mechanisms; (2) as a research scale for studies of the coping process; (3) as a research tool in clinical settings and for measuring the effects of interventions; (4) as a stimulus for discussion in clinical, training and workshop settings (www.mindgarden.com/products/wayss.htm).

Comments obtained during expert consultation While the recommendations (above) refer to the WAYS use as 'a research tool ... for measuring the effects of interventions', the fact that answers relate to a 'random' stressor named by the respondent, means that it may have limited utility in community interventions.

4.7 Spirituality

The working definition of spirituality was:

‘Sense of purpose/meaning in life; a sense that there is something beyond the material world; attempts to harmonise life with a deeper motivation.’

4.7.1 Description of scales

Scales of spirituality differ substantially in terms of their focus (coverage) and length. The following are recommended for use:

- **Life Attitude Profile – Revised (LAP-R)** (Reker, 1992) Measures discovered meaning, purpose in life and the motivation to find meaning and purpose in life. It includes several subscales, which measure purpose, coherence, death acceptance, choice/responsibleness, existential vacuum and goal-seeking. From these, composite scores (Personal Meaning Index and Existential Transcendence) can be obtained.
- **Meaning in Life Questionnaire (MLQ)** (Steger *et al.*, 2006) Measures the presence of and search for meaning in life, defined as 'the sense made of and significance felt regarding the nature of one's being and existence'.
- **Purpose in Life Test (PIL)** (Crumbaugh & Maholick, 1964) Measures the extent to which meaning in life has been found, not the motivation to find purpose in life.
- **Spiritual Well-being Scale (SWBS)** (Paloutzian & Ellison, 1982) Provides an overall measure of the perception of spiritual quality of life, as well as subscale scores for 'religious well-being' (self-assessment of one's relationship with God) and 'existential well-being' (self-assessment of one's sense of life purpose and life satisfaction).

4.7.2 Appraisal of scales (Table 4.8)

- The LAP-R is a lengthy scale (48 items) which includes several subscales designed to measure aspects of spirituality. It has reasonable psychometric properties and the advantage of providing detailed measurement of spirituality. The 16-item Personal Meaning Index (derived by summing the Purpose and Coherence subscales) has been used most widely.
- The Purpose in Life Test (PIL) and the Spiritual Well-being Scale (SWBS) are both 20-item scales but differ slightly in completion times. As each item of the PIL uses different anchors for the response scale, it takes more time to complete and may be more confusing to respondents than a similar scale with the same response scale throughout. A further concern with the PIL is that its content is somewhat confounded with depression (e.g. 'If I could choose, I would: prefer never to have been born – live nine more lives just like this one') which is likely to elevate correlations with other aspects of mental health.
- The SWBS is a relatively brief scale of spirituality, which focuses on spiritual well-being, both religious (e.g. relationship with God) and existential (e.g. one's sense of life purpose and life satisfaction). Thus, it offers a slightly different focus from other scales reviewed here. It has been reported to be prone to ceiling effects in some religious samples, which may limit its usefulness for some purposes. However, for use in the general population, this may not be relevant and the scale has been found to be particularly useful for identifying those experiencing spiritual distress or lack of well-being.

- With only 10 items (5 of which concern the *presence* of purpose and 5 the *search* for purpose), the Meaning in Life Questionnaire (MLQ) offers the most concise scale of spirituality. As it takes less than 10 minutes to complete and is available free for non-commercial use, it offers distinct practical advantages over the other scales included here. It also offers good content validity, as well as superior evidence for its scale structure and reliability. As it has been developed in recent years, the lack of evidence regarding responsiveness and normative data is not a major concern.

Further reading

- Joseph, S., Linley, P. A., & Maltby, J. (2006). Positive psychology, religion, and spirituality. *Mental Health, Religion and Culture*, 9, 209-212.
- Pargament, K. I., Mahoney, A. (2005). Spirituality: discovering and conserving the sacred. In Snyder, C. R. & Lopez, S. J. (Eds.), *Handbook of Positive Psychology*, pp231-243. New York: Oxford University Press.
- Thoresen, C. E. (1999). Spirituality and Health: Is There a Relationship? *J Health Psychol* 4: 291-300.
- Tsang, J.-A. & McCullough, M. E. (2003). Measuring religious constructs: a hierarchical approach to construct organization and scale selection. In Lopez, S. J. & Snyder, C. R. (Eds.), *Positive Psychological Assessment: A Handbook of Models and Measures*, pp91-107. Washington, DC: American Psychological Association.

Table 4.8 Appraisal of scales of spirituality

Scale ^a	Essential properties			Desirable properties			OVERALL RATING	Practicalities ^b		
	Content validity	Scale structure	Reliability	Construct validity	Responsiveness	Normative data		Items (time)	Permission needed	Fee to use scale
LAP-R	★★	★★	★★★	★★★	★	★	★★	48 items (15 min)	Yes	US \$40
MLQ	★★★★	★★★★	★★★★	★★★	★	★	★★★	10 items (5-10 min)	Yes	No fee ^c
PIL Test	★	★(★)	★★★	★★(★)	★	★★(★)	★★	20 items (15 min)	Unknown	Unknown
SWBS	★★★	★★(★)	★★★(★)	★★★	★	★★	★★(★)	20 items (10-15 min)	Yes	US \$20

a Summaries of each scale follow this table. Copies (and details of how to obtain permission to use, where necessary) can be found in Appendix E.

b Further information about obtaining permission to use scales and/or details of licence fees are provided in the summary reports for each scale. Where information is 'Unknown', contact the developer and/or copyright holder (contact information provided in summary reports). However, that the authors have made every effort to obtain as much information as possible.

c Free for non-commercial use; may not be used in commercial research.

LAP-R = Life Attitude Profile – Revised; MLQ = Meaning in Life Questionnaire; PIL Test = Purpose In Life Test; SWBS = Spiritual Well-being Scale.

Scales are given a maximum 5-star rating for each of the 6 psychometric properties reflecting both quantity and quality of evidence, where: ★★★★★ = excellent evidence, ★★★★ = very good evidence, ★★★ = good evidence, ★★ = moderate evidence, ★ = lack of evidence.

Overall rating = mean score of the essential and desirable properties (e.g. 24 stars / 6 properties = ★★★★★).

Life Attitude Profile – Revised (LAP-R)

Reker, 1992

Summary

Measure of discovered meaning, purpose in life and the motivation to find meaning and purpose in life, 'the product of a number of refinements based on a combination of theoretical, rational and factor analytic procedures' (Reker, 1992).

Access

**Developer
Address**

Prof Gary Reker
Department of Psychology
Trent University
1600 West Bank Drive
Peterborough, Ontario
Canada K9J 7B8

Focus

Spirituality

Time period

Unknown

No. of items

48 (Appendix E)

Population

General/Adult

Readability

-

Completion time

15 minutes

Original language

English US

Translations

French, German, Slovak

Email

greker@trentu.ca

Website

www.trentu.ca/academic/his/greker.html

Permission

Required

Training

Not required

Costs

Licence fee payable
US \$40 incl. postage, comes
with 64-page manual, copy
of the scale, reference lists
of where scale used,
pre-prints/reprints of papers.

Content

Scale label

LAP-R

Number of items, 'examples'

48 See below

Single composite score obtainable?

Two composite scores:
'Personal Meaning Index' (PU + CO)
'Existential Transcendence' (PU + CO + DA – (EV + GS))

Subscales

Number of items, 'examples'

Purpose (PU)	8	'Past achievements give my life meaning', 'I know where my life is going'.
Coherence (CO)	8	'The meaning of life is evident in the world around us', 'I am aware of a powerful purpose toward which my life has been directed'.
Choice/ Responsibleness (CR)	8	'I am free to make all life choices', 'I accept personal responsibility for my own life'.
Death Acceptance (DA)	8	'I am not concerned about the inevitability of death', 'I accept death as another life experience'.
Existential Vacuum (EV)	8	'Something is missing from my life', 'I feel a lack of and a need to find real meaning in my life'.
Goal Seeking (GS)	8	'A new challenge in my life would appeal to me now', 'I am eager to get more out of my life than I have so far'.

Response format and item scoring

All subscales scored on a 7-point scale: 'strongly agree' (7), 'agree' (6), 'moderately agree' (5), 'undecided' (4), 'moderately disagree' (3), 'disagree' (2), 'strongly disagree' (1)

Life Attitude Profile – Revised (LAP-R)

Reker, 1992

Scoring interpretation

Higher scores for all subscales (exception EV) indicate greater spirituality. The maximum score for any one subscale is 56 points.

Evidence

Content validity

No evidence found.

Scale structure

Confirmatory factor analysis for the Personal Meaning Index (PMI) showed the structure to be satisfactory for all age and gender groups (Reker, 2005).

Reliability

Internal consistency, Cronbach's alpha = 0.77-0.91 (Reker, 1992) and 0.91 (Reker, 2005).

Test-retest reliability, stability over 4-6 week interval was 0.77-0.90 (Reker, 1992).

Construct validity

The PMI demonstrates significant correlations with the Sense of Coherence Scale ($r = 0.50$) and the Purpose in Life Test ($r = 0.82$). Scores have been demonstrated to be higher for older than younger adults in keeping with the prediction that sense of meaning and purpose is greater for the former group than the latter (White, 2004).

The PMI shares significant variance with a number of other measures of spirituality, i.e. Purpose in Life Test, Life Regard Index (Reker, 2005), and has been shown to be related to psychological and physical well-being, physical health, ego, integrity and locus of control (Reker, 1992).

Responsiveness

No evidence found.

Normative data

No evidence found.

Usefulness

The PMI is structurally sound in various age and gender groups although this offers no guarantee that individual items will remain invariant across groups, and results show that a small number of items are more sensitive to variance across age groups (more so than gender). This suggests that the scale may be less reliable but Cronbach's alphas drop only marginally when those items are removed (Reker, 2005).

Advantages

No comments in the literature.

Disadvantages

No comments in the literature.

Recommendations in the literature

Current and past research supports the utility of the PMI as a reliable and valid operational scale of the construct of personal meaning (Reker, 2005).

Comments obtained during expert consultation

Although this scale is relatively lengthy, and also is not free of charge, the individual subscales may be useful. The full multidimensional version may be particularly valuable in studies involving in-depth explorations of coping.

Meaning in Life Questionnaire (MLQ-10)

Steger *et al.*, 2006

Summary

A brief (10-item) scale of the presence of and search for meaning in life, defined as 'the sense made of and significance felt regarding the nature of one's being and existence'.

Access

Developer
Address

Dr Michael Steger
N218 Elliott Hall
75 E River Road
Department of Psychology
University of Minnesota
Minneapolis, MN 55455
USA

Focus

Spirituality

Email

[steg0043@umn.edu/](mailto:steg0043@umn.edu)
[michael f steger@yahoo.com](mailto:michael_f_steger@yahoo.com)

Time period

None

No. of items

10 (Appendix E)

Website

www.louisville.edu/edu/ecpy/steger.html

Population

General/Adult

Readability

-

Completion time

5-10 minutes

Permission

Required

Original language

English US

Training

Not required

Translations

Japanese and Spanish
(Spain) will be available
soon

Costs

Free for non-commercial use
MLQ-10 may not be used for
commercial purposes.

Content

Scale label

MLQ-10

Number of items, 'examples'

10 See below

Single composite score obtainable?

No

Subscales

Number of items, 'examples'

MLQ-Presence

5 'I understand my life's meaning', 'My life has a clear sense of purpose'.

MLS-Search

5 'I am looking for something that makes my life meaningful', 'I am seeking a purpose or mission for my life'.

Response format and item scoring

Items scored on a 7-point scale: 'absolutely untrue' (1), 'mostly untrue' (2), 'somewhat untrue' (3), 'can't say true or false' (4), 'mostly untrue' (5), 'somewhat untrue' (6), 'absolutely true' (7)

Scoring interpretation

Each subscale is scored by summing 5 items together:
(MLQ-Presence = items 1, 4, 5, 6, 7 & 9-reverse-coded;
MLQ-Search = items 2, 3, 7, 8 & 10).
Higher scores indicate greater Presence of meaning or Searching for meaning.

Evidence

Content validity

Two authors and two trained research assistants evaluated a pool of 83 items with regard to clarity and content specificity, retaining 44 for further analysis in a sample of undergraduate students (Steger *et al.*, 2006).

Scale structure

Confirmatory factor analyses indicated a good fit for a 10-item model (GFI = 0.93, AGFI = 0.89) (Steger *et al.*, 2006).

Meaning in Life Questionnaire (MLQ-10)

Steger *et al.*, 2006

Reliability	Internal consistency, Cronbach's alpha = 0.82-0.86 for MLQ-Presence and 0.86-0.87 for MLQ-Search subscales (in 3 undergraduate samples, n = 153-402) (Steger <i>et al.</i> , 2006). Test retest reliability, stability over one month was good (r = 0.70 for the MLQ-Presence and r = 0.73 for the MLQ-Search (Steger <i>et al.</i> , 2006).
Construct Validity	MLQ-Presence correlated positively with the Satisfaction With Life Scale (SWLS) (r = 0.46), positive emotions, e.g. love and joy (r = 0.40-0.49) and Intrinsic Religiosity (r = 0.30). Correlations between MLQ-Presence and the Purpose in Life Test (over eight self-reports) ranged from 0.58-0.74. The MLQ-Search subscale was mostly unrelated to those constructs but was significantly positively correlated with depression (r = 0.36), neuroticism (r = 0.20), and several negative emotions, e.g. fear and sadness (r = 0.25-0.26) (Steger <i>et al.</i> , 2006). MLQ scores were unrelated to social desirability and, as expected, there was a non-significant relationship between the two subscales and extrinsic religiosity (r = 0.12-0.15, ns) (Steger <i>et al.</i> , 2006).
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	Factor structure replicated two independent samples using confirmatory factor analysis. The relative independence of the two subscales, as well as their differing patterns of correlations with other measures, means that for the first time, the presence of meaning can be assessed separately from the search for meaning (Steger <i>et al.</i> , 2006).
Advantages	MLQ represents a number of improvements over existing measures of meaning, including more precise measurement, greater structural stability and assessment of the search for meaning as well as the presence of meaning. Furthermore, the MLQ subscales contain only 5 items each yet have demonstrated psychometric properties comparable or superior to those of longer meaning measures (Steger <i>et al.</i> , 2006).
Disadvantages	Most research using this newly developed scale has used convenience samples of undergraduate students and, given that meaning may well play a larger role for older rather than younger populations, the current work may not be representative. There has also been very little cross-cultural work in this area (Steger <i>et al.</i> , 2006).
Recommendations in the literature	The MLQ is recommended as a brief, reliable and valid scale of both the presence of and search for meaning in life (Steger <i>et al.</i> , 2006).
Comments obtained during expert consultation	This new scale has the advantages of clarity and speed, and is free of charge. However, as with the Purpose in Life Test, researchers wishing to tap explicitly 'spiritual' interests may have reservations. The separate assessment of 'search' and 'found' (presence) meaning could be a strong feature.

Purpose in Life Test (PIL Test)

Crumbaugh & Maholik, 1964

Summary

Measures the degree to which a person possesses meaning, understood as the opposite of existential frustration or lack of fulfilment of Frankl's (1955) 'will to meaning'. The PIL is designed to measure the extent to which meaning has been found, not the motivation to find purpose.

Access

Developer
Address
Dr Crumbaugh
Psychometric Affiliates
PO Box 807
Murfreesboro
TN 37133
USA

Focus	Spirituality	Email	-
Time period	None	Website	-
No. of items	20	Permission	Unknown
Population	General/Adult	Training	Unknown
Readability	5 th grade reading level	Costs	Unknown
Completion time	15 minutes		
Original language	Unknown		
Translations	Unknown		

Content

Scale label	Number of items, 'examples'
PIL	20 'I am usually: completely bored – exuberant, enthusiastic'. 'In life I have: no goals or aims at all – very clear goals and aims'. 'If I could choose, I would: prefer never to have been born – live nine more lives just like this one'.
Single composite score obtainable?	Yes
Subscales	No
Response format and item scoring	All items scored on 7-point scales with different anchors for each item ('1' indicating low purpose and '7' indicating high purpose).
Scoring interpretation	Responses are summed to form total scores ranging from 20 (low purpose) to 140 (high purpose). Higher scores taken to indicate less of a presence of 'existential vacuum', which is a state of emptiness, manifested chiefly by boredom.
Evidence	
Content validity	No evidence found.
Scale structure	When the PIL is factor analysed, it appears to be made up of a number of discernible components (e.g. Dyck, 1987, Reker & Cousins, 1979), which suggests a lack of conceptual basis (Hill & Hood Jr, 1999).
Reliability	Internal consistency, split-half reliabilities correlations have been reported in excess of 0.90 (Crumbaugh, 1968, cited in Zika & Chamberlain, 1992) and Cronbach's alpha as 0.86 (Harlow <i>et al.</i> , 1987), 0.90 (Schnoll <i>et al.</i> , 2002), and 0.91 (Zika & Chamberlain, 1992). Test-retest reliability has been reported as $r = 0.83$ (Meier & Edwards, 1974)

Purpose in Life Test (PIL Test)

Crumbaugh & Maholick, 1964

Construct validity	<p>and $r = 0.68$ (Reker, 1977).</p> <p>PIL Test is significantly correlated with the Life Attitude Profile-Revised Personal Meaning Index ($r = 0.82$) (White, 2004), has been shown empirically to be correlated with Life Regard Index subscales ($r > 0.62$) (Zika & Chamberlain, 1992).</p> <p>Those 'with higher PIL scores suffer less anxiety and have greater self-confidence (Yarnell, 1971), self-acceptance (Crumbaugh & Maholick, 1969), and social attitudes (Pearson & Sheffield, 1975). They also experience greater satisfaction with their lives (Reker & Cousins, 1979), have more positive expectations of the future (Reker & Cousins, 1979), and enjoy increased emotional stability (Crumbaugh & Maholick, 1969)' (Molasso, 2006, p2).</p> <p>The PIL Test distinguishes between psychological patients and non-patients and prison inmates and non-inmates (Hill & Hood Jr, 1999).</p>
Responsiveness	No evidence found.
Normative data	<p>Mean for the normal population = 112.4 (SD = 14.1) and for patients = 92.6 (SD = 21.3). Motivated business and professional people ($M = 118.9$) and trainees in a religious order ($M = 119.3$) score high while prison inmates have twice been found to score around 100 (Reker, 1977). Scores at or above 113 indicate a definite presence of meaning, while scores below 91 indicate a lack of clear meaning or purpose (Hill & Hood Jr, 1999).</p>
Usefulness	The PIL Test has been used widely with a diverse range of populations, e.g. people with alcohol problems, victims of political persecution, shoplifters, parents who have experienced the death of a child (White, 2004).
Advantages	In their evaluation of scales of meaning, Chamberlain and Zika (1987) concluded that the best general scale was the PIL Test but that there are a number of components to meaning in life that should be more carefully evaluated.
Disadvantages	<p>Due to the fact that each item utilises different anchors for the scale, it may be more confusing to respondents than a scale that repeatedly uses the same endpoints (Hill & Hood Jr, 1999). The format of the test has been referred to as 'awkward and bulky' (Harlow <i>et al.</i>, 1987, cited in White, 2004).</p> <p>If used, it should be kept in mind that only a portion of the scale may be directly assessing purpose in life and that other components (e.g. depression) may be influencing the degree of association of the PIL with other variables of interest (Hill & Hood Jr, 1999).</p>
Recommendations in the literature	The PIL is empirically associated with theoretically linked variables but a more complete evaluation of the coherence and validity of the test is needed (Hill & Hood Jr, 1999).
Comments obtained during expert consultation	<p>Purpose in life has been identified as one of the features of spirituality and religiosity which may account for any positive associations between spirituality and well-being (Lewis & Cruise, 2006). However, purpose in life need not inherently involve 'a sense of something beyond the material world' (i.e. spirituality), as Frankl's writing makes clear. This long-standing and popular scale is indeed a good measure of 'found' meaning and purpose, but the face validity of the scale regarding the explicitly 'spiritual' aspects of meaning is not so obvious.</p>

Spiritual Well-being Scale (SWBS)

Paloutzian & Ellison, 1982

Summary

Provides an overall measure of the perception of spiritual quality of life, as well as subscale scores for Religious Well-being (self-assessment of one's relationship with God) and Existential Well-being (self-assessment of one's sense of life purpose and life satisfaction).

Access

Developer
Address
Dr Craig Ellison
Life Advance Inc.
81 Front Street
Nyack, NY 10960
USA

Focus

Spirituality

Time period

Unknown

No. of items

20 (Appendix E)

Population

General/Adult

Readability

-

Completion time

10-15 minutes

Original language

English US

Translations

Chinese (Taiwan and Hong Kong), Arabic, Dutch, Hebrew, Korean and Spanish

Email

lifeadvance@hotmail.com

Website

www.lifeadvance.com/swbs.htm

Permission

Required

Training

Not required

Costs

US \$20 for one copy of the SWBS, scoring manual, research information, bibliography and three articles about the SWBS. Cost per copy ranges from US \$1 to 2.25 depending on quantity purchased.

Content

Scale label

Spiritual Well-being (SWB)

Number of items, 'examples'

20 See below for examples

Single composite score obtainable?

Yes

Subscales

Number of items, 'examples'

Religious Well-being (RWB)

10 'I believe that God loves me and cares about me'.
'My relationship with God contributes to my sense of well-being'.

Existential Well-being (EWB)

10 'I feel that life is a positive experience'.
'I believe that there is some real purpose for my life'.

Response format and item scoring

All items scored on a 6-point scale: SA (strongly agree), MA (moderately agree), A (agree), D (disagree), MD (moderately disagree), SD (strongly disagree)

Scoring interpretation

Items are scored from 1 to 6 with higher scores representing more well-being. Negatively worded items are reverse-scored. Odd numbered items assess Religious Well-being and even numbered items assess Existential Well-being.

Evidence

Content validity

The scale appears to measure what is intended. Good face validity is evident

Spiritual Well-being Scale (SWBS)

Paloutzian & Ellison, 1982

	from the content of the items (Hill & Hood Jr, 1999).
Scale structure	Factor analyses yield factors that correspond to the two subscales (statistics not provided), with RWB items clustering on one factor while EWB items tend to cluster on two factors that denote life direction and satisfaction (Hill & Hood Jr, 1999).
Reliability	Based on data from over 900 respondents across seven studies, internal consistency, Cronbach's alpha ranged from 0.82 - 0.94 for RWB, 0.78 - 0.86 for EWB and 0.89 to 0.94 for SWB (Hill & Hood Jr, 1999). For four different samples with 1-, 4-, 6- and 10-week intervals, test-retest reliability ranged from 0.88-0.99 for RWB, 0.73-0.98 for EWB and 0.82 to 0.99 for SWB (Hill & Hood Jr, 1999).
Construct validity	Validity is indicated by correlations between SWB and other measures with which it ought to be associated, e.g. higher SWB scores related to lower scores on loneliness, higher scores on self-confidence and higher scores on intrinsic religious orientation. SWB, EWB and RWB all correlated positively with the Purpose in Life Test (Hill & Hood Jr, 1999).
Responsiveness	No evidence found.
Normative data	Mean scores for several different religious groups (mostly Christian) ranged from 34-56 for RWB, 46-53 for EWB and 82-109 for SWB. Similarly, for various other groups, the mean scores for RWB, EWB and SWB respectively were: 51, 48 and 99 for medical outpatients; 35, 40 and 76 for non-religious sociopathic convicts; 44, 38 and 83 for combined sexually abused, eating disorder and outpatient counselees (Hill & Hood Jr, 1999).
Usefulness	No comments in the literature.
Advantages	The scale is easily understood, requires 10-15 minutes to complete, has clear scoring guidelines and can be used in a variety of religious, health and research contexts (Hill & Hood Jr, 1999).
Disadvantages	Ceiling effects can occur in RWB and SWB scores in some religious samples, making it harder to distinguish among those groups. However, the scale is particularly sensitive at the lower end and may be a useful tool for identifying those experiencing spiritual distress or lack of well-being (Hill & Hood Jr, 1999).
Recommendations in the literature	No comments in the literature.
Comments obtained during expert consultation	This is a clear and easily completed scale with good psychometric properties, and well worth considering when an explicit measure of spirituality/religiosity is wanted. A strong feature is that spirituality and 'found' meaning are assessed separately, though these can be combined to form an overall (reliable) measure. Some users may feel that the spiritual items assess orthodox Christian beliefs rather than general spirituality.

4.8 Social functioning

Social functioning included two distinct but related concepts with separate working definitions:

- ‘Personal relationships (interpersonal trust, respect and empathy): overall assessment of the quality of personal relationships and social networks and social cohesion; the degree to which people function adequately as members of a community; includes role-related coping, social participation, family health, social functioning, sense of belonging; valuing oneself and others; perceiving fair treatment by others (with respect, without discrimination).’
- ‘Social support/social networks (quality and amount of help or support one gets from other people in one’s life): interactive process in which emotional, instrumental or financial aid is received from one’s social network; individual’s belief that he/she is cared for, esteemed; mutual obligations; set of people with whom one maintains contacts and has some form of social bond; social reciprocity.’

4.8.1 Description of scales

Scales of social functioning differ substantially in terms of their approach to measurement and length. The following scales are recommended for use:

- **Duke-UNC Functional Social Support Questionnaire (DUFSS)** (Broadhead *et al.*, 1988) Measures the amount of social support an individual believes they receive from and give to others.
- **Interpersonal Support Evaluation List (ISEL)** (Cohen *et al.*, 1985) Measures the perceived availability of social resources, in terms of obtaining material aid (Tangible), social support (Appraisal), perceived positive comparison of self with others (Self-Esteem), and perceived availability of other people one can do things with (Belonging).
- **Interpersonal Trust Questionnaire (ITQ)** (Forbes & Roger, 1999) Assesses the ability to use social support by estimating capacity to self-disclose and express emotion in an adaptive manner in the context of social support.
- **Interpersonal Trust Scale (ITS)** (Rotter, 1967) Measures the trust an individual has for a variety of individuals in society (such as parents, teachers, doctors, politicians and friends) and measures the general level of optimism the individual has for society.
- **Inventory of Socially Supportive Behaviours (ISSB)** (Barrera Jr *et al.*, 1981) Measures how often assistance (e.g. sharing tasks, giving advice, teaching skills, providing material aid) was received from others in the past four weeks.
- **MOS Social Support Survey (MOS-SSS)** (Sherbourne & Stewart, 1991) Measures perceived availability of functional social support (if needed), in terms of received affection, emotional/informational support, tangible (practical) support, and positive social interactions.
- **Multidimensional Scale of Perceived Social Support (MSPSS)** (Zimet *et al.*, 1988) Measures the perceived level of support an individual receives from three sources: family, friends and a significant other.
- **Oslo 3-item Social Support Scale (03SS)** (Dalgard, 1996) Provides a brief, overall assessment of social support, as a function of the number of people the

respondent reports being close to, interest and concern shown by others, and ease of obtaining social practical help.

- **Perceived Social Support from Family and Friends (PSSFF)** (Procidano & Heller, 1983) Measures the extent to which an individual perceives that his/her needs for support, information and feedback are fulfilled by friends (PSS-Fr) and by family (PSS-Fa).
- **Social Support Questionnaire (SSQ)** (Sarason *et al.*, 1983) Measures the perceived availability of social support, i.e. the number of people likely to provide support (Number) and satisfaction with the support received (Satisfaction).
- **Social Support Questionnaire – Brief (SSQ-B)** (Sarason *et al.*, 1987) A brief scale of perceived availability of (Number) and Satisfaction with social support.

The scales can be broadly categorised into four approaches to the measurement of social functioning:

- **Interpersonal trust:** Scales (i.e. ITQ, ITS) focus on the capacity or willingness of the individual to engage in social interaction, e.g. 'the expectancy held by an individual or a group that the word, promise, verbal or written statement of another individual or group can be relied upon' (Rotter, 1967, p651) or 'the ability to self-disclose and express emotion in an adaptive manner in the context of social support' (Forbes & Roger, 1999, p168).
- **Perceived sources of social support:** Scales include: MSPSS, PSSFF. Like the scales of functional social support (below), they focus on perceptions of the availability of social support (rather than objective assessment). Where they differ from functional scales is in their emphasis on the importance of the source of social support, e.g. friends, family or significant other. The importance of this focus is based on the notion that different populations may rely on or benefit from friend or family support to different extents (and at different times in their lives).
- **Functional social support:** Scales include: DUFSS, ISEL, ISSB, MOS-SSS, 03SS. They include subscales that measure 'the degree to which interpersonal relationships serve particular functions' (Sherbourne & Stewart, 1991, p705) (e.g. emotion/information sharing for problem solving, practical assistance, companionship).
- **Social networks**, i.e. the quantity of people an individual can turn to for help ('objective' measurement of social support): Scales that include some objective measurement include: 03SS, SSQ, SSQ-B. The SSQ and SSQ-B also include an assessment of the individual's satisfaction with the support received. However, most researchers have found functional or perceived social support and satisfaction with social support to be a better predictor of mental health than objectively measured social support (Barrera Jr *et al.*, 1981; Sarason *et al.*, 1983; Sarason *et al.*, 1987; Cohen *et al.*, 1985; Zimet *et al.*, 1988).

4.8.2 Appraisal of scales (Table 4.9)

Interpersonal trust

- The Interpersonal Trust Questionnaire (ITQ) is recommended because it has reasonably psychometric properties and provides general measures of trust (labelled Fear of Disclosure), the extent to which an individual turns to others when he/she has a problem (Social Coping), and is prepared to express emotions (Social Intimacy).

- The evidence for the Interpersonal Trust Scale (ITS) is less strong and it focuses on trust of *specific* individuals in society, e.g. parents, doctors, politicians.

However, at more than 40 items each, both scales are lengthy.

Perceived sources of social support

- There is greater evidence in support of the Multidimensional Scale of Perceived Social Support (MSPSS). With 12 items, it is a relatively brief scale, reported to take less than 5 minutes to complete. It includes an assessment of support received from family, friends and significant other.
- The Perceived Social Support from Family and Friends (PSSFF) measures the support received from family (20 items) and friends (20 items). Each scale can be used in isolation if the research and/or time available warrant a specific focus.

Functional social support

- Two scales (i.e. MOS-SSS and ISEL) are adequate for the task, with very little distinguishing them in terms of psychometric properties. Thus, decisions about which scale to use need to be made on the basis of content/focus (including content validity) and practicalities.
- The MOS Social Support Survey (MOS-SSS) appears to be marginally better than others in this category, largely because it has been used more widely and, thus, the evidence for its psychometric properties is quite strong. With fewer than 20 items, it is relatively short and is reported to take 5-7 minutes to complete.
- The Interpersonal Support Evaluation List (ISEL) is a more lengthy scale (40 items), with 10 items each measuring tangible support, social support, self-esteem and belonging. Thus, the ISEL provides a more balanced scale of functional social support, which is arguably better designed than the MOS-SSS.

Social networks

- The Social Support Questionnaire (SSQ) and its short-form (SSQ-B) both provide 'objective' measures of the availability of social support (in terms of numbers of people) as well as satisfaction with that support. Thus, if a scale is required that includes both objective and subjective assessment of social support, then the long-form can be recommended for a detailed assessment and the Brief if respondent burden or time is an issue.

Finally, if a particularly brief scale of social functioning is required, the Oslo 3-item Social Support Scale (O3SS) includes just 3 items, designed to provide an 'objective' measure of the number of people the respondent feels close to, as well as interest and concern shown by others and ease of obtaining practical help. Unfortunately, the structure and reliability of the O3SS have not been well documented despite widespread use in several European countries. It is the only scale for which normative data (i.e. scores from the general population) from several countries are available. In future, the brevity of this scale and the availability of normative data may well be influential in decisions regarding which scale of social functioning to choose.

Further reading

Carr, A. (2004). Chapter 8: Positive relationships. In *Positive Psychology: The*

- Science of Happiness and Human Strengths*. New York: Brunner-Routledge..
- Cohen, S., Mermelstein, R., Kamarck, T., & Hoberman, H. M. (1985). Measuring the functional components of social support. In Sarason, I. G. & Sarason, B. R. (Eds.), *Social Support: Theory, Research and Applications*.
- House, J. S., Umberson, D., & Landis, K. R. (1988). Structures and processes of social support. *Annual Review of Sociology*, 14, 293-318.
- Sarason, I. G., Levine, H. M., Basham, R. B., & Sarason, B. R. (1983). Assessing social support: The Social Support Questionnaire. *J Pers Soc Psychol* 44, 127-139.

Table 4.9 Appraisal of scales of social functioning

Scale ^a	Essential properties			Desirable properties			OVERALL RATING	Practicalities ^b		
	Content validity	Scale structure	Reliability	Construct validity	Responsiveness	Normative data		Items (Time)	Permission needed	Fee to use scale
DUFSS	***	**	**	**(*)	*	*	**	8 items (Unknown)	Unknown	Unknown
ISEL	***	**(*)	***(*)	***	*	*	**(*)	40 items (Unknown)	No ^d	No fee ^c
ITQ	***	*****	***(*)	**(*)	*	*	**(*)	48 items (15 min)	Yes	No fee ^c
ITS	**	*	**(*)	**(*)	*	*	*(*)	40 items (15-20 min)	Yes	No fee
ISSB	**	*	**(*)	**	*	*	*(*)	40 items 10 mins	No	No fee
MOS-SSS	*****(*)	*****(*)	**(*)	***	*	*	***	19 items (5-7 min)	No	No fee
MSPSS	**(*)	*****(*)	*****(*)	**(*)	*(*)	*	***	12 items (< 5 min)	No	No fee
O3SS	*(*)	*	*	*(*)	*	***(*)	*(*)	3 items (< 1 min)	No	No fee
PSSFF	**(*)	*	**(*)	**	*	*	*(*)	40 items (Unknown)	Yes	No fee
SSQ	*****	***	***	***(*)	*	*	**(*)	27 items (15-20 min)	No	No fee
SSQ-B	*****	*****	**(*)	***(*)	*	*	**(*)	12 items (10-12 min)	No	No fee

a Summaries of each scale follow this table. Copies (and details of how to obtain permission to use, where necessary) can be found in Appendix E.

b Further information about obtaining permission to use scales and/or details of licence fees are provided in the summary reports for each scale. Where information is 'Unknown', contact the developer and/or copyright holder (contact information provided in summary reports). However, the authors have made every effort to obtain as much information as possible.

c Free to non-commercial users.

d Permission needed for commercial use.

DUFSS = Duke-UNC Functional Social Support Questionnaire; ISEL = Interpersonal Support Evaluation List; ITQ = Interpersonal Trust Questionnaire; ITS = Interpersonal Trust Scale; ISSB = Inventory of Socially Supportive Behaviours; MOS-SSS = MOS Social Support Survey; MSPSS = Multidimensional Scale of Perceived Social Support; O3SS = Oslo 3-item Social Support Scale; PSSFF = Perceived Social Support from Family and Friends; SSQ = Social Support Questionnaire; SSQ-B = Social Support Questionnaire – Brief.

Scales are given a maximum 5-star rating for each of the 6 psychometric properties reflecting both quantity and quality of evidence, where: ★★★★★ = excellent evidence, ★★★★ = very good evidence, ★★★ = good evidence, ★★ = moderate evidence, ★ = lack of evidence.

Overall rating = mean score of the essential and desirable properties (e.g. 24 stars / 6 properties = ★★★★).

Duke-UNC Functional Social Support Questionnaire (DUFSS)

Broadhead *et al.*, 1988

Summary

Measures the amount of social support an individual believes they receive from and give to others.

Access

Developer Address

Dr W E Broadhead
Contact copyright holder:
Lippincott, Williams
& Wilkins

Focus Social functioning
Time period Unknown
No. of items 8 (Appendix E)
Population General/Adult
Readability -
Completion time Unknown
Original language English US
Translations French

Email journalpermissions@lww.com
Website www.lww.com
Permission Unknown
Training Unknown
Costs Unknown

Content

Scale label **Number of items, 'examples'**
Duke-UNC 8 See below
Functional Social
Support
Questionnaire

Single composite score obtainable? Yes

Subscales **Number of items, 'examples'**
Confidant Support 5 'Invitations to go out and do things with other people'.
Affective Support 3 'People who care what happens to me'.

Response format and item scoring Items are scored using a 5-point Likert scale with blanks from 'As much as I would like' to 'Much less than I would like';
Scoring of responses unknown

Scoring interpretation No further details identified.

Evidence

Content validity Items derived from a larger scale that was based on a current review of the literature for content validity and had been pre-tested for ease of administration, consistency of response between similar variables and good variability of response within variables in another family medicine practice (Broadhead *et al.*, 1988).
Scale structure Factors were developed using varimax rotation (Broadhead *et al.*, 1988), though factor loadings were not provided in the original development paper.
Reliability Test-retest reliability correlation coefficient was 0.66 after an average test

Duke-UNC Functional Social Support Questionnaire (DUFSS)

Broadhead *et al.*, 1988

Construct validity	<p>interval of 13.1 ± 7.2 days (range 6-30 days) (Broadhead <i>et al.</i>, 1988).</p> <p>Affective and Confidant Support subscales showed good concurrent validity with statistically significant correlations with three out of four social activities measures: $r = 0.17$ and $r = .035$ (respectively) with Social Contacts (from Rand Social Activities Questionnaire); $r = 0.15$ and $r = 0.17$ with Social Function subscale of the Duke-UNC Health Profile; $r = 0.22$ and $r = 0.29$ with single-item from the Social Function subscale (Broadhead <i>et al.</i>, 1988). However, the low correlations would suggest that the subscales are measuring constructs similar, but not identical, to the existing scales (Broadhead <i>et al.</i>, 1988).</p> <p>Low correlations with Group Participation (Duke-UNC Health Profile) ($r = 0.08$ for Affective and Confidant Support) suggest good discriminant validity, because the Affective and Confidant Support subscales are felt to be functional (i.e. indicating quality of relationships) rather than quantitative (i.e. indicating frequency of contact or number of friendships) (Broadhead <i>et al.</i>, 1988).</p>
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	The potential usefulness of measuring social support is emphasised by the growing evidence, in particular, showing that 'quality of social support [as measured here] is apparently a stronger predictor of health outcomes than structural measures (frequency of contact, number of friends), and quantity of social support is often not significantly related to well-being' (Broadhead <i>et al.</i> , 1988).
Advantages	The DUFSS is brief enough to be administered in a few minutes but is multidimensional, including quantitative (e.g. frequency of contact, number of friends) and functional (e.g. quality of social support) measures (Broadhead <i>et al.</i> , 1988). It does not cover all the dimensions of social support but covers two dimensions well, with a small enough number of easy-to-complete questions, that should make it a cost-effective measurement tool (Broadhead <i>et al.</i> , 1988).
Disadvantages	Reliability and validity for the 8-item DUFSS has been shown in a largely female (78%), white (72%) population aged 18–44 years (79%) (Broadhead <i>et al.</i> , 1988). Thus, use in ethnic minority, male or elderly populations may be limited.
Recommendations in the literature	Three additional items were included in the original development work, relating to Visits, Praise and Instrumental Support, but these single-item measures cannot be expected to be as reliable as multi-item scales. Thus, further use of those items is not recommended and the DUFSS should be used only in terms of the two multi-item subscales (Affective and Confidant Support) (Broadhead <i>et al.</i> , 1988).
Comments obtained during expert consultation	The fact that the DUFSS was designed and validated with a sample of 78% women aged 18–44 raises serious concerns about the generalisability of the scale and whether or not the items are truly representative of the general population's views of social support.

Interpersonal Support Evaluation List (ISEL)

Cohen *et al.*, 1985

Summary

Measures the perceived availability of social resources, in terms of obtaining material aid (Tangible), in social support (Appraisal), in perceived positive comparison of self with others (Self-Esteem) and in perceived availability of other people one can do things with (Belonging).

Access

**Developer
Address**

Dr Sheldon Cohen
Carnegie Mellon University
Dept of Psychology
Baker Hall 342c
Pittsburgh
Pennsylvania 15213
USA

Focus

Social functioning

Email

scohen@cmu.edu

Time period

Current

Website

www.psy.cmu.edu/faculty/cohen/

No. of items

40 (Appendix E)

Population

General/Adult

Readability

-

OR www.psy.cmu.edu/~scohen/

Completion time

Unknown

Permission

Not required (except for commercial use)

Original language

English US

Translations

Spanish and Greek

Training

Not required

Costs

Free for non-commercial use

Content

Scale label

Number of items, 'examples'

Interpersonal
Support Evaluation
List

40 See below

**Single composite
score obtainable?**

Yes

Subscales

Number of items, 'examples'

Tangible

10 'If I were sick, I could easily find someone to help me with my daily chores'.

Appraisal

10 'There are several people that I trust to help solve my problems'.

Self-Esteem

10 'There is someone who takes pride in my accomplishments'.

Belonging

10 'There are several different people I enjoy spending time with'.

**Response format
and item scoring**

Items are scored on a 4-point Likert scale: Definitely true (3), Probably true (2), Probably false (1), Definitely false (0)

**Scoring
interpretation**

Items are summed to provide a scale score from 0 to 120.
Higher scores indicate greater social support.

Evidence

Content validity

Subscale independence was maximised by selecting items from a large pool (Cohen *et al.*, 1985).

Scale structure

Items were selected if they were highly correlated with items in their own subscale and at the same time minimally correlated with other subscales (Cohen *et al.*, 1985).

Interpersonal Support Evaluation List (ISEL)

Cohen *et al.*, 1985

Reliability	<p>Internal consistency, Cronbach's alpha = 0.88 - 0.90 for the total scale and 0.70 - 0.82 for Appraisal, 0.75 - 0.78 for Belonging, 0.71 - 0.74 for Tangible support, and 0.60-0.68 for Self-Esteem subscales (Cohen <i>et al.</i>, 1985).</p> <p>A 6-week interval showed test-retest reliability correlations of 0.70 for total scale, 0.69 for Tangible support, 0.68 for Self-Esteem, 0.65 for Belonging, 0.63 for Appraisal; 6-month test-retest correlations were 0.74 for total scale, 0.68 for Belonging, 0.60 for Appraisal, 0.54 for Self-Esteem and 0.49 for Tangible support (Cohen <i>et al.</i>, 1985).</p>
Construct validity	<p>Correlated ($r = 0.30$) with the total score of the Moos Family Environment Scale; a student version (including 8 additional items) correlated ($r = 0.46$) with the Inventory of Socially Supportive Behaviours (Cohen <i>et al.</i>, 1985).</p> <p>As expected, the Self-esteem subscale was highly correlated with the Rosenberg Self-Esteem Scale ($r = 0.74$, $p < 0.001$) and, as expected, the Colwell and Spinner Privacy scale was moderately correlated with the Appraisal subscale ($r = 0.40$, $p < 0.001$) but to a lesser extent with the Tangible and Belonging subscales ($r = 0.08$ and 0.24, $p < 0.01$) (Cohen <i>et al.</i>, 1985).</p> <p>The ISEL total score was negatively correlated with scores on the Beck Depression Inventory ($r = -0.38$ to $r = -0.51$).</p> <p>Students who had not found a satisfactory, friendly relationship with another student since their arrival at university ($n = 20$ vs. $n = 103$ for those who had found a friend) had a lower degree of perceived social support (ISEL total) ($p < 0.001$) and experienced a higher number of academic and adjustment-related problems (Halamandaris & Power, 1997).</p> <p>ISEL total was negatively correlated with interpersonal mistrust ($r = -0.41$, $p < 0.001$) as measured by the Interpersonal Trust Scale (Halamandaris & Power, 1997).</p> <p>Social desirability (as measured by the Crowne-Marlowe Social Desirability Scale) was not correlated with the ISEL or any of its subscales (Cohen <i>et al.</i>, 1985).</p>
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	'The most important contribution of the scale is its ability to indicate the type of resources that operate to improve health and well-being in any particular situation' (Cohen <i>et al.</i> , 1985, p89).
Advantages	It is likely that there will be developmental and cohort differences in the kinds of support that will effectively buffer one's life stress. The ISEL provides the means with which to identify the types of support that work for particular groups of people in particular situations (Cohen & Hoberman, 1983).
Disadvantages	No comments in the literature.
Recommendations in the literature	No comments in the literature.
Comments obtained during expert consultation	It is difficult to know how or why Tangible support is distinguished from Appraisal. Tangible suggests an objective assessment but both subscales are appraisals of the availability of social support.

Interpersonal Trust Questionnaire (ITQ)

Forbes & Roger, 1999

Summary

Assesses the ability to use social support by estimating capacity to self-disclose and express emotion in an adaptive manner in the context of social support.

Access

**Developer
Address**

Dr Derek Roger
Department of Psychology
University of Canterbury
Private Bag 4800
Christchurch
New Zealand

Focus Social functioning
Time period Present
No. of items 48
Population General/Adult
Readability -
Completion time 15 minutes
Original language English UK
Translations None

Email derek.roger@canterbury.ac.nz
Website www.psyc.canterbury.ac.nz/people/roger%20.shtml
Permission Required
Training Not required
Costs Free for non-commercial use.
Commercial users must pay a £1 fee per copy.

Content

Scale label **Number of items, 'examples'**
ITQ 48 See below

Single composite score obtainable? No

Subscales **Number of items, 'examples'**
Fear of Disclosure (FOD) 27 'I find it easy to trust people', 'I am not afraid to ask somebody for help'.
Social Coping (SC) 12 'I like to talk problems over to "get them off my chest"', 'It is good to hear problems out loud'.
Social Intimacy (SI) 9 'A good friend is somebody that you can be honest with', 'It is important to be there for someone if they need you'.

Response format and item scoring Scores range from 'strongly agree' to 'strongly disagree' on a 4-point Likert scale.

Scoring interpretation No information obtained.

Evidence

Content validity Items were generated for the preliminary item pool, using a scenario-based scale (completed by an independent sample of 43 undergraduates) consisting of 10 scenarios describing potentially stressful situations to elicit information on how the respondents would deal with those situations. Those responses were then combined with those from a literature review to generate a 130-item pilot scale (Forbes & Roger, 1999).
Scale structure A 3-factor solution (including 48 items) was produced, with 27 items loading on

Interpersonal Trust Questionnaire (ITQ)

Forbes & Roger, 1999

	the first factor (Fear of Disclosure (FOD)), 12 on the second factor (Social Coping (SC)) and 9 on the third factor (Social Intimacy (SI)). All items loaded above 0.4 (Forbes & Roger, 1999).
Reliability	<p>All 3 factors had good internal consistency, with Cronbach's alpha coefficients of 0.88 and 0.94 (FOD), 0.77 and 0.87 (SC) and 0.78 and 0.73 (SI) (Forbes & Roger, 1999 and Benn <i>et al.</i>, 2005, respectively).</p> <p>Following an inter-test interval of 10 weeks ($n = 134$ students), the test-retest reliability coefficients were 0.85 (FOD), 0.73 (SC) and 0.61 (SI) (Forbes & Roger, 1999). The authors indicated that SI may represent 'attitudes towards social support or friendship rather than a stable predisposition to use support in a certain way, and may thus reflect changes in friendship patterns over the inter-test interval' (Forbes & Roger, 1999, p174).</p>
Construct validity	<p>FOD showed a significant negative correlation with the Coping Styles Questionnaire Detachment subscale ($r = -0.44$, $p < 0.001$) (Forbes & Roger, 1999). All 3 subscales were significantly correlated with the Social Support Questionnaire subscales: Number (FOD $r = -0.35$; SC $r = 0.35$; SI $r = 0.26$, $p < 0.001$), Satisfaction (FOD $r = -0.47$; SC $r = 0.33$; SI $r = 0.26$, $p < 0.001$) (Forbes & Roger, 1999).</p> <p>FOD was negatively correlated with Supportive Parents ($r = -0.64$, $p < 0.001$) and positively correlated with Rejecting Parents ($r = 0.61$, $p < 0.001$) (subscales of the Parent-Child Relations Survey) (Benn <i>et al.</i>, 2005).</p> <p>As expected, the SC and SI subscales were not correlated with the Detachment subscale of the Coping Styles Questionnaire ($r = 0.05$ and -0.12 respectively, ns) (Forbes & Roger, 1999).</p> <p>There was no relationship between FOD and Over-involved parents (subscales of the Parent-Child Relations Survey) (Benn <i>et al.</i>, 2005).</p>
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	The ITQ represents a useful scale for assessing the capacity to use social support: 'The results indicate that fear of disclosure is a key individual difference which needs to be taken into account, and the new scale offers the opportunity for developing a more focused, interactive model for explaining the role of social support in moderating stress responses' (Forbes & Roger, 1999, p176).
Advantages	No comments in the literature.
Disadvantages	No comments in the literature.
Recommendations in the literature	No comments in the literature.
Comments obtained during expert consultation	The validation with students raises concerns because the nature and appraisal of trust among young educated adults is unlikely to be strongly representative of the wider population.

Interpersonal Trust Scale (ITS)

Rotter, 1967

Summary

Covertly measures the trust an individual has for a variety of individuals in society (such as parents, teachers, physicians, politicians and friends) and measures the general level of optimism the individual has for society.

Access

**Developer
Address**

Prof Julian Rotter
Dept of Psychology
406 Babbidge Road, 1020
University of Connecticut
Storrs, CT 06269-1020
USA

Focus Social functioning
Time period Current
No. of items 25 (plus 15 filler items)
(Appendix E)
Population General/Adult
Readability -
Completion time 15-20 minutes
Original language English US
Translations None

Email eleonor.coldwell@uconn.edu
Website <http://psychology.uconn.edu/Faculty/Rotter/Rotter.html>

Permission Required
Training Not required
Costs Free of charge

Content

Scale label ITS total
Number of items, 'examples'
25 'In dealing with strangers one is better off to be cautious until they have provided evidence that they are trustworthy'.
'Parents can usually be relied upon to keep their promise'.
'Most elected public officials are really sincere in their campaign promises'.

Single composite score obtainable? Yes

Subscales No

Response format and item scoring Items scored on a 5-point Likert scale: Strongly agree (1), Mildly agree (2), Agree and disagree equally (3), Mildly disagree (4), Strongly disagree (5)

Scoring interpretation Items balanced so that 12 indicate trust for agreeing and 13 distrust for agreeing. Item scores are summed to give total (reversing where necessary). Higher scores show trust for a great variety of social objects.

Evidence

Content validity In designing items for the scale, an attempt was made to sample a wide variety of social objects so that a respondent would be called upon to express his/her trust of parents, teachers, doctors, politicians, friends, etc. Three criteria were used for inclusion of an item: (1) item had to have a significant correlation with the total of the other trust items with that item removed; (2) the items had to have a relatively low correlation with the Marlowe-Crowne Social Desirability Scale score; (3) endorsement of the item showed reasonable spread over the five Likert categories.

Scale structure No evidence found.

Interpersonal Trust Scale (ITS)

Rotter, 1967

Reliability	Internal consistency, split-half reliability correlation was 0.76 (Rotter, 1967). Test-retest reliability correlation was 0.68 following a 3-month interval (n = 42) and 0.56 (n = 24) following a 7-month interval (n = 24), indicating surprising stability of test scores over relatively long periods of time (Rotter, 1967).
Construct validity	Students who reported any religious affiliation tended to be more trusting than those who were agnostic, atheist or indicated no religious affiliation, while those from the lowest socioeconomic groups showed less trust than those from the highest socioeconomic groups (Rotter, 1967). Interpersonal mistrust was negatively correlated with social support ($r = -0.41$, $p < 0.001$) as measured by the Interpersonal Support Evaluation List (Halamandaris & Power, 1997). There was no significant correlation between ITS total and positive affect ($r = -0.15$, ns) as measured by the Positive and Negative Affect Scale (Halamandaris & Power, 1997).
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	No comments in the literature.
Advantages	No comments in the literature.
Disadvantages	No comments in the literature.
Recommendations in the literature	No comments in the literature.
Comments obtained during expert consultation	The validation with students raises concerns because the nature and appraisal of trust among young educated adults is unlikely to be strongly representative of the wider population. Given that this scale was first developed almost 40 years ago, researchers are advised to consider whether or not the items are relevant to 21 st century living.

Inventory of Socially Supportive Behaviours (ISSB)

Barrera Jr, 1981

Summary

Measures how often assistance (e.g. sharing tasks, giving advice, teaching skills, providing material aid) was received from others in the past four weeks.

Access

Developer

Prof Manuel Barrera Jr
Department of Psychology
P.O. Box 871104
Arizona State University
Tempe, AZ 85287-1104
USA

Address

Focus Social functioning
Time period Past four weeks
No. of items 40 (Appendix E)
Population General/Adult
Readability -
Completion time 10 minutes
Original language English US
Translations Spanish

Email

Manuel.Barrera@asu.edu

Website

www.asu.edu/clas/psych/people/faculty/mbarrera.html

Permission

Not required

Training

Not required

Costs

Free of charge

Content

Scale label

Number of items, 'examples'

ISSB total

40 'Gave you some information on how to do something'.
'Looked after a family member while you were away'.
'Comforted you by showing you some physical affection'.

Single composite score obtainable?

Yes

Subscales

No

Response format and item scoring

Items scored on a 5-point Likert scale: Not at all (1), Once or twice (2), About once a week (3), Several times a week (4), About every day (5)

Scoring interpretation

A total frequency score is calculated by summing the ratings for each item, or an average frequency score can be calculated (useful if there are data missing).

Evidence

Content validity

Ideas for items came from a variety of sources including literature reviews, but especially from content analysis of interviews with single mothers, which yielded 26 categories of helping behaviours. Forty items were designed according to 3 guidelines: (1) behavioural specificity, to avoid the need for inference; (2) wording to be applicable to the general population; (3) omission of explicit references to states of psychological adjustment (Barrera Jr, 1981).

Scale structure

No evidence found.

Reliability

Internal consistency, Cronbach's alpha = 0.92-0.94 (Barrera Jr, 1981) and 0.92 (Cohen & Hoberman, 1983).
Test-retest reliability interval (2 days) resulted in individual item reliability correlation coefficients of 0.44 - 0.91 (Barrera Jr, 1981).

Inventory of Socially Supportive Behaviours (ISSB)

Barrera Jr, 1981

Construct validity	<p>The ISSB total was moderately correlated with a scale of negative life events ($r = 0.41$, $p < 0.001$), suggesting an increase in supportive activities in response to stressful events. There was also a small correlation between network size and the ISSB total score ($r = 0.24$, $p < 0.05$) (Barrera Jr, 1981).</p> <p>Similarly, people who experienced a greater number of socially supportive behaviours (ISSB total) showed greater levels of both depressive (non-significant) and physical symptoms (significant) (Cohen & Hoberman, 1983).</p>
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	'The development of comprehensive and differentiated methods of assessing support may provide a framework for improving our understanding of these processes, which appear to have such important implications for mental health in our communities'(Barrera Jr, 1981, p87).
Advantages	No comments in the literature.
Disadvantages	No comments in the literature.
Recommendations in the literature	No comments in the literature.
Comments obtained during expert consultation	It is likely that the items in the ISSB would be unsuitable for those with low literacy skills.

MOS Social Support Survey (MOS-SSS)

Sherbourne & Stewart, 1991

Summary

Measures perceived ability of functional social support (if needed), in terms of received affection, emotional/informational support, tangible (practical) support, and positive social interactions.

Access

Developer

Dr Cathy Sherbourne

Address

RAND Corporation
1700 Main Street
Santa Monica, CA 90407
USA

Focus

Social functioning

Email

Cathy_Sherbourne@rand.org

Time period

Current

No. of items

19 (Appendix E)

Website

www.rand.org

Population

General/Adult

Permission

Not required

Readability

-

Training

Not required

Completion time

5-7 minutes

Costs

Free of charge

Original language

English US

Translations

Chinese, French for Canada,
French, Japanese, Malay,
Spanish, Swedish (may not
have been fully validated)

Content

Scale label

Overall Support
Index

Number of items, 'examples'

19 Items (see below for examples) are asked following the following lead in question 'How often is each of the following kinds of support available to you if you need it?'

Single composite score obtainable?

Yes

Subscales

Number of items, 'examples'

Emotional/
Informational
Support

8 'Someone you can count on to listen to you when you need to talk'.

Tangible Support

4 'Someone to help you if you were confined to bed'.

Affectionate
Support

3 'Someone who shows you love and affection'.

Positive Social
Interaction

3 'Someone to get together with for relaxation'.

Additional Item

1 'Someone to do things with to help you get your mind off things'.

Response format and item scoring

Items scored on 5-point Likert scale: None of the time (1), A little of the time (2), Some of the time (3), Most of the time (4), All of the time (5)

Scoring interpretation

Scale score = average of scores for each item (including the additional item).
Subscale score = average of scores for each item.

MOS Social Support Survey (MOS-SSS)

Sherbourne & Stewart, 1991

Evidence

Content validity	A pool of 50 items was generated based on a literature review. The selection of items was guided by 'a strong a priori conceptual framework regarding important dimensions of functional support, dimensions that are common in most recent models' (Sherbourne & Stewart, 1991, p706). Items were restricted to perceptions of availability of different functional aspects of social support, rather than more objective structural measures. It was designed to be as comprehensive as possible, yet short enough to minimise respondent burden, and so that items would be as distinct as possible from related measures of loneliness, mental health, family functioning and social activity limitations (Sherbourne & Stewart, 1991). Items were categorised independently by 6 behavioural scientists and then pilot tested on a sample of patients visiting a health clinic.
Scale structure	Factor loadings ranged from 0.76-0.93 for Tangible support, 0.86-0.92 for Affection, 0.82-0.92 for Emotional/Informational support, 0.91-0.93 for Positive interaction. Results supported the construction of an overall index, with all items loading from 0.67-0.88 on a single factor, Overall Support Index (Sherbourne & Stewart, 1991).
Reliability	Internal consistency, Cronbach's alpha = 0.96 for Tangible support, 0.91 for Affection, 0.96 for Emotional/Informational support, 0.94 for Positive interaction, and 0.97 for the Overall Support Index (in a sample of almost 3,000 patients attending local health clinics) (Sherbourne & Stewart, 1991). Cronbach's alpha for the Overall Support Index ranged from 0.95 to 0.98 over three timepoints (in a sample of 93 breast cancer patients); the MOS-SSS was also used by spouses and partners, with equal reliability (alpha = 0.93-0.95) (Moyer & Salovey, 1999).
Construct validity	All subscales and the Overall Support Index were significantly correlated with Loneliness ($r > 0.53$, $p < 0.01$), Family Functioning ($r > 0.38$, $p < 0.01$), Marital Functioning ($r > 0.44$, $p < 0.01$) (Sherbourne & Stewart, 1991). As expected, a single-item structural support scale (i.e. number of close friends and relatives) appeared to be distinct from the functional support items, correlated low to moderately with Tangible support ($r = 0.19$), Affection ($r = 0.18$), Emotional/Informational support ($r = 0.24$), Positive interaction ($r = 0.20$) and the Overall Support Index ($r = 0.23$) (Sherbourne & Stewart, 1991). All subscales and the Overall Support Index had significant but low correlations with Current Health ($r = 0.16-0.25$, $p < 0.01$) and Physical Functioning ($r = 0.07-0.15$, $p < 0.01$) (Sherbourne & Stewart, 1991).
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	The MOS-SSS is a brief, self-administered, multidimensional social support survey, developed for use with patients but suitable for use in the general population (Sherbourne & Stewart, 1991).
Advantages	Functional support appears to be distinct from structural support (measured by number of close friends and marital status) (Sherbourne & Stewart, 1991).
Disadvantages	No comments in the literature.
Recommendations in the literature	'Due to the evidence of some independence among the support subscales and because use of an overall index to test analytic hypotheses would make it difficult to determine which functions of support lead to different outcomes, we recommend scoring and using the support subscales separately' (Sherbourne & Stewart, 1991).
Comments during expert consultation	No comments.

Multidimensional Scale of Perceived Social Support (MSPSS)

Zimet *et al.*, 1988

Summary

Measures the perceived level of support an individual receives from three sources: family, friends and a significant other.

Access

Developer Address

Prof Gregory Zimet
Section of Adolescent Medicine
Indiana University School of Medicine
575 N West Drive, Rm 070
Indianapolis, IN 46202
USA

Focus Social functioning

Time period Current

No. of items 12 (Appendix E)

Population General/Adult

Readability -

Completion time Less than 5 minutes

Original language English US

Translations Multiple translations (including Arabic, Chinese, French, German, Hebrew, Italian, Korean, Lithuanian, Persian, Romanian, Spanish, Thai and Turkish)

Email

Website

gzimet@iupui.edu
http://cancer.iu.edu/research/members/member_bio.php?id=3199

Permission

Training

Costs

Not required
Not required
Free of charge (though users must cite original article)

Content

Scale label **Number of items, 'examples'**
MSPSS Total 12 See below

Single composite score obtainable? Yes

Subscales **Number of items, 'examples'**

Family 4 'My family really tries to help me'.

Friends 4 'I can count on my friends when things go wrong'.

Significant Other 4 'There is a special person who is around when I am in need'.

Response format and item scoring Items scored on 7-point Likert scale: Very Strongly Disagree (1), Strongly Disagree (2), Mildly Disagree (3), Neutral (4), Mildly Agree (5), Strongly Agree (6), Very Strongly Agree (7)

Scoring interpretation Scale score = mean value across all 12 items.
Subscale score = mean value across the 4 items.

Evidence

Content validity Initial 24 items were constructed to address the 3 sources of social support. Repeated factor analysis indicated that some items did not form consistent,

Multidimensional Scale of Perceived Social Support (MSPSS)

Zimet *et al.*, 1988

	conceptually clear factors, resulting in their exclusion from the scale (Zimet <i>et al.</i> , 1988).
Scale structure	Items loaded highly on their designated subscales (Family >0.74, Friends >0.81 and Significant Other >0.79) with minimal cross-loadings, indicating the relative independence of each subscale (in a sample of university students, $n = 275$) (Zimet <i>et al.</i> , 1988).
Reliability	Items loaded highly on their designated subscales (Family >0.84, Friends >0.84 and Significant Other >0.80) with minimal cross-loadings (Dahlem <i>et al.</i> , 1991). Internal consistency, Cronbach's alpha for the total scale has been shown to be: 0.88 (Family = 0.91, Friends = 0.87 and Significant Other = 0.85) (Zimet <i>et al.</i> , 1988), 0.91 (Family = 0.90, Friends = 0.94 and Significant Other = 0.95) (Dahlem <i>et al.</i> , 1991) and 0.90 (Family), 0.91 (Friends), 0.93 (Significant Other) (O'Connor <i>et al.</i> , 2003). Following an interval of 2–3 months, test-retest reliability correlations were 0.85 (Total scale), 0.85, 0.75 and 0.72 for Family, Friends and Significant Other, respectively (Zimet <i>et al.</i> , 1988).
Construct validity	Perceived support from Family was significantly inversely related to both depression ($r = -0.24$, $p < 0.01$) and anxiety ($r = -0.18$, $p < 0.01$) (measured using the Hopkins Symptom Checklist). Perceived support from Friends was related to depression symptoms ($r = -0.24$, $p < 0.01$) but not to anxiety. The Significant Other subscale was minimally but significantly related to depression ($r = -0.13$, $p < 0.05$) as was the Total scale ($r = -0.25$, $p < 0.01$) (Zimet <i>et al.</i> , 1988). For women, psychological distress (General Health Questionnaire) was significantly correlated with support from Friends ($r = -0.36$) and Significant Other ($r = -0.29$), indicating higher support was associated with lower distress; for men, only Friends' support ($r = -0.31$) was significantly associated with psychological distress (O'Connor <i>et al.</i> , 2003). Arousal (Stress and Arousal Checklist) was not significantly related to any of the subscales ($r = 0.13$ - 0.20 , ns) (O'Connor <i>et al.</i> , 2003).
Responsiveness	Mean scores for all items were well above the midpoint of 3.5, suggesting infrequent endorsement of lower levels of social support (Zimet <i>et al.</i> , 1988), and potentially limited responsiveness.
Normative data	No evidence found.
Usefulness	The MSPSS specifically addresses the subjective assessment of social support adequacy from three sources: Family, Friends and Significant Other. Evidence indicates that individuals make distinctions on the basis of source of support, replicating earlier demonstrations that family and friends can be independent sources of support (Dahlem <i>et al.</i> , 1991).
Advantages	The MSPSS was designed to be a quick and easily administered scale for the measurement of subjective social support. The MSPSS is 'self-explanatory, simple to use, and time-conserving – features that make it an ideal research scale for use when subject time is limited and/or a number of measures are being administered at the same time' (Zimet <i>et al.</i> , 1988, p33).
Disadvantages	No comments in the literature.
Recommendations in the literature	No comments in the literature.
Comments obtained during expert consultation	A good scale; free of charge.

Oslo 3-item Social Support Scale (O3SS)

Dalgard, 1996

Summary

Provides a brief, overall assessment of social support, as a function of the number of people the respondent reports being close to, interest and concern shown by others, and ease of obtaining practical help.

Access

Developer
Address

Prof Odd Steffen Dalgard
Norwegian Institute of Public Health
P.B. 4404, Nydalen, 0403
Oslo
Norway

Focus Social functioning
Time period Current
No. of items 3 (Appendix E)
Population General/Adult
Readability -
Completion time Less than a minute
Original language Norwegian
Translations English, German and French

Email odd.steffen.dalgard@fhi.no
Website -
Permission Not required
Training Not required
Costs Free of charge

Content

Scale label **Number of items, 'examples'**
Social Support Index (SSI) 3 See below

Single composite score obtainable? Yes

Subscales **Number of items, 'examples' (response formats shown in italics)**
Single items:

1	'How many people are so close to you that you can count on them if you have serious personal problems?' <i>None (1), 1 or 2 (2), 3–5 (3), 5+ (4)</i>
1	'How much concern do people show in what you are doing?' <i>A lot of concern and interest (5), some concern and interest (4), uncertain (3), little concern and interest (2), No concern and interest (1)</i>
1	'How easy is it to get practical help from neighbours if you should need it?' <i>Very easy (5), easy (4), possible (3), Difficult (2), Very difficult (1)</i>

Scoring interpretation Scale score = sum of individual scores; scores range from 3 to 14.
Score of 3–8 indicates 'poor support', 9–11 indicates 'moderate support' and 12–14 indicates 'strong support'.
Individual items can also be scored.

Evidence

Content validity No evidence found (see above).
Scale structure As the scale items can be scored separately, factor analysis is not critical.

Oslo 3-item Social Support Scale (O3SS)

Dalgard, 1996

	However, it is recommended that the scale be summed despite the fact that the review team could find no evidence to support this (unable to locate original development paper).
Reliability	No evidence found (see above).
Construct validity	In a sample of 10,878 people (from 11 European countries), social support was strongly associated with the Energy and Vitality Index (EVI of the SF-36); in each country, high social support predicted a high EVI score in that country and vice versa (Lehtinen <i>et al.</i> , 2005).
Responsiveness	No evidence found (see above).
Normative data	400 interviews in each of 10 European countries provided data on the Oslo 3-item Social Support Scale (O3SS) (Meltzer, 2003). O3SS has been used in the Eurobarometer 2002, a survey of 10,878 people from 11 European countries (Lehtinen <i>et al.</i> , 2005). In UK, 24.2% of those sampled had 'strong' social support, 57.4% had 'intermediate', and 18.5% had 'poor' social support (European Opinion Research Group, 2003).
Usefulness	Despite the lack of evidence available, this brief scale of social support is very promising due to its simplicity and widespread use (enabling comparisons with the general population in the UK and other countries).
Advantages	The O3SS includes only 3 items, taking less than a minute to complete. As an indicator of acceptability, Meltzer (2003) reports that 'across France, Germany and the UK hardly any of the 1,200 respondents (less than 1%) refused to answer the questions or said they did not know. The distribution of scores seems reasonable'.
Disadvantages	Apparent lack of psychometric evidence, due to the development paper not being accessible.
Recommendations in the literature	Psychometric properties need to be fully tested if analysis is to be conducted using scale scores (rather than individual items).
Comments obtained during expert consultation	No comments.

Perceived Social Support from Family and Friends (PSSFF)

Procidano & Heller, 1983

Summary

Measures the extent to which an individual perceives that his/her needs for support, information and feedback are fulfilled by friends (PSS-Fr) and by family (PSS-Fa). The importance of this distinction is based on the notion that different populations may rely on or benefit from friend or family support to different extents (and at different times in their lives).

Access

Developer
Address

Dr Mary Procidano
Psychology Dept
Fordham University
Bronx, NY 10458
USA

Focus

Social functioning

Time period

Current

No. of items

40 (Appendix E)

Population

General/Adult

Readability

-

Completion time

Unknown

Original language

English US

Translations

Many in progress.
Contact developer for details.

Email

procidano@fordham.edu

Website

www.fordham.edu/Academics/Programs_at_Fordham/Psychology/Department_Faculty/Dr_Mary_Procidano_5475.asp

Permission

Required

Training

Not required

Costs

Free of charge

Content

Scale label

Number of items, 'examples'

Perceived Social Support from Family and Friends (PSSFF)

40 See below

Single composite score obtainable?

No

Subscales

Number of items, 'examples'

Friends (PSS-Fr)

20

'My friends give me the moral support I need', 'My friends are good at helping me solve problems', 'My friends seek me out for companionship'.

Family (PSS-Fa)

20

'Members of my family come to me for emotional support', 'My family is sensitive to my personal needs', 'I rely on my family for emotional support'.

NB: All items in the PSS-Fr scale have equivalent items in the PSS-Fa scale and vice versa.

Response format and item scoring

Items scored on a 3-point Likert scale: Yes, No, Don't know

Scoring interpretation

For each subscale score, response for each item that is considered to be perceived social support is scored as +1. Therefore, scores range from 0 (no perceived social support) to 20 (maximum perceived social support). 'Don't know' is not scored.

Perceived Social Support from Family and Friends (PSSFF)

Procidano & Heller, 1983

Evidence

Content validity	From an original pool of 84 items (to reflect instances of provision of support, information, or feedback as well as some instances of support reciprocity), an intermediate pool of 35 items was selected, according to the magnitude of correlations between the item and scale total (minus the item). Each of the 35 items was duplicated to refer to friends and family, then both the PSS-Fr and PSS-Fa were reduced to 20 items each, again according to magnitude of item-total correlations (Procidano & Heller, 1983).
Scale structure	No evidence found.
Reliability	Good evidence of internal reliability for both subscales: internal consistency, Cronbach's alpha = 0.88 (PSS-Fr) and 0.90 (PSS-Fa) (n = 222 students) (Procidano & Heller, 1983); and Cronbach's alpha = 0.84 (PSS-Fr) and 0.88 (PSS-Fa) (n = 65 adults with epilepsy) (Upton, 1993).
Construct validity	Dependency or, more specifically, lacking self-confidence, was related significantly and negatively to PSS-Fr ($r = -0.43$, $p < 0.001$) but was unrelated to PSS-Fa (Procidano & Heller, 1983). In a study of adults with epilepsy (n = 65), small significant correlations were found between PSS-Fa and anxiety ($r = 0.17$, $p < 0.05$) and self-esteem ($r = 0.26$, $p < 0.01$), while PSS-Fr was associated with depression ($r = 0.23$, $p < 0.01$), self-esteem ($r = 0.23$, $p < 0.01$) and acceptance of epilepsy ($r = 0.31$, $p < 0.005$) (Upton, 1993). Neither negative nor positive life events were related to PSS-Fa. However, the PSS-Fr negative events relationship reached borderline significance ($r = -0.17$, $p < 0.10$) (Procidano & Heller, 1983).
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	The PSS scales are relatively stable and unaffected by induced positive or negative feelings (i.e. reading about 60 positive or negative self-statements prior to completing the PSS scales) (Procidano & Heller, 1983).
Advantages	Differentiating perceived social support from social network characteristics has value and is one step in clarifying the nature of social support (Procidano & Heller, 1983). The PSSFF 'has shown excellent internal consistency and good construct validity with respect to measures of support resources, distress and personality' (Vaux <i>et al.</i> , 1986).
Disadvantages	No comments in the literature.
Recommendations in the literature	No comments in the literature.
Comments obtained during expert consultation	No comments.

Social Support Questionnaire (SSQ)

Sarason *et al.*, 1983

Summary

Measures perceived availability of social support, i.e. the number of people likely to provide support (Number) and satisfaction with the support received (Satisfaction).

Access

Developer Address

Prof Irwin G Sarason
University of Washington
Dept of Psychology
Box 351525
Seattle, WA 98195-1525
USA

Focus Social functioning
Time period Present
No. of items 27 (two-part) items (Appendix E)
Population General/Adult
Readability -
Completion time 15-20 minutes
Original language English UK
Translations Hindi and Portuguese

Email isarason@u.washington.edu
Website <http://web.psych.washington.edu/research/sarason/index.html>

Permission Not required
Training Not required
Costs Free of charge – although developer would like to receive a copy of any results.

Content

Scale label Social Support Questionnaire (SSQ)
Number of items, 'examples'
27 'Whom can you really count on to be dependable when you need help?'
'With whom can you totally be yourself?'
'Whom can you really count on to listen to you when you need to talk?'

Single composite score obtainable? No

Subscale labels **Number of items, 'examples'**
Number (SS-N) 27 Number of support persons listed for each item
Satisfaction (SS-S) 27 Extent of satisfaction for each item

Response format and item scoring Note: Each question requires a two-part answer:
(a) list the people up to a maximum of nine
(b) indicate the extent of satisfaction of support.
SS-S scored on a 6-point Likert scale: 'How satisfied?' very satisfied (6), fairly satisfied (5), a little satisfied (4), a little dissatisfied (3), fairly dissatisfied (2), very dissatisfied (1)

Scoring interpretation SSQ-N score = average number of people (i.e. sum of the number of people listed for each item divided by 27).
SSQ-S score = average of the satisfaction scores (i.e. sum of scores divided by 27).

Evidence

Content validity 61 items were written to sample a number of situations in which social support might be important to people. A pilot study involved college students being asked to list for each item all of the individuals who provided them with support

Social Support Questionnaire (SSQ)

Sarason *et al.*, 1983

	in the situations described and to rate their satisfaction with the support received. A number of exploratory analyses were conducted to inform the reduction of items to 27 (including computing number of supportive people listed within each category of relations (e.g. friends, family), assessing frequency of contact and length of relationship, etc (Sarason <i>et al.</i> , 1983).
Scale structure	Factor loadings exceeded 0.60 for the Number score and 0.30 for the Satisfaction score (n = 602 undergraduates). 'There is good evidence that one strong factor underlies each of the two SSQ scores and that they thus represent different dimensions of the general concept. The correlation between SSQ-N and SSQ-S scores was 0.34' (Sarason <i>et al.</i> , 1983, p130).
Reliability	Internal consistency, Cronbach's alpha was highly satisfactory (0.97 for Number and 0.94 for Satisfaction) (Sarason <i>et al.</i> , 1983). Following a 4-week interval, test-retest correlations for Number and Satisfaction were $r = 0.90$ and $r = 0.83$ respectively (Sarason <i>et al.</i> , 1983).
Construct validity	There were significant negative correlations for women between SSQ-N and SSQ-S scores and anxiety ($r = -0.30$, -0.39 respectively), depression ($r = 0.31$, 0.43) and hostility ($r = -0.26$, -0.36) (measured using the Multiple Affect Adjective Check List), whereas for men the relationships were in the same direction but not as strong (with only depression ($r = -0.24$, $r = -0.22$) and hostility ($r = -0.23$ SSQ-N) reaching significance) (Sarason <i>et al.</i> , 1983). 'People high in social support seem to experience more positive (desirable) events in their lives, have higher self-esteem and take a more optimistic view of life than do people low in social support. In general, low social support seems related to an external locus of control, relative dissatisfaction with life, and difficulty in persisting on a task that does not yield a ready solution' (Sarason <i>et al.</i> , 1983,). Both SSQ scales were moderately correlated with subscales of the Interpersonal Trust Questionnaire (i.e. Fear of Disclosure (FOD), Social Coping (SC) and Social Intimacy (SI)): Number (FOD $r = -0.35$; SC $r = 0.35$; SI $r = 0.26$, $p < 0.001$), Satisfaction (FOD $r = -0.47$; SC $r = 0.33$; SI $r = 0.26$, $p < 0.001$) (Forbes & Roger, 1999). The Marlowe-Crowne scale of social desirability did not correlate significantly with either the SSQ-N or the SSQ-S for either sex (Sarason <i>et al.</i> , 1983).
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	The SSQ is a potentially useful tool for research into the relative contributions of perceived support as well as satisfaction with the support received (Sarason <i>et al.</i> , 1983).
Advantages	The modest correlation between the SSQ-N and SSQ-S provides a strong basis for analysing social support in this way (Sarason <i>et al.</i> , 1983). 'One of the psychometric strengths of the full-length SSQ is the absence of the ceiling effect found in many social support measures' (Sarason <i>et al.</i> , 1987, p506).
Disadvantages	No comments in the literature.
Recommendations in the literature	No comments in the literature.
Comments obtained during expert consultation	There may be some issues with problematic language.

Social Support Questionnaire – Brief (SSQ-B)

Sarason *et al.*, 1987

Summary

A brief measure of perceived availability of and satisfaction with social support.

Access

Developer Address

Prof Irwin G Sarason
University of Washington
Dept of Psychology
Box 351525
Seattle, WA 98195-1525
USA

Focus Social functioning
Time period Present
No. of items 12 (two-part) items (Appendix E)
Population General/Adult
Readability -
Completion time 10-12 minutes
Original language English US
Translations Unknown

Email isarason@u.washington.edu
Website <http://web.psych.washington.edu/research/sarason/index.html>

Permission Not required
Training Not required
Costs Free of charge – although developer would like to receive a copy of any results.

Content

Scale label

Social Support Questionnaire – Brief (SSQ-B)

Number of items, 'examples'

12 'Whom can you really count on to be dependable when you need help?'
'Whom can you really count on to console you when you are very upset?'
'Who accepts you totally, including both your best and worst points?'

Single composite score obtainable?

No

Subscales

Number (SS-N)
Satisfaction (SS-S)

Number of items, 'examples' (response format shown in *italics*)

6 Number of support persons listed for each item
6 Extent of satisfaction for each item scored on a 6-point Likert scale: 'How satisfied?' very satisfied (6), fairly satisfied (5), a little satisfied (4), a little dissatisfied (3), fairly dissatisfied (2), very dissatisfied (1)

Response format and item scoring

Note: Each question requires a two-part answer:
(a) list the people up to a maximum of nine
(b) indicate the extent of satisfaction of support.
SS-S scored on a 6-point Likert scale: 'How satisfied?' very satisfied (6), fairly satisfied (5), a little satisfied (4), a little dissatisfied (3), fairly dissatisfied (2), very dissatisfied (1)

Scoring interpretation

SSQ-N score = average number of people (i.e. sum of the number of people listed for each item divided by 6).
SSQ-S score = average of the satisfaction scores (i.e. sum of scores divided by 6).

Social Support Questionnaire – Brief (SSQ-B)

Sarason *et al.*, 1987

Evidence

Content validity	The SSQ-B was derived from the parent scale (SSQ) using a series of factor analyses (in independent samples) to identify the 6 pairs of items with the highest average loadings.
Scale structure	For sample 1 (n = 182 students), the average loadings (see Content validity) ranged from 0.78 to 0.82, while those for sample 2 (n = 217 students) ranged from 0.76 to 0.80 (Sarason <i>et al.</i> , 1987).
Reliability	Internal consistency, Cronbach's alpha ranged from 0.90 to 0.93 for both Number and Satisfaction subscales in all samples (Sarason <i>et al.</i> , 1987).
Construct validity	<p>There were significant correlations between both SSQ-N and SSQ-S scores and anxiety ($r = -0.26, -0.17$) (measured using the Multiple Affect Adjective Check List), Beck Depression Inventory ($r = 0.39, 0.20$) and Loneliness ($r = -0.49, -0.59$) and Social Skill ($r = 0.39, 0.20$). SSQ-N and SSQ-S scores were also significantly correlated with other measures of social support, i.e. Interpersonal Support Evaluation List ($r = 0.49, 0.62$), Perceived Social Support from Family and Friends (PSSFF) – Friends subscale ($r = 0.44, 0.52$) and PSSFF – Family subscale ($r = 0.42, 0.58$) (Sarason <i>et al.</i>, 1987).</p> <p>The SSQ-N (SSQ-S was not used) showed moderate correlations with the Quality of Relationships Inventory: support scales for mother and father ($r = 0.29$) and friends ($r = 0.38$) (Pierce <i>et al.</i>, 1991).</p> <p>Female students with low social support (defined as below the median) reported a 54% rise in the number of cigarettes smoked as a result of exam stress. There was also a tendency for students (male or female) with high social support to reduce their alcohol intake before exams, while those with low support showed increased consumption (Steptoe <i>et al.</i>, 1996).</p>
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	The brief form of the SSQ 'appears to be highly similar to the 27-item version of the SSQ both in correlation of its two scores with the comparable scores of the SSQ and in its relationship to a variety of personality and social competence variables' (Sarason <i>et al.</i> , 1987, p506).
Advantages	No comments in the literature.
Disadvantages	No comments in the literature.
Recommendations in the literature	'One of the psychometric strengths of the full-length SSQ is the absence of the ceiling effect found in many social support measures ... For this reason, the scale of choice would be the SSQ in contrast to the SSQ6 [i.e. SSQ-B, the 6-item short-form]. However, because the SSQ6 is psychometrically sound and when time of administration is a consideration, the SSQ6 is an acceptable substitute for the SSQ' (Sarason <i>et al.</i> , 1987).
Comments obtained during expert consultation	It seems that the most problematic items have been removed from this brief form of the SSQ.

4.9 Emotional intelligence

The working definition of emotional intelligence was:

'The potential to feel, use, communicate, recognise, remember, learn from, manage and understand emotions (self and others).'

4.9.1 Description of scales

The validity of the construct of emotional intelligence (EI) is fiercely debated and this, perhaps, is the most controversial of the eight aspects of PMH described in this review. It is described by some as an *ability* (Salovey *et al.*, 2005; Schutte *et al.*, 1998), while others view it as a personality *trait* (Petrides & Furnham, 2000; Petrides & Furnham, 2001; Furnham & Petrides, 2003). The *Encyclopaedic Dictionary of Psychology* provides a useful distinction between the two definitions:

'Ability EI (or cognitive-emotional ability) concerns the actual ability to perceive, process and utilise affect-laden information. This construct pertains primarily to the realm of cognitive ability and should be measured via maximum-performance tests. Trait EI (or emotional self-efficacy) concerns a constellation of emotion-related self-perceptions and dispositions. This construct pertains primarily to the realm of personality and should be measured by self-report questionnaires.'

(Davey, 2005, p306)

The following scales are recommended for use:

- **Emotional Intelligence Scale (EIS)** (Schutte *et al.*, 1998) Draws on the *ability* model, conceptualising emotional intelligence in terms of potential for intellectual and emotional growth. Thus, the EIS assesses the ability to process information about one's own and others' emotions.
- **Trait Emotional Intelligence Questionnaire (TEIQue)** (Petrides & Furnham, 2003) Measures *trait* emotional intelligence (or emotional self-efficacy), defined as self-perceptions concerning one's general tendencies, including assertiveness, emotion perception, empathy, impulsiveness, optimism, relationship skills, self-motivation, stress management.
- **Trait Emotional Intelligence Questionnaire – Short-Form (TEIQue-SF)** (Petrides & Furnham, 2006) A shorter (30-item) version of the TEIQue, intended to measure global trait intelligence only, i.e. the TEIQue-SF produces a scale score only rather than the numerous subscale scores of the parent scale.

4.9.2 Appraisal of scales (Table 4.10)

- Despite the distinctions between *trait EI* and *ability EI*, the scales recommended do not differ substantially in content. It is argued that *ability EI* is measured more appropriately using a series of practical tests rather than by self-report, in which the respondent can only indicate how they *usually* behave, thus drawing on traits rather than actual ability (Davey, 2005).
- Each of the scales can be considered adequate for the task of assessing emotional intelligence. However, none is particularly strong in terms of psychometric properties and few properties really distinguish them, except perhaps that the TEIQue-SF appears to be less reliable than its longer form or the

EIS. Thus, decisions about which scale to use need to be made on the basis of content/focus (including content validity) and practicalities.

- The EIS has arguably more evidence for its content and construct validity than the TEIQue or its short-form. With only 33 items (compared with 144 for the TEIQue), it is likely to take less time for respondents to complete and can offer a global assessment of emotional intelligence.
- For assessing specific components of emotional intelligence (e.g. assertiveness, social competence, emotion regulation), then the TEIQue is the only scale that offers a multidimensional assessment. However, at 144 items, and a reported completion time of 15-20 minutes, it will not be suitable for those with low literacy skills or where respondent burden is an issue.

Further reading

- Austin, E. J., Saklofske, D. H., & Egan, V. (2005). Personality, well-being and health correlates of trait emotional intelligence. *Personality and Individual Differences* 38, 547-558.
- Carr, A. (2004). Chapter 4: Emotional Intelligence. In *Positive Psychology: The Science of Happiness and Human Strengths*. New York: Brunner-Routledge.
- Petrides, K. V. & Furnham, A. (2000a). On the dimensional structure of emotional intelligence. *Personality and Individual Differences*, 29, 313-320. (Downloadable from: <http://www.ioe.ac.uk/schools/phd/kpetrides/index.htm>).
- Salovey, P., Mayer, J. D., & Caruso, D. (2005). The positive psychology of emotional intelligence. In Snyder, C. R. & Lopez, S. J. (Eds.), *Handbook of Positive Psychology*, pp159-171. New York: Oxford University Press.

Table 4.10 Appraisal of scales of emotional intelligence

Scale ^a	Essential properties			Desirable properties			OVERALL RATING	Practicalities ^b		
	Content validity	Scale structure	Reliability	Construct validity	Responsiveness	Normative data		Items (Time)	Permission needed	Fee to use scale
EIS	★★(★)	★★	★★(★)	★★(★)	★	★	★★	33 items (Unknown)	No	No Fee ^c
TEIQue	★★	★	★★(★)	★(★)	★	★	★(★)	144 items v1 153 items v1.5 (15-20min)	No ^d	No Fee ^c
TEIQue-SF	★(★)	★★	★	★★	★	★	★(★)	30 items (5-10 min)	No ^d	No Fee ^c

a Summaries of each scale follow this table. Copies (and details of how to obtain permission to use, where necessary) can be found in Appendix E.

b Further information about obtaining permission to use scales and/or details of licence fees are provided in the summary reports for each scale. Where information is 'Unknown', contact the developer and/or copyright holder (contact information provided in summary reports). However, that the authors have made every effort to obtain as much information as possible.

c For non-commercial use.

d Permission needed if research not by university staff or students.

EIS = Emotional Intelligence Scale; TEIQue = Trait Emotional Intelligence Questionnaire; TEIQue-SF = Trait Emotional Intelligence Questionnaire – Short-Form.

Scales are given a maximum 5-star rating for each of the 6 psychometric properties reflecting both quantity and quality of evidence, where: ★★★★★ = excellent evidence, ★★★★ = very good evidence, ★★★ = good evidence, ★★ = moderate evidence, ★ = lack of evidence.

Overall rating = mean score of the essential and desirable properties (e.g. 24 stars / 6 properties = ★★★★★).

Emotional Intelligence Scale (EIS)

Schutte *et al.*, 1998

Summary

Based on Mayer & Salovey's (1997) model of emotional intelligence (EI), which gives more emphasis to the cognitive components and conceptualises EI in terms of potential for intellectual and emotional growth.

Access

Developer
Address

Dr Nicola S Schutte
Undergraduate Programs
Nova Southeastern
University
3301 College Ave
Ft Lauderdale
FL 33314
USA

Focus	Emotional intelligence	Email	-
Time period	Current state	Website	-
No. of items	33 (Appendix E)	Permission	Not required
Population	General/Adult	Training	Not required
Readability	5 th grade level (Flesch-Kincaid = 5.68)	Costs	Free for non commercial use. For commercial use, contact the journal Personality and Individual Differences for permission and costs.
Completion time	Unknown		
Original language	English US		
Translations	Unknown		

Content

Scale label	Number of items, 'examples'
Emotional Intelligence (EI)	33 'I know when to speak about personal problems to others', 'Other people find it easy to confide in me'.
Single composite score obtainable?	Yes
Subscales	No
Response format and item scoring	Items scored on a 5-point Likert scale: strongly disagree (1), somewhat disagree (2), neither agree nor disagree (3), somewhat agree (4), strongly agree (5)
Scoring interpretation	Responses are summed to provide an overall rating of EI (range 33-165). Higher scores indicate higher EI.

Evidence

Content validity	Four researchers independently evaluated each item generated for fidelity to the construct, clarity and readability. Selected items were pilot-tested resulting in a pool of 62 items (Schutte <i>et al.</i> , 1998).
Scale structure	Confirmatory factor analysis indicated that a uni-factorial model was unsatisfactory, with major indices below the recommended 0.9 level (GFI = 0.69, AGFI = 0.65, CFI = 0.51) (Petrides & Furnham, 2000). Principal components analysis indicated 4 factors, 33 of which loaded on factor 1 (>0.4), with an eigenvalue of 10.79 – these 33 items were retained as the EIS. Factor analysis showed that either one or four factors should be extracted, explaining 23 or 40% of the variance (Sakolofske <i>et al.</i> , 2003).

Emotional Intelligence Scale (EIS)

Schutte *et al.*, 1998

Reliability	Internal consistency, Cronbach's alpha of 0.90 (n = 346), 0.87 (n = 32) and 0.89 were found for 33-item scale (Schutte <i>et al.</i> , 1998) and ranged from 0.57-0.80 for the four factors. Two-week test-retest reliability correlation coefficient was 0.78 (n = 33) (Schutte <i>et al.</i> , 1998).
Construct validity	EIS correlated significantly with Trait Meta Mood Scale: attention to feelings (r = 0.63), clarity of feeling (r = 0.52), more mood repair (r = 0.68) and greater optimism (Life Optimism Test) (r = 0.52) (Schutte <i>et al.</i> , 1998). As expected, therapists scored higher (mean=134.9) than prisoners (120.0, p <0.01) and substance abusers in a treatment programme (122.2, p <0.05), while women scored significantly higher (130.9) than men (124.8, p <0.01) (Schutte <i>et al.</i> , 1998). No significant difference (2.55) between men and women's scores in mixed student and community sample (n = 354) (Sakolofske <i>et al.</i> , 2003).
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	The 33-item EIS holds promise as a reliable, valid scale of EI as conceptualised by Salovey and Mayer (1990) (Schutte <i>et al.</i> , 1998). There is supporting evidence for the construct validity of the EIS though the structure remains in doubt (Sakolofske <i>et al.</i> , 2003).
Advantages	The EIS has face validity as well as some evidence of construct, predictive and discriminant validities (Petrides & Furnham, 2000). 33-item scale shows good internal consistency and test-retest reliability as well as good evidence of convergent and discriminant validity (Schutte <i>et al.</i> , 1998). Expected positive associations with happiness/life satisfaction and negative associations with loneliness and depression-proneness were found (Sakolofske <i>et al.</i> , 2003).
Disadvantages	The EIS is inherently biased towards a uni-factorial interpretation (though the evidence is unclear). Subscales cannot emerge clearly because they are represented by an inadequate number of items (Petrides & Furnham, 2000). The current form of the EIS is not psychometrically satisfactory because of the small number of reverse-keyed items, making it difficult to know the extent to which acquiescence contributes to the total EI (Sakolofske <i>et al.</i> , 2003).
Recommendations in the literature	Researchers are urged to factor-analyse the EIS when using it to ensure that scale and subscale scores (some evidence for a 4-scale structure) can be computed (Petrides & Furnham, 2000). One factor solution represents appraisal and expression of emotion in self and others, regulation of emotion in self and others and utilisation of emotions in solving problems (Schutte <i>et al.</i> , 1998). The questions raised by Petrides and Furnham about the analysis which led to the 33 items suggests that in future work on this scale, as well as using reversals of some existing items, further items should be generated and EI structure re-analysed (Sakolofske <i>et al.</i> , 2003).
Comments obtained during expert consultation	No comments.

Trait Emotional Intelligence Questionnaire (TEIQue)

Petrides & Furnham, 2003

Summary

Measures trait emotional intelligence (EI) (or emotional self-efficacy), defined as self-perceptions concerning one's ability to recognise, process and utilise emotion-laden information.

Access

Developer Address

Dr K V Petrides
School of Psychology and
Human Development
Institute of Education
University of London
UK

Focus

Emotional intelligence

Email

k.petrides@ioe.ac.uk

Time period

Current state

Website

www.teique.com

No. of items

144 v1 (most recent version v1.5 of 153 items is given in Appendix E)

Permission

Not required

Population

General/Adult

Permission needed if research not by university staff or students.

Readability

Suitable for adolescents

Completion time

15-20 minutes

Original language

English UK

Training

Not required, but offered

Translations

More than 10 languages (mostly European)

Costs

Free for non-commercial use

Content

Scale label

Number of items, 'examples'

Global Trait EI

144 v1 See below for examples

Single composite score obtainable?

Yes

Subscales

Number of items, 'examples'

Adaptability

9 'I usually find it difficult to make adjustments to my lifestyle'.

Assertiveness

9 'When I disagree with someone, I usually find it easy to say so'.

Emotion Expression

10 'Others tell me that I rarely speak about how I feel'.

Emotion Management (Others)

9 'I'm usually able to influence the way others feel'.

Emotion Perception

10 'I often find it difficult to recognise what emotion I'm feeling'.

Emotion Regulation

12 'When someone offends me, I'm usually able to remain calm'.

Empathy

9 'I find it difficult to understand why certain people get upset with certain things'.

Happiness

8 'Life is beautiful'.

Trait Emotional Intelligence Questionnaire (TEIQue)

Petrides & Furnham, 2003

Impulsiveness	9	'I tend to get "carried away" easily'.
Optimism	8	'I generally believe that things will work out fine in my life'.
Relationship Skills	9	'I generally don't keep in touch with friends'.
Self-Esteem	11	'I believe I'm full of personal strengths'.
Self-Motivation	10	'I tend to get a lot of pleasure just from doing something well'.
Social Competence	11	'I can deal effectively with people'.
Stress Management	10	'I get stressed by situations that others find comfortable'.

Four factors:

Well-being	27
Self-control	31
Emotionality	38
Sociability	29

Response format and item scoring Items scored on 7-point Likert scale from Disagree completely (1) to Agree completely (7)

Scoring interpretation Unknown

Evidence

Content validity	No evidence found.
Scale structure	No evidence found.
Reliability	Internal consistency, Cronbach's for Global Trait EI was 0.86 and for 15 subscales ranged from 0.61 (9 items) to 0.91 (11 items) (Petrides & Furnham, 2003). Test-retest reliability reported as good ($r = 0.50-0.82$ for 15 subscales and 0.78 for global) over a 12-month period (Perez <i>et al.</i> , 2005).
Construct validity	Global Trait EI correlated negatively with neuroticism ($r = -0.70$) and positively with extraversion ($r = 0.68$) (Petrides & Furnham, 2003). No relationship between Global Trait EI and Openness ($r = -0.04$) (Petrides & Furnham, 2003).
Responsiveness	No evidence found.
Normative data	No evidence found.
Usefulness	A recent review has indicated that the TEIQue now comprises 153 items (version 1.5), including the 15 subscales, 4 factors (Well-being, Self-control Skills, Emotional Skills, Social Skills) and Global Trait EI (Perez <i>et al.</i> , 2005).
Advantages	No comments in the literature.
Disadvantages	No comments in the literature.
Recommendations in the literature	No comments in the literature.
Comments obtained during expert consultation	No comments.

Trait Emotional Intelligence Questionnaire – Short-Form (TEIQue-SF)

Petrides & Furnham, 2006

Summary

Designed to measure global trait emotional intelligence (trait EI), based on the full form of the TEIQue.

Access

Developer
Address

Dr K V Petrides
School of Psychology and
Human Development
Institute of Education
University of London
UK

Focus	Emotional intelligence	Email	k.petrides@ioe.ac.uk
Time period	Current state	Website	www.teique.com
No. of items	30 (Appendix E)	Permission	Not required
Population	General/Adult		Permission needed if research not by university staff or students.
Readability	Adolescent reading age		
Completion time	5-10 minutes	Training	Not required, but offered
Original language	English UK	Costs	Free for non-commercial use
Translations	More than 10 languages (mostly European)		

Content

Scale label	Number of items, 'examples'
Global Trait EI	30 'Expressing my emotions with words is not a problem for me', 'I can deal effectively with people'.
Single composite score obtainable?	Yes
Subscales	No
Response format and item scoring	Items scored on a 7-point visual scale from 'completely disagree' (1) to 'completely agree' (7) (negative items reversed)
Scoring interpretation	Unknown

Evidence

Content validity	No evidence found.
Scale structure	No evidence found.
Reliability	No evidence found.
Construct validity	Global Trait EI correlated highly with the Oxford Happiness Inventory ($r = 0.70$, $p < 0.01$) (Furnham & Petrides, 2003). As expected, Global Trait EI was not correlated with any of the 4 cognitive ability tests (e.g. Wonderlic, Baddeley). Trait EI was the strongest predictor of happiness (accounting for 50% of the variance) (Furnham & Petrides, 2003).
Responsiveness	No evidence found.

Trait Emotional Intelligence Questionnaire – Short-Form (TEIQue-SF)

Petrides & Furnham, 2006

Normative data	No evidence found.
Usefulness	The TEIQue-SF provides a highly reliable global trait EI score that correlates meaningfully with a wide range of diverse criteria (e.g. coping skills, life satisfaction, job satisfaction) (Petrides & Furnham, 2003).
Advantages	No comments in the literature.
Disadvantages	The investigation of its factor structure is difficult because of the unreliability of single items (www.teique.com).
Recommendations in the literature	Useful for rapid and reliable assessment of global trait EI, but if the interest is in anything other than this, then it is necessary that the long-form be used (www.teique.com).
Comments obtained during expert consultation	No comments.

5. Discussion

Policy makers and practitioners interested in promoting mental health have in the past typically relied on scales that focus on mental health problems to assess the impact of their policies and interventions. However, this focus on pathology is limited when it comes to the assessment of public mental health. These scales show 'ceiling/floor effects' in general population samples with most people scoring the optimum level because they do not have substantial mental health problems. These scales are therefore unable to detect improvements in the mental health of people without mental health problems, provide little information about the ways in which people's lives can be improved and fail to capture many of the sort of changes that might occur in mental health promotion programmes (Stewart-Brown, 2002).

In recent years there has been a greater focus on and interest in positive mental health (PMH) and a move towards also assessing positive aspects of mental health, with a view to understanding how PMH can be attained and improved. The growing evidence in support of the notion that people with a mental health problem can also experience good positive mental health further highlights the importance of assessing PMH for the whole of the general population.

A number of scales now exist for the subjective measurement of aspects of PMH. Given the variety of scales available, it is important to select the most appropriate for a given survey or evaluation. Although reviews of scales exist (Bowling, 2005; Mauthner & Platt, 1998; McDowell & Newell, 1996), many have a broader focus (i.e. general health and quality of life) or need updating. This current review provides an up-to-date and focused review of scales of PMH for adults that have been validated for use in the UK.

5.1 Summary of findings

This review has focused on eight aspects of PMH, identifying 49 scales that have been validated in the UK as suitable for inclusion in the review:

- emotional well-being (9 scales)²⁸
- life satisfaction (4 including one generic quality of life scale)
- optimism and hope (5)
- self-esteem (5)
- resilience and coping (8)
- spirituality (4)
- social functioning (11)
- emotional intelligence (3).

²⁸ These scales include but are not confined to addressing positive affect. Scales with a more general focus on overall PMH are also included here.

Aspect of PMH	Scales
Emotional well-being (9)	Affect Balance Scale© Affectometer 2 Depression-Happiness Scale Oxford Happiness Questionnaire Oxford Happiness Questionnaire – Short-Form Positive and Negative Affect Schedule Psychological General Well-being Index© Short Depression-Happiness Scale Well-being Questionnaire
Life satisfaction (4 including one generic quality of life scale)	Delighted-Terrible Scale Global Quality of Life Scale Satisfaction with Life Scale WHOQOL-BREF
Optimism and Hope (5)	Dispositional Hope Scale Generalised Expectancy for Success Scale Life Orientation Test Life Orientation Test – Revised Positive and Negative Expectancy Questionnaire
Self-esteem (5)	Basic Self-Esteem Scale Coopersmith Self-Esteem Inventory Robson Self-Concept Questionnaire Rosenberg Self-Esteem Scale Visual Analogue Self-Esteem Scale
Resilience and Coping (8)	Attributional Style Questionnaire Brief COPE Scale COPE Scale Coping Styles Questionnaire Functional Dimensions of Coping Scale General Self-Efficacy Scale Sense of Coherence Scale Ways of Coping
Spirituality (4)	Life Attitude Profile – Revised Meaning in Life Questionnaire Purpose in Life Test Spiritual Well-being Scale
Social functioning (11)	Duke-UNC Functional Social Support Questionnaire Interpersonal Support Evaluation List Interpersonal Trust Questionnaire Interpersonal Trust Scale Inventory of Socially Supportive Behaviours MOS Social Support Survey Multidimensional Scale of Perceived Social Support Oslo 3-item Social Support Scale

	Perceived Social Support from Family and Friends Social Support Questionnaire Social Support Questionnaire – Brief
Emotional intelligence (3)	Emotional Intelligence Scale Trait Emotional Intelligence Questionnaire Trait Emotional Intelligence Questionnaire – Short-Form Trait Emotional Intelligence

The scales vary from lengthy, detailed assessments to brief, short-forms and even single items for life satisfaction. Each has its own merits and disadvantages.

5.2 Recommendations of which scales to use

The overall aim of this review was to identify and assess PMH scales to inform decisions over which are the most appropriate to capture data either:

- in national surveys to inform the mental health indicator set; or
- by practitioners to assess the impact of local interventions.

In most cases, determining the best scale is not a straightforward matter and users of scales need to be aware that many of the scales lack sufficient evidence to enable unequivocal recommendation. Nevertheless, the scales listed below appear to have the most positive features. In many cases, there are at least two scales that stand out as potentially useful, but the ultimate choice will be that of the user and largely dependent on their research purpose; and content will always have a major influence on the scale considered most suitable.

While scales have been recommended, the measurement of PMH in large-scale, population-based research remains the most challenging of all applications. Many of the scales described in this report are unsuitable for incorporation in general population-based health and social surveys due to their length. Such surveys assess many topic areas and it is rare for topics to be allocated more than a few minutes' worth of questions. For use in population-based surveys shortness of a scale is thus an advantage.

1. **Overall assessment of PMH** The Affectometer 2 appears to be a good choice. It is a valid, reliable, acceptable scale of PMH which covers both the hedonic and eudaimonic aspects of PMH. At 40 items it is quite lengthy and a short, substantially revised scale based on the Affectometer 2, the Warwick-Edinburgh Mental Well-being Scale (WEMWBS), is under development (for information see Appendix D and <http://www.healthscotland.com/understanding/population/mental-health-indicators.aspx>). This also aims to better measure PMH according to current understanding of PMH.
2. **Emotional well-being** Scales with a general focus on PMH include the Affectometer 2, the Well-being Questionnaire (W-BQ12) and the Psychological General Well-being Index. The W-BQ12, which is valid and reliable, provides a brief overview of positive well-being, negative well-being and energy. It has not been used widely in the general population but with strong evidence for its responsiveness it is a strong contender for the purposes of evaluating interventions, while the Positive and Negative Affect Schedule is a valid, reliable,

detailed scale of positive and negative affect, and may be useful for national surveys.

3. **Life satisfaction** The Satisfaction with Life Scale, assesses various perspectives on life satisfaction: with good psychometric properties and normative data it is the favoured choice. However, when response burden is a concern, the single-item scales, which reliably measure life satisfaction, may be useful. The WHOQOL-BREF can be recommended where a more detailed scale is required or where completion time/respondent burden is not an issue. It has a more general focus and may be suitable for those interested in assessing wide-ranging factors that may influence life satisfaction.
4. **Optimism and Hope** The scales differ in their cognitive complexity and with similar overall ratings it is difficult to recommend one. However, where a very brief scale is required, the Life Orientation Test – Revised is a good choice.
5. **Self-esteem** The most widely used, and arguably the best, scale, is Rosenberg's Self-Esteem Scale. For a more detailed assessment, there is good evidence for Robson's Self-Concept Questionnaire, while the Visual Analogue Self-Esteem Scale is particularly suitable for use with language-impaired people or those with 'questionnaire fatigue'.
6. **Resilience** The General Self-Efficacy Scale (GSE) and the Sense of Coherence Scale (SOC) have reasonable evidence for their psychometric properties and differ more in terms of their approach to measurement. The GSE is a brief and widely used scale with slightly more evidence for its psychometric properties. The SOC offers a similar approach to the GSE in its domain of 'manageability' but also has domains assessing 'comprehensibility' and 'meaningfulness'. It is likely to require longer completion time and may be burdensome for the respondent.

Coping It is difficult to differentiate between the scales of coping style on psychometric properties. To assess different styles of coping reliably, most scales include 40–70 items and even the Brief COPE includes 28. The Attributional Style Questionnaire includes only 12 items but its use of hypothetical scenarios is potentially a limitation.

7. **Spirituality** The Meaning in Life Questionnaire offers the most concise scale of spirituality and has practical advantages over the other scales. It has good content validity and superior evidence for its scale structure and reliability. The Spiritual Well-being Scale focuses on spiritual well-being, both religious and existential. Thus, it offers a slightly different focus from other scales. Reported ceiling effects in some religious samples may limit its usefulness for some purposes. However, for the general population, this may not be relevant and the scale is particularly useful for identifying those experiencing spiritual distress or lack of well-being. The Life Attitude profile-Revised is a lengthy scale with several subscales for aspects of spirituality but can provide detailed measurement of spirituality.
8. **Social functioning**
Interpersonal trust The Interpersonal Trust Questionnaire (ITQ) is recommended because it has reasonable psychometric properties and provides general

measures of trust (Fear of Disclosure) and the extent to which an individual turns to others when he/she has a problem (Social Coping) and is prepared to express emotions (Social Intimacy). But its length may be an issue.

Perceived sources of social support There is greater evidence in support of the Multidimensional Scale of Perceived Social Support, which includes assessment of support received from family, friends and significant other.

Functional social support Both the MOS Social Support Survey (MOS-SSS) and Interpersonal Support Evaluation List (ISEL) are adequate for the task. The MOS-SSS appears marginally better, largely because it has been used more widely and so the evidence for its psychometric properties is quite strong. The ISEL, while being more lengthy, measures tangible support, social support, self-esteem and belonging and therefore provides a more balanced scale of functional social support, which is arguably better designed than the MOS-SSS.

Social networks The Social Support Questionnaire can be recommended for a detailed assessment of both objective and subjective social support and it has a short-form if respondent burden or time is an issue.

For a brief scale of social functioning, the Oslo 3-item Social Support Scale provides a measure of the number of people the respondent feels close to, as well as interest and concern shown by others and ease of obtaining practical help. Unfortunately, its structure and reliability have not been well-documented despite widespread use in several European countries; however, its brevity and availability of normative data are considerations.

9. **Emotional intelligence** No scale was particularly strong in terms of psychometric properties and few properties distinguish them. The EIS has more evidence for its content and construct validity, is likely to take less time to complete and can offer a global assessment of emotional intelligence. For assessing specific components of emotional intelligence the Trait Emotional Intelligence Questionnaire is the only scale that offers a multidimensional assessment. But this will not be suitable for those with low literacy skills or where respondent burden is an issue, and appears to be less reliable.

5.3 Limitations of this review

5.3.1 Elements and mediators, terminology and definitions

The review was complicated by the lack of consensus regarding terminology to describe, and definitions of, PMH. However, this is not just about semantics. PMH research tends to fall into various groups: those that take a hedonic, those that take a eudaimonic and those that take a mixed viewpoint. Furthermore, the literature frequently does not distinguish between what constitute the necessary and sufficient elements of PMH and what constitute risk and protective factors or consequences of PMH.

These problems were highlighted during consultation with experts and are reflected in this review. For example, several scales appear to measure a given aspect (e.g. optimism) but actually measure a related concept (e.g. hope); although every effort

has been made to achieve clarity, such subtle differences in terminology may be important to the outcome of a study and are worth considering in more detail.

5.3.2 Methods

Identifying relevant scales was a major challenge not least because of the breadth and depth of material to cover. To obtain a highly focused search the Health and Psychosocial Instruments (HaPI) database was used due to its focus on scales rather than on general research papers. This potentially has limitations, but the expert consultation provided a good check although it is still possible that some less widely known or newly developed relevant scales may have been overlooked.

Establishing whether there had been UK validation was also problematic as frequently the information was not evident. Even where research had been conducted in the UK, the extent to which a full validation had been undertaken was not obvious, especially linguistic validation. In the interests of being able to include scales that were developed in countries other than the UK, the term *UK validation* has been used in this review to mean that evidence of reliability and validity (including scale structure) has been established using a UK dataset. Thus, where scales were developed originally in the USA, the cross-cultural validity of the scale for use in the UK has rarely been documented. Future users are advised to check the appropriateness of wording before use. The readability of the scale may be affected adversely if language is more appropriate to the US than the UK. Additionally, psychometric validation is not an exact science and there are no universally agreed standards. Many scales have undergone partial validation, with full validation taking many years to complete.

5.4 Implications of this review

5.4.1 For future research

Future researchers in PMH face a number of challenges, some of which have become apparent in the course of this review:

- **Achieving consensus in terminology and definitions.** This would not only help to harmonise the growing body of evidence but would also enable government and health departments to integrate the promotion of PMH into their policy making.
- **Clarifying elements and determinants of PMH.** Much of the ongoing debate centres on what can be regarded as a central element (i.e. a PMH outcome) and what can be considered a mediator or determinant of PMH. Can these be one and the same thing or are they necessarily different? For Ryff (1989), autonomy and environmental mastery are elements of PMH, whereas for Ryan & Deci (2001) these are **precursors** of PMH.
- **Understanding the relationships between aspects of PMH.** For example, is 'self-esteem' truly distinct from 'emotional well-being'? Recent studies have begun to model the relationships between constructs but until we have consensus in terminology, this work will remain confusing to the uninitiated.

5.4.2 For developers of scales

The literature providing evidence for each of the scales in this review was found to be lacking in several respects. Future developers of scales are advised to consider the following issues when reporting on the validation of scales:

- **Face and/or content validity** was under-reported for most of the scales. Indeed, it was left to the reviewers to assess the content validity of each scale for themselves. While this is good practice – it is never advisable to take a scale off the shelf and use it without first examining its content to ensure that it has the ability to answer the research questions – there needs to be some indication from the scale developers that they have given due consideration to this vital stage in the process. Despite being more of an art than a science, this is a crucial aspect of scale development and one that deserves more attention in publications than it currently receives.
- **Few development papers cited readability statistics.** Readability is a crucial issue and this is information researchers will frequently need to inform their choice of scales. In the absence of such information, readers are advised to pilot test their chosen scale to ensure that the items are understood and interpreted as intended.
- **Evidence and reporting of scale structure** was not always available despite the almost routine summing of scores into scale totals. This was mostly true of older measures. There remain some inconsistencies in reporting of this crucial information and researchers need to ensure that, where scale totals are used, evidence exists to support their calculation.
- **Responsiveness** data were rarely available, with most research studies appearing to focus on establishing the constructs in terms of convergent and discriminant validity. However, with a growing focus on the promotion of PMH and on interventions designed to increase PMH, this is likely to be an aspect of validation that will gain greater recognition in the future.
- **Normative data** were rarely available and this is likely to be the result of the typically small sample sizes involved in social science research. Greater use of PMH scales in national surveys and cross-national surveys will result in greater provision of these data.

Finally, there is a need for global measures of PMH to assess the full scope of PMH and for shorter scales for use in population surveys. As the concept of PMH and its definition are developed and understood so more global scales can be developed.

5.4.3 For users of scales

One of the most important features when selecting a scale is to ensure that it has good face and content validity. While the evidence for these properties for a scale can be found in the research literature, most frequently the most useful assessments are made by the scale users (i.e. the practitioners/researchers and the respondents). Potential users of scales should note that our most important recommendation is for them to review the scale content thoroughly before use, ensuring that it is suitable for the population to be assessed.

The ethical implications of asking respondents to complete some of the scales should also be considered carefully. In completing such scales, it is likely that more vulnerable individuals will become even more aware of their own vulnerability. For example, when completing a scale of social functioning, a socially isolated person is likely to become more (not less) aware of the extent of his/her loneliness. When evaluating aspects of positive mental health, it is vital that researchers and practitioners make provision for respondents to receive appropriate support.

Finally, while the appraisal of scales for each aspect often appears to highlight one or two scales above others in terms of psychometric validity, the reader is urged to make their own assessment, bringing to bear the content validity of the scale (reviewing the items to assess whether the scale measures the salient aspects required) and also the practicalities (e.g. length, completion time, cost and permissions required). In real world research and practice, arguably the most important factor in selecting an appropriate scale is an understanding of the scale and the context in which it is to be used.

5.5 Conclusion

There has been a long tradition of research in mental health dominated by the assessment of mental health problems. More recently, there has been increasing interest in PMH. In order to assess PMH in a systematic and quantifiable way, we need to use valid and reliable measures. This review has highlighted the wealth of UK validated measures available but many have significant limitations. Care needs to be taken in the selection of scales to ensure that they are appropriate for the chosen population, will be sensitive to the benefits of any interventions to be evaluated and will not cause undue distress to vulnerable individuals.

A range of UK validated scales have been identified, and it is hoped that these will be widely used and reported on and through this process contribute significantly to increasing understanding and awareness of PMH.

References

- Abdel-Khalek, A. M. (2006). Measuring happiness with a single-item scale. *Social Behavior and Personality*, 34, 139-150.
- Andersson, G. (1996). The benefits of optimism: a meta-analytic review of the life orientation test. *Personality and Individual Differences*, 21, 719-725.
- Andrews, F. M. & Withey, S. B. (1976). The measurement of affective evaluations. In *Social indicators of well-being: Americans' perception of life quality* (pp. 18-20, 120-121, 203-212, 223, 226-229, 351, 426-428). London: Plenum Press.
- Antonovsky, A. (1987a). Measuring the concept: A new scale. In *Unraveling the mystery of health: How people manage stress and stay well* (pp. 63-88). London: Jossey-Bass Publishers.
- Antonovsky, A. (1987b). The 'sense of coherence' concept. In *Unraveling the mystery of health: How people manage stress and stay well* (pp. 15-32). London: Jossey-Bass Publishers.
- Antonovsky, A. (1993). The structure and properties of the sense of coherence scale. *Soc.Sci.Med*, 36, 725-733.
- Bar-On, R. (1997). *Bar-On Emotional Quotient Inventory (EQ-i): Technical Manual*. Toronto: Multi-Health Systems.
- Barrera Jr, M. (1981). Social support in the adjustment of pregnant adolescents: Assessment issues. In Gottlieb, B. H. (Ed.), *Social networks and social support* (pp. 69-96). London: Sage.
- Barrera Jr, M., Sandler, I. N., & Ramsay, T. B. (1981). Preliminary development of a scale of social support: Studies on college students. *American Journal of Community Psychology*, 9, 435-447.
- Battista, J. & Almond, R. (1973). The development of meaning in life. *Journal for the Study of Interpersonal Processes*, 36, 409-427.
- Benn, L., Harvey, J. E., Gilbert, P., & Irons, C. (2005). Social rank, interpersonal trust and recall of parental rearing in relation to homesickness. *Personality and Individual Differences*, 38, 1813-1822.
- Black, E. K. & White, C. A. (2003). Fear of recurrence, sense of coherence and posttraumatic stress disorder in haematological cancer survivors. *Psycho-Oncology*, 12, 636.
- Block, J. & Kremen, A.M. (1996). IQ and ego-resiliency: Conceptual and empirical connections and separateness. *Journal of Personality and Social Psychology*, 70, 349-361.
- Bond, TJ & Fox, CM (2001) Applying the Rasch Model: fundamental measurement in the human sciences. Mahwah, NJ: Lawrence Erlbaum Associates.

- Bowling, A. (2005). *Measuring health: a review of quality of life measurement scales*. (3rd ed.) New York: Open University Press.
- Bradburn, N. M. (1969). Two dimensions of psychological well-being: Positive and negative affect. In *The structure of psychological well-being* (pp. 53-70). Chicago: Aldine Publishing Company.
- Bradley, C. (1994a). Translation of questionnaires for use in different languages and cultures. In Bradley, C. (Ed.), *Handbook of Psychology and Diabetes* (pp. 43-55). Chur, Switzerland: Harwood Academic Publishers.
- Bradley, C. (1994b). The well-being questionnaire. In Bradley, C. (Ed.), *Handbook of Psychology and Diabetes* (pp. 89-109). Chur, Switzerland: Harwood Academic Publishers.
- Bradley, C. (2000). The 12-Item Well-being Questionnaire: origins, current stage of development, and availability. *Diabetes Care*, 23, 875.
- Broadhead, W. E., Gehlbach, S. H., de Gruy, F. V., & Kaplan, B. H. (1988). The Duke-UNC Functional Social Support Questionnaire. Measurement of social support in family medicine patients. *Med Care*, 26, 709-723.
- Brumfitt, S. M. & Sheeran, P. (1999). The development and validation of the Visual Analogue Self-Esteem Scale (VASES). *British Journal of Clinical Psychology*, 38, 387-400.
- Burke, K. L., Barry, J. A., Czech, D. R., & Wilson, M. J. (2000). An investigation of concurrent validity between two optimism/pessimism questionnaires: the life orientation test-revised and the optimism/pessimism scale. *Current Psychology*, 19.
- Carmines, E. G. & Zeller, R. A. (1974). On establishing the empirical dimensionality of theoretical terms: an analytical example. *Political Methodology*, 75-96.
- Carver, C. S. (1997). You want to Measure Coping But Your Protocol's Too Long: Consider the Brief COPE. *Int.J.Behav.Med*, 4, 92-100.
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: a theoretically based approach. *Journal of Personality and Social Psychology*, 56, 267-283.
- Chang, L. & Bride-Chang, C. (1996). The Factor Structure of the Life Orientation Test. *Educational and Psychological Measurement*, 56, 325-329.
- Charles, S. T., Reynolds, C. A., & Gatz, M. (2001). Age-related differences and change in positive and negative affect over 23 years. *Journal of Personality and Social Psychology*, 80, 136-151.
- Cheng, H. & Furnham, A. (2003). Personality, self-esteem, and demographic predictions of happiness and depression. *Personality and Individual Differences*, 34, 921-942.

- Chen, G., Gully, S. M., & Eden, D. (2004). General self-efficacy and self-esteem: Toward theoretical and empirical distinction between correlated self-evaluations. *Journal of Organizational Behavior*, 25, 375-395.
- Cohen, J. (1988). *Statistical power analysis for the behavioural sciences*. (2nd ed.) Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Cohen, S. & Hoberman, H. M. (1983). Positive events and social supports as buffers of life change stress. *Journal of Applied Social Psychology*, 13, 99-125.
- Cohen, S., Mermelstein, R., Kamarck, T., & Hoberman, H. M. (1985). Measuring the functional components of social support. In Sarason, I. G. & Sarason, B. R. (Eds.), *Social Support: Theory, Research and Applications* (pp. 73-94).
- Connor, K. M. & Davidson, J. R. (2003). Development of a new resilience scale: The Connor-Davidson Resilience Scale (CD-RISC). *Depression and Anxiety*, 18(2), 76-82.
- Cooper, C., Katona, C., Orrell, M., & Livingston, G. (2006). Coping strategies and anxiety in caregivers of people with Alzheimer's disease: The LASER-AD study. *Journal of Affective Disorders*, 90, 15-20.
- Coopersmith, S. (1981). *The antecedents of self-esteem*. Palo Alto, CA: Consulting Psychologists Press.
- Crawford, J. R. & Henry, J. D. (2004). The positive and negative affect schedule (PANAS): Construct validity, measurement properties and normative data in a large non-clinical sample. *British Journal of Clinical Psychology*, 43, 245-265.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16, 297-334.
- Crumbaugh, J. C. & Maholick, L. T. (1964). An experimental study in existentialism: The psychometric approach to Frankl's concept of *Noogenic* Neurosis. *Journal of Clinical Psychology*, 20, 200-207.
- Cruise, S. M. & Lewis, C. A. (2006). Internal consistency, reliability, and temporal stability of the Oxford Happiness Questionnaire Short-Form. Test-retest data over two weeks. *Social Behaviour and Personality*, 34, 123-126.
- Dahlem, N. W., Zimet, G. D., & Walker, R. R. (1991). The Multidimensional Scale of Perceived Social Support: a confirmation study. *Journal of Clinical Psychology*, 47, 756-761.
- Dalgard, O. S. (1996). Community mental health profile as tool for psychiatric prevention. In Trent, D. R. & Reed, C. (Eds.), *Promotion of mental health*. Aldershot: Avebury.
- Davey, G. (2005). *Encyclopaedic Dictionary of Psychology*. Oxford: Oxford University Press.
- Davis, H. & Spurr, P. (1998). Parent Counselling: an evaluation of a community child mental health service. *Journal of Child Psychology and Psychiatry*, 39, 365-376.

- Davis, S., Rees, M., Ribot, J., Moufarege, A., Rodenberg, C., & Purdie, D. (2003). Efficacy and Safety of Testosterone Patches for the Treatment of Low Sexual Desire in Surgically Menopausal Women. *Fertility and Sterility*, 80 suppl 3, 76.
- Day, L. & Maltby, J. (2005). 'With good luck': Belief in good luck and cognitive planning. *Personality and Individual Differences*, 39, 1217-1226.
- De Girolamo, G., Rucci, P., Scocco, P., Becchi, A., Coppa, F., D'Addario, A., Daru, E., de Leo, D., Galassi, L., Mangelli, L., Marson, C., Neri, G., & Soldani, L. (2000). *Quality Epidemiology and Psychiatric Society*, 9, 45-55
- Dember, W. N., Martin, S. H., Hummer, M. K., Howe, S. R. & Melton, R. S. (1989). The measurement of optimism and pessimism. *Current Psychology: Research and Reviews*, 8, 109-119.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49, 71-75.
- Doob PB, McFadden DK. The utility of health-related quality of life (HRQL) and energy-fatigue scales in evaluating response to therapy in clinical trials. IX International Conference on AIDS World Congress. Berlin: 1993.
- Dupuy, H. J. (1984). The Psychological General Well-being (PGWB) Index. In Wenger, N. K. (Ed.), *Assessment of quality of life in clinical trials of cardiovascular therapies* (pp. 170-183). New York: Le Jacq Publishing.
- Dyck, H. J. (1987). Assessing logotherapeutic constructs: Conceptual and psychometric status of the purpose in life and seeking noetic goals test. *Clinical Psychology review*, 8, 439-447.
- Egloff, B., Schmukle, S. C., Burns, L. R., Kohlmann, C.-W., & Hock, M. (2003). Facets of dynamic positive affect: differentiating joy, interest, and activation in the positive and negative affect schedule (PANAS). *Journal of Personality and Social Psychology*, 85, 528-540.
- Elklit, A. (1996). Coping Style Questionnaire: a contribution to the validation of a scale for measuring coping strategies. *Personal and Individual Differences*, 21, 809-12
- Endler, N. S. & Parker, J. D. A. (1990). *The Coping Inventory for Stressful Situations (CISS): Manual*. Toronto: Multi-Health Systems, Inc.
- European Opinion Research Group (2003). *Eurobarometer 58.2: The mental health status of the European population*.
- Evans, D. R., & Cope W. E. (1989). *QLQ Quality of Life Questionnaire*. Canada: Multi-Health Systems
- Ferguson, E. & Cox, T. (1997). The Functional Dimensions of Coping scale: Theory, reliability and validity. *British Journal of Health Psychology*, 2, 109-129.

- Fetzer Institute (2003). Multidimensional Measurement of Religiousness/Spirituality for Use in Health Research: A Report of the National Working Group. In Kalamazoo, MI: Fetzer Institute, National Institute on Aging Working Group
- Fitts, W. H. (1965). *Tennessee Self-concept Scale Manual*. Nashville, TN: Counselor Recordings and Tests.
- Fitts, W. H. & Warren, W. L. (1996). *Tennessee Self-Concept Scale*, Second Edition (TSCS:2). Los Angeles, CA: Western Psychological Corporation.
- Fitzpatrick, R., Davey, C., Buxton, M. J., & Jones, D. R. (1998a). Evaluating patient-based outcome measures for use in clinical trials. *Health Technology Assessment*, 2.
- Fitzpatrick, R., Davey, C., Buxton, M. J., & Jones, D. R. (1998b). *Evaluating patient-based outcome measures for use in clinical trials* (Rep. No. Vol. 2 No.14).
- Fleming, J. S., & Courtney, B. E. (1984). The dimensionality of self-esteem: II. Hierarchical facet model for revised measurement scales. *Journal of Personality and Social Psychology*, 46, 404–421.
- Flesch, R. F. (1948). A new readability yardstick. *Journal of Applied Psychology*, 32, 221-233.
- Folkman, S. & Lazarus, R. S. (1985). If it changes it must be a process: study of emotion and coping during three stages of a college examination. *Journal of Personality and Social Psychology*, 48, 150-170.
- Folkman, S. & Lazarus, R. (1988). *Manual for the ways of coping questionnaire*. Redwood City, CA: Mind Garden.
- Forbes, A. & Roger, D. (1999). Stress, social support and fear of disclosure. *British Journal of Health Psychology*, 4, 165-179.
- Forsman, L. & Johnson, M. (1996). Dimensionality and validity of two scales measuring different aspects of self-esteem. *Scandinavian Journal of Psychology*, 37, 1-15.
- Furnham, A. & Petrides, K. V. (2003). Trait emotional intelligence and happiness. *Social Behavior and Personality*, 31, 815-824.
- Goldberg, D., Williams, P. (1988). *A user's guide to the General Health Questionnaire*. Windsor: NFER-NELSON
- Greenglass, E. R., Schwarzer, R. & Taubert, S. (1999). *The Proactive Coping Inventory (PCI): A multidimensional research instrument*. (On-line publication). Available at: <http://www.psych.yorku.ca/greenglass/>
- Guyatt, G. H., Townsend, M., Bergman, L. B., & Keller, J. L. (1987). A comparison of Likert and visual analogue scales for measuring change in function. *Journal of Chronic Diseases*, 40, 1129-1133.

- Guyatt, G. H., Deyo, R. A., Charlson, M., Levine, M. N., & Mitchell, A. (1989). Responsiveness and validity in health status measurement: a clarification. *Journal of Clinical Epidemiology*, 42, 403-408.
- Guyatt, G. H., Feeny, D. H., & Patrick, D. L. (1993). Measuring health-related quality of life. *Annals of Internal Medicine*, 118, 622-629.
- Halamandaris, K. F. & Power, K. G. (1997). Individual differences, dysfunctional attitudes, and social support: a study of the psychosocial adjustment to university life of home students. *Personality and Individual Differences*, 22, 93-104.
- Hale, W. D., Fiedler, L. R., & Cochran, C. D. (1992). The revised generalized expectancy for success scale: a validity and reliability study. *Journal of Clinical Psychology*, 48, 517-521.
- Harlow, L. L., Newcomb, M. D., & Bentler, P. M. (1987). Purpose in Life Test assessment using latent variable methods. *British Journal of Clinical Psychology*, 26, 235-236.
- Heatherton, T.F. & Polivy, J. (1991). Development and validation of a scale for measuring state self-esteem. *Journal of Personality and Social Psychology*, 60, 895-910
- Hensley, W. E. & Roberts, M. K. (1976). Dimensions of Rosenberg's self-esteem scale. *Psychological Reports*, 38, 583-584.
- Hensley, W. E. (1977). Differences between males and females on Rosenberg scale of self-esteem. *Psychological Reports*, 41, 829-830.
- Hewitt, A. K., Foxcroft, D. R., & MacDonald, J. (2004). Multitrait-multimethod confirmatory factor analysis of the attributional style questionnaire. *Personality and Individual Differences*, 37, 1483-1491.
- Hill, P. C. & Hood Jr, R. W. (1999). *Measures of religiosity*. Birmingham AL: Religious Education Press.
- Hills, P. & Argyle, M. (2002). The Oxford Happiness Questionnaire: A compact scale for the measurement of psychological well-being. *Personality and Individual Differences*, 33, 1073-1082.
- Hirschy, A. J. & Morris, J. R. (2002). Individual differences in attributional style: the relational influence of self-efficacy, self-esteem, and sex role identity. *Personality and Individual Differences*, 32, 183-196.
- Hood, R. W. (1975). The construction and preliminary validation of a measure of reported mystical experience. *Journal for the Scientific Study of Religion*, 14, 29-41.
- Horowitz, M., Sonneborn, D., Sugahara, C. & Maercker, A. (1996). *Self-Regard: A new measure*. The American Journal of Psychiatry, 153(3), 382-385.

- Hunt, S. M. & McKenna, S. P (1992). A British adaptation of the General Well-being Index: a new tool for clinical research. *British Journal of Medical Economics*, 2, 49-60.
- Huppert, F. A. (2005a). Positive mental health in individuals and populations. In Huppert, F. A., Baylis, N., & Keverne, B. (Eds.), *The Science of Well-Being* (pp. 307-340). New York: Oxford University Press.
- Huppert, F., Marks, N., Clark, A., Siegrist, J., Stulzer, A., & Vitterso, J. (2005b). Personal and social well-being module for the European Social Survey, round 3.
- Hyland, M. E. & Sodergren, S. C. (1996). Development of a new type of global quality of life scale, and the comparison of performance and preference for 12 global scales. *Quality of Life Research*, 5, 469-480.
- International Well-being Group (2005). Personal Well-being Index. Melbourne: Australian Centre on Quality of Life, Deakin University.
http://www.deakin.edu.au/research/acqol/instruments/wellbeing_index.htm
- Jahoda, M. (1958). *Current concepts of positive mental health*. New York: Basic Books.
- Johnson, M. (1998). Self-esteem stability: the importance of basic self-esteem and competence strivings for the stability of global self-esteem. *European Journal of Personality*, 12, 103-116.
- Johnson, M. (2004). Approaching the salutogenesis of sense of coherence: The role of 'active' self-esteem and coping. *British Journal of Health Psychology*, 9, 419-432.
- Jones, A. & Crandall, R. (1986). Validation of a short index of self-actualization. *Personality and Social Psychology Bulletin*, 12(1), 63-73.
- Joseph, S. & Lewis, C. A. (1998). The Depression-Happiness Scale: reliability and validity of a bipolar self-report scale. *Journal of Clinical Psychology*, 54, 537-544.
- Joseph, S., Linley, P. A., Harwood, J., Lewis, C. A., & McCollam, P. (2004). Rapid assessment of well-being: The Short Depression-Happiness Scale (SDHS). *Psychology and Psychotherapy: Theory, Research and Practice*, 77, 463-478.
- Kahneman, D., Diener, E., & Schwarz, N. (Eds.) (1999). *Well-being: the foundations of hedonic psychology*. New York: Russell Sage Foundation.
- Kammann, R. & Flett, R. (1983). Affectometer 2: A Scale to Measure Current Level of General Happiness. *Australian Journal of Psychology*, 35, 259-265.
- Katz, M. M. & Lyerly, S. B. (1963). Methods for measuring adjustment and social behavior in the community: I. Rationale, description, discriminative validity and scale development. *Psychological Reports*, 13, 503-535.
- Keyes, C. L. M. (2002). The mental health continuum: from languishing to flourishing in life. *Journal of Health and Social Research*, 43, 207-222.

- Keyes, C. L. M. & Magyar-Moe, J. L. (2003). The measurement and utility of adult subjective well-being. In Lopez, S. J. & Snyder, C. R. (Eds.), *Positive Psychological Assessment: A Handbook of Models and Measures* (pp. 411-425). Washington, DC: American Psychological Association.
- Kim, K. A. & Mueller, D. J. (2001). To balance or not to balance: Confirmatory factor analysis of the Affect-Balance Scale. *Journal of Happiness Studies*, 2, 289-306.
- Kline, P. (1986). *A Handbook of Test Construction*. London: Methuen.
- Kline, P. (1993). *The Handbook of Psychological Testing*. London: Routledge.
- Kline, P. (1994). *An Easy Guide to Factor Analysis*. London: Routledge.
- Kobasa, S. C. & Maddi, S. R. (1977). Existential personality theory. In Corsini, R. (Ed.), *Current Personality Theories* (pp. 243-276). Illinois: Peacock
- Korkeila, J. J. A. (2000). *Measuring aspects of mental health*. Helsinki: National Research and Development Centre for Welfare and Health.
- Kuder, G. F. & Richardson, M. W. (1937). The theory of estimation of test reliability. *Psychometrika*, 2, 151-160.
- Landerman, R., George, L.K., Campbell, R. T. & Blazer, D.G. (1989). Alternative models of the stress buffering hypothesis. *American Journal of Community Psychology*, 17, 625-642.
- Leddy, S.K. (1996). Development and psychometric testing of the Leddy Healthiness Scale. *Research in Nursing and Health*, 19(5), 431-440.
- Lehtinen, V., Sohlman, B., & Kovess-Masfety, V. (2005). Level of positive mental health in the European Union: results from the Eurobarometer 2002 survey. *Clinical Practice and Epidemiology in Mental Health*, 1, 1-7.
- Lewis, C. A. (1998). Towards a clarification of the association between religiosity and life satisfaction. *Journal of Beliefs and Values*, 19, 119-122.
- Lewis, C. A. & Joseph, S. (1997). The Depression-Happiness Scale, a measure of a state or a trait? Test-retest data over two years. *Psychological Reports*, 81, 1313-1314.
- Lewis, C. A. & McCollum, M. A. (1999). The Depression-Happiness Scale: Test-retest data over two weeks. *Psychological Reports*, 85, 889-892.
- Lewis, C. A., McCollam, P., & Joseph, S. (2000). Convergent validity of the Depression-Happiness Scale with the Bradburn Affect Balance Scale. *Social Behaviour and Personality*, 28, 579-584.
- Lewis, C. A., McCollam, P., & Joseph, S. (2001). Convergent validity of the Depression-Happiness Scale with the Memorial University of Newfoundland Scale of Happiness. *Psychological Reports*, 88, 471-472.

- Lewis, C. A., Maltby, J., & Day, L. (2005). Religious orientation, religious coping and happiness among UK adults. *Personality and Individual Differences*, 38, 1193-1202.
- Lewis, C. A. & Cruise, S. M. (2006). Religion and happiness: Consensus, contradictions, comments and concerns. *Mental Health, Religion and Culture*, 9.
- Liang, M. H. (2000). Longitudinal construct validity: establishment of clinical meaning in patient evaluative instruments. *Medical Care*, 38, 1184-1190.
- Likert, R. A. (1932). A technique for the measurement of attitudes. *Archives of Psychology*, 140, 55.
- Linley, P. A., Joseph, S., & Loumidis, K. (2005). Trauma work, sense of coherence, and positive and negative changes in therapists. *Psychotherapy and Psychosomatics*, 74, 185-188.
- Loewenthal, K. M. (1996). *An Introduction to Psychological Tests and Scales*. London: UCL Press Limited.
- Lopez, S. J., & Snyder, C. R. (Eds.) (2003). *Positive Psychological Assessment: A Handbook of Models and Measures*. Washington DC: American Psychological Association.
- Lyubomirsky, S. & Lepper, H. S. (1999). A measure of subjective happiness: Preliminary reliability and construct validation. *Social Indicators Research*, 46, 137-155.
- MacDonald, G. & O'Hara, K. (1998) *Ten elements of mental health, its promotion and demotion: implications for practice*. Society of Health Education and Promotion Specialists.
- Maddi, S. R., Harvey, R. H., Khoshaba, D. M., Lu, J. L., Persico, M. & Brow, M (2006). The personality construct of hardiness, III: Relationships with repression, innovativeness, authoritarianism, and performance. *Journal of Personality*, 74, 575-598.
- Makikangas, A. & Kinnunen, U. (2003). Psychosocial work stressors and well-being: self-esteem and optimism as moderators in a one-year longitudinal sample. *Personality and Individual Differences*, 35, 537-557.
- Mascaro, N., Rosen, D. H. & Morey, L.C. (2004). The development, construct validity, and clinical utility of the Spiritual Meaning Scale. *Personality and Individual Differences*, 37(4), 845-860.
- Mauthner, N. & Platt, S. (1998). *Selective literature review of measures of mental health and emotional well-being*. Edinburgh: University of Edinburgh.
- Mayer, J. D., Salovey, P. & Caruso, D. (2001). *The Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT)*. Toronto: Multi-Health Systems.
- McDowell, I. & Newell, C. (1996). *Measuring health: a guide to rating scales and questionnaires*. (2nd ed.) New York: Oxford University Press.

- McFarlane, A. H., Neale, K. A., Norman, G. R., Roy, R. G. & Streiner, D. L. (1981). Methodological issues in developing a scale to measure social support. *Schizophrenia Bulletin*, 7, 90-100.
- McGreal, R. & Joseph, S. (1993). The Depression-Happiness Scale. *Psychological Reports*, 73, 1279-1282.
- McPherson, S., Hale, R., Richardson, P., & Obholzer, A. (2003). Stress and coping in accident and emergency senior house officers. *Emergency Medicine Journal*, 20, 230-231.
- Meier, A. & Edwards, H. (1974). Purpose-in-Life Test: Age and sex differences. *Journal of Clinical Psychology*, 30, 384-386.
- Meltzer, H. (2003). Chapter 4. Development of a common instrument for mental health. In Nosikov, A. & Gudex, C. (Eds.), *EUROHIS: Developing Common Instruments for Health Surveys* (pp. 35-60). Amsterdam: IOS Press.
- Mind Garden (1989). *CSEI Manual*. USA: Mind Garden, Inc.
- Mitchell, J. & Bradley, C. (2001). Psychometric evaluation of the 12-item Well-being Questionnaire for use with people with macular disease. *Quality of Life Research*, 10, 465-473.
- Molasso, W. R. (2006). Exploring Frankl's Purpose in Life with College Students. *Journal of College and Character*, 7, 1-10.
- Moos, R. H. (1988). *Coping Responses Inventory manual*. Palo Alto, CA: Stanford University and Department of Veterans Affairs Medical Centers.
- Moos, R. H., Cronkite, R. C., Billings, A. G. & Finney, J. W. (1986). *Health and Daily Living Form Manual (rev. ed)*. Palo Alto, CA: Social Ecology Laboratory. Veterans Administration and Stanford University Medical Center.
- Moos, R. & Moos, B. (1994). *Family Environment Scale manual: Development, applications, research* (3rd ed). Palo Alto, CA: Consulting Psychologist Press.
- Moyer, A. & Salovey, P. (1999). Predictors of Social Support and Psychological Distress in Women with Breast Cancer. *Journal of Health Psychology*, 4, 177-191.
- Murphy, D. A., Rotheram-Borus, M. J., & Marelich, W. D. (2003). Factor structure of a coping scale across two samples. *Journal of Applied Social Psychology*, 33, 1-23.
- Neill, J. T., Marsh, H. W. & Richards, G. E. (2003). The Life Effectiveness Questionnaire: Development and psychometrics. Unpublished manuscript, University of Western Sydney, Sydney, NSW, Australia
- Nevo, B. (1985). Face validity revisited. *Journal of Educational Measurement*, 22, 287-293.

- Nunn, K. P., Lewin, T. J., Walton, J. M. & Carr, V. J. (1996). The construction and characteristics of an instrument to measure personal hopefulness. *Psychological Medicine*, 26(3), 531-545.
- Nunnally, J. C. & Bernstein, I. H. (1994). *Psychometric theory*. (3rd ed.) New York: McGraw-Hill.
- O'Carroll, R. E., Smith, K., Couston, M., Cossar, J. A., & Hayes, P. C. (2000). A comparison of the WHOQOL-100 and the WHOQOL-BREF in detecting change in quality of life following liver transplantation. *Qual Life Res.*, 9, 121-124.
- O'Connor, D. B. O., Cobb, J., & O'Connor, R. C. (2003). Religiosity, stress and psychological distress: no evidence for an association among undergraduate students. *Personality and Individual Differences*, 34, 211-217.
- Office of National Statistics (2001). *Psychiatric morbidity among adults living in private households in Great Britain: 2000*. London: HMSO.
- Olason, D. T. & Roger, D. (2001). Optimism, pessimism and 'fighting spirit': a new approach to assessing expectancy and adaptation. *Personality and Individual Differences*, 31, 755-768.
- Paloutzian, R. F. & Ellison, C. W. (1982). Loneliness, spiritual well-being and the quality of life. In Peplau, L.A. & Perlman, D. (Eds.), *Loneliness: a sourcebook of current theory, research and therapy* (pp. 224-237). New York: Wiley.
- Parkerson, G. R. Jr., Michener, J. L., Wu, L. R., Finch, J. N., Muhlbaie, L. H., Magruder-Habib, K., Kertesz, J. W., Clapp-Channing, N., Morrow, D. S., Chen, A. L. & Jokerst, E. (1989). Associations among family support, family stress, and personal functional health status. *Journal of Clinical Epidemiology*, 42, 217-229.
- Pavot, W. & Diener, E. (1993). Review of the Satisfaction With Life Scale. *Psychological Assessment*, 5, 164-172.
- Pavot, W., Diener, E. & Suh, E. (1998). The Temporal Satisfaction With Life Scale. *Journal of Personality Assessment*, 70(2), 340-354.
- Perez, J. C., Petrides, K. V., & Furnham, A. (2005). Measuring Trait Emotional Intelligence. In Schulze, R. & Roberts, R. D. (Eds.), *International Handbook of Emotional Intelligence* (pp. 123-143). Cambridge, MA: Hogrefe and Huber.
- Peterson, C., Semmel, A., von Baeyer, C., Abramson, L. Y., Metalsky, G. I., & Seligman, M. E. (1982). The Attributional Style Questionnaire. *Cognitive Therapy and Research*, 6, 287-300.
- Peterson, C. & Villanova, P. (1988). An Expanded Attributional Style Questionnaire. *Journal of Abnormal Psychology*, 97(1), 87-89.
- Petrides, K. V. & Furnham, A. (2000). On the dimensional structure of emotional intelligence. *Personality and Individual Differences*, 29, 313-320.

- Petrides, K. V. & Furnham, A. (2001). Trait emotional intelligence: psychometric investigation with reference to established trait taxonomies. *European Journal of Personality, 15*, 425-448.
- Petrides, K. V. & Furnham, A. (2003). Trait emotional intelligence: behavioural validation in two studies of emotion recognition and reactivity to mood induction. *European Journal of Personality, 17*, 39-57.
- Petrides, K. V. & Furnham, A. (2006). The role of trait emotional intelligence in a gender-specific model of organizational variables. *Journal of Applied Social Psychology, 36*, 552-569.
- Pettit, J. W., Kline, J. P., Gencoz, T., Gencoz, F., & Joiner, T. E. Jr (2001). Are happy people healthier? The specific role of positive affect in predicting self-reported health symptoms. *Journal of Research in Personality, 35*, 521-536.
- Pierce, G. R., Sarason, I. G., & Sarason, B. R. (1991). General and relationship-based perceptions of social support: are two constructs better than one? *Journal of Personality and Social Psychology, 61*, 1028-1039.
- Pouwer, F., van der Ploeg, H. M., Ader, H. J., Heine, R. J., & Snoek, F. J. (1999). The 12-item well-being questionnaire. An evaluation of its validity and reliability in Dutch people with diabetes. *Diabetes Care, 22*, 2004-2010.
- Procidano, M. E. & Heller, K. (1983). Measures of perceived social support from friends and from family: three validation studies. *American Journal of Community Psychology, 11*, 1-24.
- Reilley, S. P., Geers, A. L., Lindsay, D. L., Deronde, L., & Dember, W. N. (2005). Convergence and predictive validity in measures of optimism and pessimism: sequential studies. *Current Psychology, 24*, 43-59.
- Reker, G. T. (1977). The Purpose-in-Life Test in an inmate population: An empirical investigation. *Journal of Clinical Psychology, 33*, 688-693.
- Reker, G. T. (1992). *Manual of the Life Attitude Profile-Revised (LAP-R)*. Trent University, Peterborough, ON: Student Psychologists Press.
- Reker, G. T. (1996). *Manual of the Sources of Meaning Profile – Revised (SOMP-R)*. Peterborough, ON, Canada: Student Psychologists Press.
- Reker, G. T. (2005). Meaning in life of young, middle-aged, and older adults: factorial validity, age, and gender invariance of the Personal Meaning Index (PMI). *Personality and Individual Differences, 38*, 71-85.
- Reker, G. T., & Cousins, J. B. (1979). Factor structure, construct validity and reliability of the Seeking of Noetic Goals (SONG) and Purpose in Life (PIL) tests. *Journal of Clinical Psychology, 35*, 85-91.
- Robinson, J. P. & Shaver, P. R. (1973). *Measures of social psychological attitudes*. Ann Arbor, MI: Survey Research Center.

- Robson, P. (1989). Development of a new self-report questionnaire to measure self esteem. *Psychological Medicine*, 19, 513-518.
- Roger, D., Jarvis, G., & Najarian, B. (1993). Detachment and Coping – the Construction and Validation of A New Scale for Measuring Coping Strategies. *Personality and Individual Differences*, 15, 619-626.
- Rosenberg, M. (1965). The measurement of self-esteem. In *Society and the adolescent self-image* (pp. 16-31, 304-307). Princeton, New Jersey: Princeton University Press.
- Rotter, J. (1967). A new scale for the measurement of interpersonal trust. *Journal of Personality*, 23, 651-665.
- Roysamb, E. & Strype, J. (2002). Optimism and pessimism: underlying structure and dimensionality. *Journal of Social and Clinical Psychology*, 21, 1-19.
- Rutter, M. (1985). Resilience in the face of adversity: protective factors and resistance to psychiatric disorder. *British Journal of Psychiatry*, 147, 598–611.
- Ryan, R. M. & Deci, E. L. (2001). On happiness and human potentials: a review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, 52, 141-166.
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57, 1069-1081.
- Sakolofske, D. H., Austin, E. J., & Minski, P. S. (2003). Factor structure and validity of a trait emotional intelligence measure. *Personality and Individual Differences*, 707-721.
- Salovey, P., Mayer, J. D., & Caruso, D. (2005). The positive psychology of emotional intelligence. In Snyder, C. R. & Lopez, S. J. (Eds.), *Handbook of Positive Psychology* (pp. 159-171). New York: Oxford University Press.
- Sarason, I. G., Levine, H. M., Basham, R. B., & Sarason, B. R. (1983). Assessing social support: The Social Support Questionnaire. *Journal of Personality and Social Psychology*, 44, 127-139.
- Sarason, I. G., Sarason, B. R., Shearin, E. N., & Pierce, G. R. (1987). A brief measure of social support: Practical and theoretical implications. *Journal of Social and Personal Relationships*, 4, 497-510.
- Scheier, M. F. & Carver, C. S. (1985). Optimism, coping, and health: assessment and implications of generalized outcome expectancies. *Health Psychology*, 4, 219-247.
- Scheier, M. F., Carver, C. S., & Bridges, M. W. (1994). Distinguishing optimism from neuroticism (and trait anxiety, self-mastery, and self-esteem): a reevaluation of the Life Orientation Test. *Journal of Personality and Social Psychology*, 67, 1063-1078.

- Schmitt, D. P. & Allik, J. (2005). Simultaneous administration of the Rosenberg Self-Esteem Scale in 53 nations: exploring the universal and cultural-specific features of global self-esteem. *Journal of Personality and Social Psychology*, 89, 623-642.
- Schnoll, R. A., Malstrom, M., James, C., Rothman, R. L., Miller, S. M., Ridge, J. A. *et al.* (2002). Correlates of tobacco use among smokers and recent quitters diagnosed with cancer. *Patient Education and Counseling*, 46, 137-145.
- Scholz, U., Gutierrez-Dona, B., Sud, S., & Schwarzer, R. (2002). Is general self-efficacy a universal construct? *European Journal of Psychological Assessment*, 18, 242-251.
- Schutte, N. S., Malouff, J. M., Hall, L. E., Haggerty, D. J., Cooper, J. T., Golden, C. J. *et al.* (1998). Development and validation of a measure of emotional intelligence. *Personality and Individual Differences*, 25, 167-177.
- Schwarzer, R. & Jerusalem, M. (1995). Generalized Self-Efficacy Scale. In Weinman, J., Wright, S., & Johnston, M. (Eds.), *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp. 35-37). Windsor, UK: NFER-NELSON.
- Schwarzer, R. & Schwarzer, C. (1996). A Critical Survey of Coping Instruments. In Zeidner, M. & Endler, N. S. (Eds.), *Handbook of Coping* (pp. 107-132). New York: Wiley.
- Scottish Executive (1999). *Towards a Healthier Scotland – a white paper on health*. Edinburgh: The Stationery Office.
- Scottish Executive (2000). *Our National Health: a plan for action, a plan for change*. Edinburgh: The Stationery Office.
- Scottish Executive (2003a). *Partnership for Care: Scotland's Health White Paper*. Edinburgh: The Stationery Office.
- Scottish Executive (2003b). *Improving Health in Scotland – The Challenge*. Edinburgh: The Stationery Office.
- Scottish Executive (2003c). *National Programme for Improving Mental Health and Well-being: action plan 2003–2006*. Edinburgh: The Stationery Office.
- Secker, J. (1998). Current conceptualisations of mental health and mental health promotion. *Health Education Research: Theory and Practice*, 13 (1), 57–66.
- Seligman, M. E., Abramson, L. Y., Semmel, A., & von Baeyer, C. (1979). Depressive attributional style. *Journal of Abnormal Psychology*, 88, 242-247.
- Sherbourne, C. D. & Stewart, A. L. (1991). The MOS social support survey. *Soc.Sci.Med*, 32, 705-714.
- Shevlin, M. E., Bunting, B. P., & Lewis, C. A. (1995). Confirmatory factor analysis of the Rosenberg Self-Esteem Scale. *Psychological Reports*, 76, 707-710.

- Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T. *et al.* (1991). The will and the ways: development and validation of an individual differences measure of hope. *Journal of Personality and Social Psychology*, 60, 570-585.
- Snyder, C. R., Sympson, S. C., Ybasco, F. C., Borders, T. F., Babyak, M. A. & Higgins, R. L. (1996). Development and validation of the State Hope Scale. *Journal of Personality and Social Psychology*, 70(2), 321-335.
- Snyder, C. R. & Lopez, S. J. (Eds.) (2005). *Handbook of Positive Psychology*. Oxford: Oxford University Press.
- Smith, T. W., Pope, M. K., Rhodewalt, F., & Poulton, J. L. (1989). Optimism, neuroticism, coping and symptom reports: An alternative interpretation of the Life Orientation Test. *Journal of Personality and Social Psychology*, 56, 640-648.
- Spence, S. H., Donald, M., Woodward, R., & Lacherez, P. (2002). Outcomes and indicators, measurement tools and databases for the National Action Plan for Promotion, Prevention and Early Intervention for Mental Health 2000 Appendix 1 Audit of measurement tools relevant to evaluation of the National Action Plan. Commonwealth Department of Health and Ageing, Australia.
- Staats, S. R. & Stassen, M. A. (1985). Hope: An affective cognition. *Social Indicators Research*, 17, 235-242.
- Staats, S. R. (1989). Hope: A comparison of two self-report measures for adults. *Journal of Personality Assessment*, 53, 366-375.
- Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The Meaning in Life Questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology*, 53, 80-93.
- Step toe, A., Wardle, J., Pollard, T. M., Canaan, L., & Davies, J. D. (1996). Stress, social support and health-related behavior: a study of smoking, alcohol consumption and physical exercise. *Journal of Psychosomatic Research*, 41, 171-180.
- Stewart-Brown, S. L. (2002). Measuring the parts most measures do not reach: a necessity for evaluation in mental health promotion. *Journal of Mental Health Promotion*, 1, 4-9.
- Streiner, D. L. & Norman, G. R. (2003). *Health Measurement Scales: a practical guide to their development and use*. (3rd ed.) Oxford: Oxford University Press.
- Suissa, S. (1991). Binary methods for continuous outcomes: a parametric alternative. *Journal of Clinical Epidemiology*, 44, 241-248.
- Taylor, S. (1998). Coping Strategies. Available: Available: <http://www.macses.ucsf.edu/Research/Psychosocial/notebook/coping.html> (online).

- Tennant, R., Hiller L, Fishwick R, Platt S, Joseph S, Weich S, Parkinson J, Secker J, & Stewart-Brown S (2007a). The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): development and UK validation. *Health and Quality of Life Outcome*, 5 (63), page numbers to be determined
- Tennant, R., Stewart-Brown, S. L., & Joseph, S. (2007b). The Affectometer 2: A valid measure of positive mental health in UK populations. *Quality of Life Research*, 16 (4), 687-695.
- Tennen, H. & Herzberger, S. (1985). Attributional Style Questionnaire. In Keyser, D.J. & Sweetland, R. C. (Eds.), *Test critiques* (pp. 20-32). Kansas City, MO: Test Corporation of America.
- The DAFNE Study Group (2002). Training in flexible, intensive insulin management to enable dietary freedom in people with type 1 diabetes: dose adjustment for normal eating (DAFNE) randomised controlled trial. *BMJ*, 325, 746-749.
- The WHOQOL Group (1998). Development of the World Health Organization WHOQOL-BREF quality of life assessment. *Psychol.Med*, 28, 551-558.
- Thomas, S. F. & Marks, D. F. (1995). The Measurement of Coping in Breast-Cancer Patients. *Psycho-Oncology*, 4, 231-237.
- Todd, C. & Bradley, C. (1994). Evaluating the design and development of psychological scales. In Bradley, C. (Ed.), *Handbook of Psychology and Diabetes: a guide to psychological measurement in diabetes research and practice* (pp. 15-42). Chur, Switzerland: Harwood Academic Publishers.
- Tudor, K. (1996). *Mental Health Promotion: Paradigms and practice*. London: Routledge.
- Upton, D. (1993). Social Support and Emotional Adjustment in People with Chronic Epilepsy. *Journal of Epilepsy*, 6, 105-111.
- Valiant, G. E. (2003). Mental health. *American Journal of Psychiatry*, 160 (8), 1373-84.
- Vaux, A., Phillips, J., Holly, L., Thomson, B., Williams, D., & Stewart, D. (1986). The Social Support Appraisals (SS-A) Scale: Studies of reliability and validity. *American Journal of Community Psychology*, 14, 195-219.
- Ware, J., Veit, C. & Donald, C. (1985). *Refinements in the Measurement of Mental Health of Adults in the Health Insurance Study*. Santa Monica, CA: The Rand Corporation.
- Ware, J. E. & Sherbourne, C. D. (1992). The MOS 36-Item Short-Form Health Survey (SF-36). 1. Conceptual framework and item selection. *Medical Care*, 30(6), 473-483.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of Personality and Social Psychology*, 54, 1063-1070.

- Weissman, M. M. & Bothwell, S. (1976). Assessment of social adjustment by patient self-report. *Archives of General Psychiatry*, 33(9), 1111-1115.
- White, C. A. (2004). Meaning and its measurement in psychosocial oncology. *Psycho-Oncology*, 13, 468-481.
- Wild, D., Grove, A., Martin, M., Eremenco, S., McElroy, S., Verjee-Lorenz, A. *et al.* (2005). Principles of Good Practice for the Translation and Cultural Adaptation Process for Patient-Reported Outcomes (PRO) Measures: Report of the ISPOR Task Force for Translation and Cultural Adaptation. *Value in Health*, 8, 94-104.
- Willis, G. B. (2005). *Cognitive Interviewing: a tool for improving questionnaire design*. Thousand Oaks, California: Sage Publications.
- Witthaus, E., Stewart, J., & Bradley, C. (2001). Treatment satisfaction and psychological well-being with insulin glargine compared with NPH in patients with Type 1 diabetes. *Diabetic Medicine*, 18, 619-625.
- Wong, P. T. P. (1998). Implicit theories of meaningful life and the development of the Personal Meaning Profile (PMP). In *The Human Quest for Meaning: A Handbook of Psychological Research and Clinical Applications* (pp. 359-394). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- World Health Organization (1958). *The first ten years of the World Health Organization*. Geneva: WHO.
- World Health Organization. (2005). WHO Mental Health Declaration for Europe; facing the challenges, building the solutions.
- Zika, S. & Chamberlain, K. (1992). On the relation between meaning in life and psychological well-being. *British Journal of Psychology*, 83, 133-145.
- Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment*, 52, 30-41.

Appendices

Appendix A Glossary of terms

All terms defined below are marked in **bold** the first time that they appear in the main text of this report.

Acquiescence	The tendency of some respondents to agree with any given statement without considering their responses.
Anchor	The phrases or words used at the extreme ends of a numerical rating scale to indicate what the numbers represent. For example, instructions might indicate that the respondent should mark the response scale from 1 to 5, where 1 = 'strongly agree' and 5 = 'strongly disagree'.
Aspect of positive mental health	The term used in the report to cover elements of positive mental health; factors which influence positive mental health and the consequences of positive mental health.
Categorical data	Data at the nominal level of measurement (e.g. religious denomination or, in a scale, dichotomous Yes or No responses).
Ceiling effect	Occurs where item wording restricts the possibility of respondents indicating a higher level of response. If there is a ceiling effect at baseline a scale may not be able to detect improvements following an intervention.
Cognitive debriefing	A process in the linguistic evaluation of a translation, in which the clarity, intelligibility, appropriateness and cultural relevance of the target language version is assessed by interviewing members of the target population about the translated version. This process is increasingly used to evaluate the content validity during the development of new scales.
Concurrent validity	A scale has concurrent validity if it correlates highly with another test, measuring the same variable, which was administered at the same time.
Confirmatory factor analysis	A statistical process used to confirm or support hypotheses regarding the organisation of factors or the expected number of factors in a scale.
Construct validity	An indication that there is evidence that supports the existence of a hypothetical construct that a scale purports to be measuring but which cannot be directly observed (e.g. life satisfaction, optimism).

Content validity	An indication of the degree to which a construct is covered by items in a scale. It is a judgement by both experts and members of the target group for which a scale has been designed.
Continuous data	Data measured on scales where values change smoothly rather than in steps (e.g. an interval scale with multiple responses or a visual analogue scale).
Convergent validity	A scale has convergent validity if it has strong relationships with variables that are thought to be related to the construct. It is an aspect of construct validity and is reported as a correlation.
Criterion validity	Applies where a gold standard (or criterion) scale of an attribute already exists with which to compare a new scale measuring that attribute. Where a gold standard scale does exist, both scales are administered at the same time to the same set of respondents. It is reported as a correlation.
Cronbach's alpha	This coefficient of internal consistency reliability indicates the degree to which scores on each item of a scale correlate with the scores on all the other items in its scale. It is the average of the correlations among all the scale items. Values range from 0 to 1, with higher values indicating high internal consistency.
Determinant	A determining factor or agent; a ruling antecedent.
Dichotomous response	Response to an item on a scale that has only two possible values (e.g. Yes vs. No or True vs. False).
Discriminant validity	A scale has discriminant validity if it has weak relationships with variables that bear little relation to the construct. It may also be called divergent validity. It is an aspect of construct validity, and is reported as a correlation
Divergent validity	See discriminant validity.
Effect size	The standardised difference between two means of two independent groups (the mean difference divided by the standard deviation). Effect size can also be used as an indication of the responsiveness of a scale to change.

Eigenvalue	A statistical term used to determine the number of factors to extract in an exploratory factor analysis. Conceptually, the factor with the largest eigenvalue has the most variance, contributing most to the overall scale structure.
Eudaimonic	Eudaimonic components of positive mental health relate to functioning and growth, at both a personal and a social level (e.g. self-esteem, resilience).
Exploratory factor analysis	A statistical process used to explore and simplify a large set of data by mapping out the most important variables. In an exploratory factor analysis there are no hypotheses or particular expectations of the data or models to be tested (unlike confirmatory factor analysis) regarding the organisation of factors or the expected number of factors in a scale. The most frequently used method is principal components analysis.
Face validity	An aspect of content validity, face validity is a qualitative assessment of whether the items on a scale look reasonable; that is, whether the items measure what they appear to measure.
Factor analysis	Factor analysis is a statistical method used to simplify complex sets of data in order to identify ways in which items cluster together, i.e. the latent structure underlying the variables. The resulting factors describe the relationship between a set of variables and are usually used as evidence justifying the summing of items into scales and/or subscales. Factor analysis can be exploratory factor analysis or confirmatory factor analysis.
Floor effect	Occurs where item (and/or response option) wording restricts the possibility of respondents indicating a lower level of response. Thus, if there is a floor effect at baseline, the scale may not be able to detect worsening in a variable following an intervention.
Hedonic	Hedonic components of positive mental health are characterised by pleasure (e.g. life satisfaction, positive affect).

Internal consistency	Internal consistency is an indicator of the reliability or the homogeneity of items within the scale, i.e. the degree to which scores on each item correlate with the scores on all the other items in the scale. The internal consistency reliability is the average of the correlations among all the scale items. The resulting reliability coefficient (Cronbach's alpha) has values ranging from 0 to 1, with higher values generally indicating greater internal consistency. Values >0.95 may indicate some redundancy (i.e. that some items may not be necessary) in the scale.
Inter-rater reliability	Indicates whether the scoring by different raters agrees regarding the same set of respondents on the same occasion. Reported as a correlation, with high values indicating high inter-rater reliability.
Interval level data	Data where there is an equal distance between the levels on a scale. For example, temperature in degrees Celsius: the distance between 10 and 15 degrees Celsius is the same as the difference between 15 and 20 degrees Celsius.
Intra-rater reliability	Indicates whether the same rater's scores are reliable over time for the same set of respondents. Reported as a correlation with high values indicating high intra-rater reliability.
Item	A statement or question on a scale to which an individual is invited to respond.
Linguistic validation	Where a scale was originally developed in another language, it will need to be translated into the target language. Linguistic validation is a three-stage process, requiring forward translations into the target language, back translations into the original language, reconciliation of those translations and checks that the translations are linguistically and culturally acceptable to respondents.
Load	The extent to which items fit together or cluster in an expected pattern, usually described as a factor loading, indicating that they all contribute to the measurement of a latent (or underlying) construct.
Mental well-being	See positive mental health.
Nominal level data	Data consisting of named categories such as race or gender.
Ordinal level data	Data consisting of ordered or ranked categories such as level of education or severity of disease.

Positive mental health	Positive mental health implies ‘completeness’ and ‘full functioning’. It is defined in this review as covering both hedonic and eudaimonic dimensions. It is more than the absence of mental illness or pathology. The term positive mental health is often used interchangeably with mental well-being
Precursor (of positive mental health)	An attribute that precedes but is not necessary (to positive mental health). Also (in this report) referred to as a ‘mediator’ of positive mental health.
Predictive validity	An aspect of criterion validity. A scale has predictive validity if it is able to predict a criterion score (e.g. predicting change in a particular direction in key variables following an intervention, or predicting differences between groups of people).
Principal components analysis	The most frequently used form of exploratory factor analysis in determination of psychometric properties of scales. The resulting components are, however, often described as factors, although there is a slight distinction between them.
Psychometric validation	A scale undergoes psychometric validation (or evaluation) when respondent data are collected in one or more studies, and analyses conducted to ascertain that the scale’s reliability and validity are at acceptable levels.
Random error	Random error is caused by any factors that randomly affect measurement of the variable across the sample. For example, each person's mood can inflate or deflate their performance on any occasion. At any given time, some adults may be feeling in a good mood and others may be depressed. If mood affects their performance on a scale (e.g. self-esteem), it may artificially inflate the observed scores for some and artificially deflate them for others. The important thing about random error is that it does not have any consistent effects across the entire sample. Instead, it pushes observed scores up or down randomly.
Rating scale	Multiple (three or more) response options for an item on a scale. A visual analogue scale would also constitute a rating scale.
Ratio level data	Data consisting of variables with a known distance from a meaningful zero point (e.g. temperature in degrees Kelvin).

Readability	The ease with which a whole scale, a passage or a single item can be read. It is often reported as a Flesch reading ease statistic (%), with higher scores indicating greater readability) or Flesch-Kincaid level (school grade).
Reliability	Indicates whether a scale is measuring an attribute in a way that is reproducible and consistent.
Reproducibility	Indicates whether a scale yields similar results on two or more administrations, assuming that there has been no actual change in respondents on the attribute being measured during the intervening period. Reproducibility is an alternative name for test-retest reliability.
Responsiveness	Indicates whether a scale can detect changes that matter to respondents across time. In practice, the terms responsiveness and sensitivity to change are often used interchangeably.
Scale	A series of self-report questions, ratings or items used to measure a concept. The response categories of the items are all in the same format, are summed and may be weighted.
Self-report	Subjective judgements by respondents as the basis of responses to items (rather than assessments by investigators).
Sensitivity (to change)	Indicates whether a scale can detect changes that matter to respondents across time. In practice, the terms responsiveness and sensitivity to change are often used interchangeably.
Standardised response mean	SRM is related to responsiveness. It is a statistical term calculated as the mean score change divided by the standard deviation of that score change. An SRM >0.8 is considered large.
Test-retest reliability	Indicates whether a scale yields similar results on two or more administrations, assuming that there has been no actual change in respondents on the attribute being measured during the intervening period.
Validity	An assessment of a scale's scientific utility, in terms of how well it measures what it purports to measure.

Visual analogue
scale

A rating scale in the form of a line, usually 10 cm long, with descriptive anchors (e.g. very satisfied – very dissatisfied) at each end. Respondents mark the line to indicate their response.

Appendix B Results of preliminary electronic search

MEDLINE was used as the sample database and the following filters were applied:

- Field: Title/Abstract (to ensure the keywords are the focus of the article)
- Limits: All Adult, Publication Date from 1985 to 2005, Humans

Step 1:

In the first instance, the 'questionnaire synonyms' were searched separately. The results are displayed in Table 1, along with comments about the yield.

Table 1 Results of Step 1 search

Search term	Result	Comment
Assessment\$	111,649	Exclude – too broad (many irrelevant uses of term)
Battery	6,504	Exclude – unnecessary (invariably used in the context of: “battery of questionnaires”)
Checklist\$	3,404	Include – often used in the title of a scale
Index\$	106,953	Exclude – too broad (many irrelevant uses of term)
Instrument\$	28,519	Include – frequently used technical term for ‘questionnaire’
Interview\$	55,098	Exclude – results mostly include psychiatric interviews, qualitative studies or qualitative stage of questionnaire development
Inventory OR Inventories	12,151	Include – often used in the title of a scale
Measure\$	381,576	Exclude – too broad (many irrelevant uses of term)
Psychological test\$	163	Exclude – irrelevant, focusing mostly on cognitive, clinical or psychiatric tests
Questionnaire\$	77,064	Include – critical search term
Scale\$	74,657	Include – frequently used technical term for ‘questionnaire’
Schedule\$	23,148	Exclude – too broad (refers often to “interview schedule”, “dosing schedule” or “study schedule”)
Survey\$	72,777	Exclude – too broad (refers to type of study, not the scale used)
Test\$	270,299	Exclude – too broad (many irrelevant uses of term)
Tool\$	30,282	Exclude – too broad (many irrelevant uses of term)

\$ denotes truncation of word

The following search terms (\$ denotes truncation of word) were retained:

- Checklist\$
- Instrument\$
- Inventory OR Inventories
- Questionnaire\$
- Scale\$

and combined (using 'OR') to produce an exhaustive but largely relevant listing of 163,597 abstracts. The combined search terms are hereafter referred to as 'questionnaire synonyms'.

Step 2:

The second step in the process was to combine the shortlist of 'questionnaire synonyms' with each of the 'positive mental health synonyms'. The 'positive mental health synonyms' were searched in combination with the 'questionnaire synonyms' (rather than in isolation) because each of the terms is so general, potentially producing thousands of irrelevant results; e.g. when searched alone, the term 'adjustment' produced 23,801 abstracts but in combination with the 'questionnaire synonym' produced 4,805. The results are displayed in Table 2, along with comments about the yield.

The general term "well-being" yielded 3,737 abstracts. The terms "emotional well-being", "psychological well-being" and "subjective well-being" were also searched in order to test a narrower focus/more specific terminology. A brief review of a sample of the abstracts revealed that many authors refer generally to 'well-being' without using the more specific terminology. A search for "well-being" excluding the three more specific terms resulted in 2,635 abstracts, many of which appear highly relevant to the review. Thus, despite the large number of abstracts, "well-being" must be included in the search strategy as it is the central focus of the review. This is particularly important given the surprisingly low yield for the term "positive mental health" (n=9). Alternatives to this search term would include:

- "mental health" (n=5,566) – considered too broad and containing large numbers of irrelevant abstracts focusing on negative aspects of mental health
- "positive" AND "mental health" (n=441) – narrower focus but still largely irrelevant results, e.g. 'screened *positive* to probable *mental health* dysfunction', '*positive* attitudinal change toward *mental health* treatment'.

With the exception of "well-being", search terms that produced a result of more than 1,500 abstracts were excluded from future steps on the basis that they are too general for the purposes of the current review. Those excluded are:

- Adjustment
- Affect
- Coping
- Emotion\$
- Energy
- Mental health
- Quality of life

The criterion of 'fewer than 1,500 abstracts' provides a somewhat arbitrary but logical cut-off point for practical purposes. Of the remaining 36 search terms, the average yield was 320 abstracts. Many of these terms are more specific and relevant components of the terms that have been excluded; for example, 'positive affect' and 'affect balance' instead of the more general 'affect', which can incorporate both negative and positive affect.

Table 2 Results of Step 2 search

Search term i.e. 'questionnaire synonym' AND ...	Result	Comments regarding efficacy of search term:
Adjustment	4,805	"Emotional adjustment" likely to be more relevant
Affect	5,045	"Affect balance" and "positive affect" more specific
"Affect balance"	106	Useful
Autonomy	583	Useful but possibly too broad
Coherence	391	Useful
Contentment	69	Concise number of abstracts
Coping	3,102	Too broad – need to consider more specific terms
Emotion\$	7,275	Terms below more specific and manageable
"Emotional adjustment"	74	Useful
"Emotional functioning"	172	Useful
"Emotional health"	112	Useful
"Emotional well-being"^\	260	Useful (although subsumed under "well-being")
Energy	3,307	Too broad – "vitality" might be a better term
Happiness	221	Useful
Hardiness	89	Useful
Hope OR Hopefulness	376	Useful
Mental health	5,566	Too broad – includes negative aspects and pathology
Morale	180	Useful
"Life satisfaction" OR "satisfaction with life"	819	Useful
Optimis\$ (e.g. optimism, optimistic)	556	Useful (although may include "optimistic bias")
"Personal control"	105	Useful
"Positive affect"	245	Useful
"Positive attitude"	296	Useful

Search term i.e. 'questionnaire synonym' AND ...	Result	Comments regarding efficacy of search term:
"Positive health"	83	Useful
"Positive mental health"	9	Useful – surprisingly limited results
"Positive mood"	83	Useful
"Positive relationship\$"	297	Useful
"Psychological health"	255	Useful
"Psychological well-being"^	641	Useful (although subsumed under "well-being")
"Quality of life"	11,645	Too broad; many papers refer to QoL when they measure generic health status – need to consider more specific term (e.g. "life satisfaction")
Resilience	93	Useful
"Self concept"	307	Useful
"Self efficacy"	1,086	Useful – possibly too broad
"Self esteem"	1,367	Useful – possibly too broad
"Self worth"	60	Useful
"Social adjustment"	295	Useful
"Social functioning"	1,019	Useful
"Social performance"	24	Useful
"Social relationship\$"	29	Useful
"Subjective well-being"^	222	Useful (although subsumed under "well-being")
Thriving	7	Useful
Vitality	690	Useful
Well-being OR Wellbeing	3,737	Useful

\$ denotes truncation of word

^ Variations in spelling were included for 'Well-being'. For example, a search for "emotional wellbeing" OR "emotional well-being" was conducted. The result of this search was then combined (using AND) with the 'questionnaire synonyms'.

Step 3:

In the third step, search terms with a similar focus or common term were combined (using OR) in an attempt to reduce overlap and consolidate the search results. The results of this search (shown in Table 3) indicate that combining terms does little to reduce the number of abstracts, suggesting that there is little overlap between terms in the literature. This was true for all combinations except "well-being", which subsumed the more specific terms: "emotional well-being", "psychological well-being" and "subjective well-being".

The general term "well-being" was then combined with all other combinations to see whether or not the resulting abstracts could be consolidated further, but very little overlap was found. This suggest either:

- “well-being” can be distinguished conceptually from the other search terms
- “well-being” is a general umbrella term for concepts that are referred to specifically (rather than generally) in the literature.

Conclusions

The task of simplifying the list of potential search terms for ‘questionnaire synonyms’ proved relatively straightforward. Several terms (e.g. assessment, measure, tool, test) were found to be too general to be useful while others (e.g. psychological test, interview) provided specific but irrelevant results.

Condensing the list of synonyms for ‘positive mental health’ was more difficult. While ‘positive mental health’ was so specific a term that it generated few results (n=9), ‘well-being’ produced a largely relevant list of 3,737 abstracts. Several terms (e.g. ‘adjustment’, ‘quality of life’, ‘coping’) produced huge numbers of abstracts, suggesting that more specific terminology was needed.

For those search terms producing more than 1,500 abstracts (with the exception of ‘well-being’), the attempted consolidation of specific terms did little to reduce the yield.

Table 3 Results of Step 3 search

ID	Search term (i.e. combining terms using OR with 'questionnaire synonym' using AND)	Step 2 result s	Sum of Step 2 results	Combine d search result	Combined with ID 1 (using OR)
1	Well-being OR Wellbeing "Emotional well-being" "Psychological well-being" "Subjective well-being"	3,737 260 641 222	4,860	3,737	3,737
2	"Affect Balance" "Positive affect" Happiness "Positive health" "Positive mental health" "Positive mood" "Psychological health" Coherence	106 245 221 83 9 83 255 391	1,393	1,287	4,820
3	Autonomy "Personal control"	583 105	688	688	4,380
4	Contentment "Life satisfaction" OR "satisfaction with life"	69 819	888	884	4,428
5	"Emotional adjustment" "Emotional functioning" "Emotional health"	74 172 112	358	355	4,045
6	Hardiness Resilience Thriving	89 93 7	189	183	3,899
7	Hope OR Hopefulness Morale Optimis\$ (e.g. optimism, optimistic) "Positive attitude"	376 180 556 296	1,408	1,375	4,996
8	"Self concept" "Self efficacy" "Self esteem" "Self worth"	307 1,086 1,367 60	2,820	2,672	6,228
9	"Social adjustment" "Social functioning"	295 1,019	1,664	1,618	5,218

ID	Search term (i.e. combining terms using OR with 'questionnaire synonym' using AND)	Step 2 result s	Sum of Step 2 results	Combine d search result	Combined with ID 1 (using OR)
	"Social performance" "Social relationship\$" "Positive relationship\$"	24 29 297			
10	Vitality	690	690	690	4,305
	TOTAL RESULTS	14,960	14,960	13,489	

\$ denotes truncation of word

Appendix C Interview schedule for expert consultation

Preamble

AHP Research has been commissioned by NHS Health Scotland to conduct a review of positive mental health and well-being scales. Our aim is to identify and review measures that may be suitable for a national survey of well-being and also to review measures that could be used to evaluate the impact of local interventions. As part of this process, we are interviewing both experts and practitioners in the field of 'positive mental health'. Thank you very much for agreeing to be interviewed.

I should like to tape record our interview. This is a back-up just in case I miss something important. There will not be any transcription of the interview, nor will there be a full description of individual interviews in the report. If we were to quote you in our report, that would only be with your prior express permission. Do you agree to the tape recording being made?: Yes/ No

Interviewee's particular field/expertise

Is your particular speciality in:

- Design and development of measures?
- Psychometric analysis?
- Use of measures?
- Any particular groups (e.g. the elderly, hospital patients)?
- Any specific settings (e.g. primary care, hospitals)?

The components of positive mental health

We have tentatively identified eight components of positive mental health that will be critiqued in the review. These are Psychological well-being, Life satisfaction, Morale/Optimism, Self-esteem, Resilience/Coping, Spirituality (aka Purpose in Life), Social integration (including positive relationships, trust, empathy, respect as well as social support/social networks), and Emotional intelligence. These eight components are not fixed/enshrined in stone. We can add to them, remove them or rename them if we can provide sufficient justification. We are certainly open to suggestion.

In your opinion do these eight components adequately cover the construct of positive mental health? Yes/No

Are there any obvious omissions? Yes/No

How would you describe or define them? Is there any way that they could be included within the existing eight components?

Are there dimensions in this list that you would not see as being part of positive mental health?

What are your reasons for adding to or subtracting from the eight components?

Measures of positive mental health

We are looking for measures that meet the following criteria:

- Are suitable for use with the general adult population rather than specific target groups (e.g. the elderly) or settings (hospitals, occupational settings).
- Have good psychometric properties of reliability, validity, sensitivity to change and sensitivity to subgroup differences. However, we appreciate that there may be some excellent scales that are so recent that there has not been time to establish full psychometric properties. We should like to hear of these too. Such measures will probably be included in a separate section of our report.
- Have already been validated for the UK population (ideally).
- Have a balance of items measuring positive mental health over negative mental health and other concepts, or at the very minimum 50:50.
- Are user-friendly:
 - relatively brief
 - simple to administer (specialist training of those administering the measures should not be required)
 - *preferably* simple to score and analyse (specialist statistical skills in analysis of results will need to be acknowledged if appropriate).
- Are readily available. (Are they free of charge or do they need to be purchased? If purchased, from whom?)

With these considerations in mind, would you please recommend the best measures of the following components of positive mental health on which you feel able to comment?

Psychological well-being	Life satisfaction
Morale/Optimism	Self-esteem
Resilience/Coping	Spirituality
Social integration	Emotional intelligence
Any other components	

Measures identified so far

At this stage of the interview the interviewee will be provided with a list of measures we have already identified in the interviewee's particular field of expertise.

For practitioners:

Have you got personal experience of using any of these measures? Yes/No

Their strengths?

Their weaknesses?

Would you recommend them? For what purpose? Reasons?

If you do not have personal experience of using them do you know someone who has?

For experts:

As above but answers on basis of personal knowledge of field.

Key references:

Are there any key references on the components of positive mental health that should be included in our report?

If the reference is not readily available, could you send us a copy, preferably in .pdf format?

Recommendations for potential interviewees/reviewers

Would you be willing to recommend any other expert(s)/practitioner(s) that you feel should be consulted as part of our review and could be approached regarding an interview or to peer review our draft report?

Would you mind if we approach them and say that you recommended their name to us?

Can you supply their email address(es)?

At end of interview

Has interviewee already offered/agreed to be peer reviewer? Yes/No

If not: our final reports (the first in an academic format and the second written in lay language in a format more suitable for practitioners to use) need to be peer reviewed by experts and practitioners. We expect that the reports will be available for comment around mid-March [2007], with comments being required within one week.

Would you be interested in being a peer reviewer? Yes/ No

All contributions will be acknowledged with thanks in our final reports. This is an exciting and timely opportunity to contribute to a review that will have a very real impact on the lives of people living in Scotland, and may have even wider impact once published. Very many thanks for your help and giving us some time in your busy schedule.

Appendix D Summaries of scales excluded from review

Several well-known and widely used scales arose during the search but did not meet the inclusion criteria for this review (see Table 4.2 main report). They are described here and copies are available in Appendix E (wherever permission was obtainable). Scales were excluded for the following reasons:

- They focus more on mental health problems or other constructs (D.1 General health and miscellaneous scales). In practical terms, it may be useful for researchers to know to what extent such measures include the assessment of positive mental health components. Furthermore, such measures are often included in surveys/evaluations for other reasons and it may be pragmatic to include these as measures of PMH where response burden is an issue.
- They have not been validated for use in the UK (D.2 Scales not validated in the UK). In practical terms, there may be scales that have been developed and used elsewhere that would provide more robust measures of the constructs under review but which have not yet been validated for use in the UK. Researchers are advised, however, to consider carefully the necessity for proper linguistic and psychometric validation (see Section 3.10) if such scales are to be used for the first time in the UK.
- They are newly developed (D.3 Newly designed scales). A few scales were identified for which there was insufficient evidence of their psychometric properties to warrant inclusion in this review at this time, though readers may find evidence has emerged since publication of this review to support their use.
- Training is required (D.4 Training required).

Some scales may have been excluded for more than one reason (e.g. not validated in the UK *plus* training required). These are only mentioned in one section rather than being repeated in several. If a scale focuses more on mental health problems or other constructs *and* has not been validated for use in the UK it will appear in D.1 rather than D.2.

D.1 General health and miscellaneous scales

Emotional well-being

General Health Questionnaire (e.g. GHQ12, GHQ20, GHQ30) (Goldberg, 1988)

The GHQ is a self-administered screening scale, designed for use in general population surveys to detect possible mental illness. The GHQ12, 20 and 30 are balanced in terms of agreement sets, i.e. in each version, half of the questions are worded so that a positive response indicates illness, while half of the questions are worded so that a negative response indicates illness. The GHQ is one of the most extensively validated scales available and has good evidence of reliability and validity, and has been translated into a number of languages. It takes less than five minutes to answer the GHQ30, and the GHQ12 is widely used in national surveys. Additional versions include the GHQ28 and the original GHQ60.

Most of the criticisms that have been raised regarding the GHQ reflect the limitations imposed by its focus on mental illness and by the response options, which focus on subjective change in condition rather than absolute level.

Key reference:

Goldberg, D., Williams, P. (1988). *A user's guide to the General Health Questionnaire*. Windsor: NFER-NELSON.

Access: nferNelson Publishing Company Ltd, The Chiswick Centre, 414 Chiswick High Road, London W4 5TF; email: information@nfer-nelson.co.uk; website: www.nfer-nelson.co.uk

General Well-being Index (GWBI) (Hunt & McKenna, 1992)

The GWBI is the British version of the Psychological General Well-being Index (PGWBI). It is very similar to the PGWBI, having some minor differences in vocabulary (e.g. 'blue' becomes 'sad' on the British version), five response categories rather than the six, and in question order. Validation of the GWBI, in two samples of British patients with depression, indicated construct validity (Hunt & McKenna, 1992; McKenna *et al.*, 1993) and high internal consistency reliability for the whole scale (in the range 0.92–0.96) (Hunt & McKenna, 1992). Ability to discriminate between subgroups in a primary care setting has also been demonstrated (Hopton *et al.*, 1995). Subscales were not, however, recommended owing to their high inter-correlations and lack of adequate internal consistency (alpha scores not supplied) (McKenna *et al.*, 1993). Gaston and Vogl investigated the psychometric properties in an Australian non-clinical population and found three significant factors (Gaston & Vogl, 2005), rather than the six factors that might have been expected given that the GWBI is so similar to the six-subscale PGWBI. The scale has not been used widely in the UK.

Key references:

Gaston, J. E. & Vogl, L. (2005). Psychometric properties of the General Well-being Index. *Quality of Life Research*, 14(1), 71-75.

Hopton, J. L., Hunt, S. M., Shiels, C. & Smith, C. (1995). Measuring psychological well-being. The adapted General well-being Index in a primary care setting: A test of validity. *Family Practice*, 12(4), 452-460.

Hunt, S. M. & McKenna, S. P (1992). A British adaptation of the General Well-being Index: a new tool for clinical research. *British Journal of Medical Economics*, 2, 49-60.

McKenna, S. P., Hunt, S. M. & Tennant, A. (1993). Psychological well-being in depressed patients. *International Journal of Methods in Psychiatric Research*, 3(4), 245-251.

Access: Galen Research, Enterprise House, Lloyd St. North, Manchester, M15 6SE.
Tel: +44 (0)161 226 4446

Short-Form 36 Health Survey (SF-36) (Ware & Sherbourne, 1992)

The 36-item SF-36 is a generic scale of subjective health status, and has become the most widely used such scale in the world. It has 8 subscales (General Health, Physical Functioning, Social Functioning, Mental Health (covering psychological distress and well-being), Vitality, Bodily Pain, Role limitations-Emotional and Role limitations-Physical) and an additional item on perceived change in health over the previous year. Response scales vary from 2 to 6 options. SF-36 subscale scores are calculated and transformed to range from 0 to 100 (higher scores indicating better functioning). Scores for two summary scales can also be calculated (the Physical Component and Mental Component). The SF-36 has been found to have high reliability with a UK general population (Brazier *et al.* 1992), but has been superseded by a later version, SF-36v2. Validity has been established and UK normative data are available. There is also a shorter form, the 12-item SF-12.

Key reference:

Brazier JE, Harper R, Jones NMB, O'Cathain A, Thomas KJ, Usherwood T, Westlake L (1992). Validating the SF-36® Health Survey Questionnaire: new outcome measure for primary care. *British Medical Journal*, 305, 160-4

Ware, J. E. & Sherbourne, C. D. (1992). The MOS 36-Item Short-Form Health Survey (SF-36). 1. Conceptual framework and item selection. *Medical Care*, 30(6), 473-483.

Access: A licence to use the SF-36 can be obtained from www.qualitymetric.com. There is a fee for use of the SF-36. The Rand Organization distributes the original version of the SF-36 free of charge under the name Rand 36-item Health Survey. The latter scale is available on-line from:
www.rand.org/health/surveys/sf36item/questionnaire.html or from www.sf-36.org/

Well-being Questionnaire – 22 (W-BQ22) (Bradley, 1994)

The Well-being Questionnaire – 22 includes 22 items designed to measure depression, anxiety, energy and positive well-being. It was further developed in the 1990s, resulting in the shorter W-BQ12 (included in this review). Professor Bradley

now encourages researchers to use the W-BQ12 in preference to the W-BQ22; for this reason, the W-BQ22 is mentioned here but not included in the main review.

Key reference:

Bradley, C. (1994). The Well-Being Questionnaire. In Bradley, C. (Ed.), *Handbook of psychology and diabetes: A guide to psychological measurement in diabetes research and practice* (pp. 89-109). Chur, Switzerland: Harwood Academic Publishers.

Access: Prof. Clare Bradley, Health Psychology Research, Department of Psychology, Royal Holloway, University of London, Egham, Surrey TW20; email: c.bradley@rhul.ac.uk

WHO-5 Well-being Index (WHO-5) (WHO, 1998)

The WHO-5 is a self-administered scale, designed to measure emotional well-being. It was developed from a larger scale that was used in a project on diabetes and quality of life (WHO, 1990). From this original larger scale, 10 items were selected on the basis of their cross-cultural homogeneity. Of these, 5 were chosen relating to positive mood, vitality and general interests (Bech, 1998, 2001). The scales relate to the participant's experiences in the past two weeks. The original language of the scale was Danish; however, it has since been translated into many different languages.

Key references:

Bech, P. (1998). *Quality of life in the psychiatric patient*. London: Mosby-Wolfe.

Bech, P. (2001). Male depression: Stress and aggression as pathways to major depression. In Dawson, A. & Tylee, A. (Eds.), *Depression: Social and economic timebomb* (pp. 63-66). London: BMJ Books.

World Health Organization Regional Office for Europe and the International Diabetes Federation, Europe (1990). Diabetes mellitus in Europe: a problem at all ages and in all countries. A model for prevention and self care. Meeting. *Giorn Ital Diabetol*, 10 (Suppl).

Access: Mapi Research Institute, 27 rue de la Villette, 69003 Lyon, France; telephone: +33 (0)4 72 13 65 75; fax: +33 (0)4 72 13 66 82; email: Marie-Pierre Emery, Director of the Information Resources Centre: mpemery@mapi.fr; website: www.proqolid.org and www.who-5.org

Life satisfaction

WHOQOL-100 (The WHOQOL Group, 1998)

The WHOQOL-100 is the full 100-item version of the WHOQOL-BREF reported in the main body of this review. The WHOQOL-100 is administered as an interview (rather than as a self-report scale), which takes between 10 and 20 minutes. The scale includes 24 facets of quality of life within four major domains: physical, psychological, social and environment (many of which are beyond the PMH focus of this review). Each facet has four items, thus providing a total of 96 items, and there are four additional single items measuring overall quality of life and overall health. The facets of the psychological domain, for example, cover body image, negative and positive feelings, self-esteem, thinking, learning, memory and concentration. Unlike the WHOQOL-BREF, total scores for each facet can be obtained in addition to scores for the four domains. The scale has good reliability (internal consistency and test-retest), good content and discriminant validity, and is available in 20 languages.

Key reference:

The WHOQOL Group (1998). The World Health Organization Quality of Life Assessment (WHOQOL): development and general psychometric properties. *Social Science & Medicine*, 46(12), 1569-1585.

Access: Details of the UK scale, scoring instructions, and permission to use can be obtained from <http://www.bath.ac.uk/whoqol/questionnaires/info.cfm>. To obtain permission, contact Dr. S. Skevington, University of Bath, School of Social Sciences, Claverton Down, Bath BA2 7AY; telephone: 01225 826 826; fax: 01225 826 381; email: S.M.Skevington@bath.ac.uk

Self-esteem

Multidimensional Self-Esteem Scale (previously known as the Revised Janis-Field Feelings of Inadequacy Scale) (MSES) (Fleming & Courtney, 1984) (validated for US only)

Fleming and Courtney's (1984) adaptation of the original 23-item Janis and Field (1959) scale has 36 items and is scored on a response scale from 1 to 5, but sometimes from 1 to 7 depending on the researcher. Response anchors vary according the question, e.g. from very often to practically never, or from very confident to not at all confident. The scale has dimensions of self-regard, academic abilities, social confidence and appearance. Internal consistency Cronbach's alpha is reported as high (0.93) (Brown & Zeigler-Hill, 2004).

Key references:

Brown, R. P. & Zeigler-Hill, V. (2004). Narcissism and the non-equivalence of self-esteem measures: A matter of dominance? *Journal of Research in Personality*, 38, 585-592.

Fleming, J. S. & Courtney, B. E. (1984). The dimensionality of self-esteem: II. Hierarchical facet model for revised measurement scales. *Journal of Personality and Social Psychology*, 46, 404-421.

Access: Dr. James Fleming, 2275 Pine Drive, Prescott, AZ 86305, USA

Resilience and Coping

Health and Daily Living Form (HDLF) (Moos *et al.*, 1986)

The Health and Daily Living Form is a comprehensive, structured scale with several parts, which can be administered as an interview or scale to individuals in the community, or specific patient groups. The scale measures health-related daily issues, such as employment status, physical health, recent stressors, psychosocial adaptation, and social functioning and support. There is also a youth form for 12–18-year-old participants.

Key reference:

Moos, R. H., Cronkite, R. C., Billings, A. G. & Finney, J. W. (1986). *Health and Daily Living Form Manual* (rev. ed). Palo Alto, CA: Social Ecology Laboratory. Veterans Administration and Stanford University Medical Centers.

Access: Copyright is held by Mind Garden, Inc., 855 Oak Grove Road, Suite 215, Menlo Park, CA 94025, USA; email: info@mindgarden.com; telephone: (650) 322-6300; fax: (650) 322-6398; website: www.mindgarden.com

Social functioning

Duke Social Support Index (DSSI) (Landerman *et al.*, 1989) (elderly population only)

The Duke Social Support Index is a 35-item self-report scale that was developed for the NIMH Epidemiologic Catchment Area (ECA) programme. It has been used in both cross-sectional and longitudinal studies about ageing; to measure elderly people's social network, and the level of support they receive from that network (Koenig *et al.*, 1993). The scale has several dimensions: satisfaction with social support, perceived social support, frequency of social interaction, size of social network, and instrument support. Scores are obtained for each dimension by summing the scores relevant to each dimension. The DSSI has high internal consistency for its perceived social support dimension (Cronbach's alpha = 0.80), and slightly lower internal consistency for its satisfaction with social support dimension (Cronbach's alpha = 0.64). When creating the scale, only items with a factor loading of 0.40 or above were included. There have since been two abbreviated versions of the scale created: a 23-item and an 11-item version (Koenig *et al.*, 1993).

Key references:

Koenig, H. G., Westlund, R. E., George, L. K., Hughes, D. C., Blazer, D. G. & Hybels, C. (1993). Abbreviating the Duke Social Support Index for use in chronically ill elderly individuals. *Psychosomatics*, 34(1), 61-69.

Landerman, R., George, L.K., Campbell, R. T. & Blazer, D.G. (1989). Alternative models of the stress buffering hypothesis. *American Journal of Community Psychology*, 17(5), 625-642.

Access: Linda K. George, Box 3003, Duke University Medical Center, Durham, North Carolina 27710, USA

Katz Adjustment Scales (KAS) (Katz & Lyerly, 1963) (psychiatric population only)
 The Katz Adjustment Scales were developed to determine the adjustment and social behaviour of individuals who live in the community but are pre-psychotic or ex-hospital patients. Adjustment and social behaviour relate to clinical adjustment, adequate social functioning, social adjustment, personal adjustment and social behaviour. There are several different forms within each of the scales: The 'S' (self) scales are designed for the patient and involve self-ratings and are split into five forms. Form S1 contains 55 items which determine the level of symptom discomfort that the patient experiences. Forms S2-5 contains the same information and questions, with minor changes in wording, as those in the relative's forms R2, R3, RS4 and R5 (see below); however, they are adapted to be self-ratings.

The 'R' (relative) scales are designed for relatives' ratings and are split into 5 forms. Form R1 contains 127 items that determine the relative's ratings of the patient's symptoms and social behaviour. These are indicated on a 4-point scale. Form R2 lists 16 activities that are socially expected activities and determine the level of performance the patient exhibits when carrying out these. These are indicated on a 3-point scale. Form R3 relates to Form R2 in that the relative is asked to state whether they had expected the patient to engage in the activities in R2 within a given period of time. Form RS4 is a 23-item scale in which the level of activities a patient engages in in their free time is ascertained. The regularity of engaging in these activities is scored on a 3-point scale. Form R5 relates to Form RS4 in that the relative is asked to state whether they were satisfied with how often the activity is engaged in by the patient.

Key reference:

Katz, M. M. & Lyerly, S. B. (1963). Methods for measuring adjustment and social behavior in the community: I. Rationale, description, discriminative validity and scale development. *Psychological Reports*, 13, 503-535.

Access: Unknown

Lubben Social Network Scale (LSNS) (Lubben, 1988)

(elderly population only and measures degree of social isolation)

The LSNS is a 12-item, 5-point scale that briefly measures kin and non-kin social ties in older adults. The scale has two subscales, family and friends, that each contain 6 items. The LSNS has been translated into several languages, including Chinese, Korean, Japanese and Spanish, and has been validated in several studies (Rubinstein *et al.*, 1994; Lubben *et al.*, 1997). The original LSNS (Lubben, 1988) displayed some problems with a few of its items. As a result, it has recently been revised (LSNS-R), and now has better psychometric properties, with an increased internal consistency Cronbach's alpha (0.78) and stable factor structures (Lubben & Gironda, 2003). The LSNS-R still contains 12 items, within two subscales. The items are scored on a 5-point scale ranging from 0 to 5. The total score is summed from these responses, with scores ranging from 0 to 60. The items were chosen to identify perceived emotional support, perceived tangible support and actual network size among family and non-family networks, as these are believed to be especially relevant to social networks (Lubben & Gironda, 2003).

In addition to this revised version of the LSNS, the authors also created an abbreviated version, the LSNS-6, and an expanded version, the LSNS-18. The LSNS-6 contains 6 items on a 5-point scale, with the same layout as the LSNS-R (Lubben & Gironda, 2000 (Note: referred to in this chapter as the LSNS-A); Lubben, 2006). The LSNS-6 has a Cronbach's alpha of 0.78 (Lubben & Gironda, 2003). For other research using the LSNS-6, see Lubben *et al.*, 2006.

The LSNS-18 is an expanded version of the LSNS-R, which is useful for social and health science researchers in that they can distinguish between neighbours and friends among non-kin social ties. The scale is now an 18-item, 5-point scale with 3 subscales: family, friends and neighbours. The items in the family subscale remain as they are in the LSNS-R, but the friendship items are now divided into friends and neighbours (Lubben & Gironda, 2003). The LSNS-18 has a high Cronbach's alpha of 0.82, and high internal consistency, where the family subscale is 0.82, the friends subscale is 0.87, and the neighbours subscale is 0.80. For further research which used the LSNS-18, see Pourat *et al.*, 1999 and 2000.

Key references:

Lubben, J. E. (1988). Assessing social networks among elderly populations. *Journal of Family and Community Health*, 11, 42-52.

Lubben, J. E. & Gironda, M. W. (1996). Assessing social support networks among older people in the United States. In Litwin, H. (Ed.), *The Social Networks of Older People: a cross-national analysis* (pp. 143-161). Westport, CT: Praeger.

Lubben, J. E. & Gironda, M. W. (2000). Social Support Networks. In Osterweil, D., Brummel-Smith, K. & Beck, J. (Eds.), *Comprehensive Geriatric Assessment* (pp. 121-137). New York: McGraw-Hill.

Lubben, J. E. & Gironda, M. W. (2003). Centrality of social ties to the health and well being of older adults. In Berkman, B. & Harootyan, L. K. (Eds.), *Social Work and Health Care in an Aging World*. New York: Springer.

Access: Prof. James Lubben: Lubben@bc.edu or Lubben@ucla.edu

Social Adjustment Scale (SAS) (Weissman, 1976) (psychiatric population only)
Social functioning is assessed using the Social Adjustment Scale, using 48 items, rated on a 5-point scale, where the lowest scores indicate more social adjustment. The SAS is a self-report scale that relates to events in the past 2 weeks and is used to assess the social adjustment that an individual has both emotionally and behaviourally across 6 major areas: work, leisure, extended family, primary relationship, parental unit and family unit. This scale has been translated into several languages, including Afrikaans, Cantonese for China, French, German, Italian, Russian, Spanish and Swedish.

Key references:

Weissman, M. M., Paykel, E. S., Siegel, R. & Klerman, G. L. (1971). The social role performance of depressed women: Comparisons with a normal group. *American Journal of Orthopsychiatry*, 41(3), 390-405.

Weissman, M. M. & Bothwell, S. (1976). Assessment of social adjustment by patient self-report. *Archives of General Psychiatry*, 33(9), 1111-1115.

Access: Copyright owned by Multi-Health Systems, Inc., www.mhs.com. Multi-Health Systems, Inc. (UK), 39a Kingfisher Court, Hambridge Road, Newbury, Berkshire, RG14 5SJ; telephone: 0845 601 7603; fax: 0845 601 7604; email: customerservice-uk@mhs.com

D.2 Scales not validated in the UK

Emotional well-being

Rand Mental Health Inventory (RMHI) (Ware *et al.*, 1985)

This scale was developed for the Rand Health Insurance study for use in surveys of the general US population (Ware *et al.*, 1985; Stewart *et al.*, 1992). It was based on 38 items from the General Well-being Questionnaire (one version of which is the 22-item Psychological General Well-being Index (Dupuy, 1984)) but with the addition of 8 items to control for socially desirable responding, giving a total of 46 items. There are 4 subscales (anxiety, depression, behavioural/emotional control and positive affect) and a summary score. A high correlation (-0.76) was found with the General Health Questionnaire (which measures anxiety and depression) and reliability is good (test-retest reliability correlation coefficients ranging from 0.7 to 0.8 and internal consistency Cronbach's alphas from 0.72 to 0.94).

Key references:

Dupuy, H. J. (1984). The Psychological General Well-being Index (PGWB). In Wenger, N.K., Mattson, M. E., Furburg, C. D. & Elinson, J. (Eds.), *Assessment of Quality of Life in Clinical Trials of Cardiovascular Therapies*. New York: Le Jacq Publishing Inc.

Stewart, A. L., Sherbourne, C. & Hays, R. D. (1992). Summary and discussion of MOS measures. In *Measuring Functioning and Well-being: The Medical Outcomes Study Approach* (pp. 345-371). Durham, NC: Duke University Press.

Ware, J., Veit, C. & Donald, C. (1985). *Refinements in the Measurement of Mental Health of Adults in the Health Insurance Study*. Santa Monica, CA: The Rand Corporation.

Access: <http://www.rand.org>

Single-Item Scale of Happiness (SISH) (Abdel-Khalek, 2006)

This is a single-item scale of happiness, answering the question 'Do you feel happy in general?' with responses on an 11-point scale, scoring from 0 to 10. The scale is reported to have good test-retest reliability (correlation coefficient 0.86) and good concurrent validity with both the Oxford Happiness Inventory (Hills & Argyle, 2002) and the Satisfaction with Life Scale (Diener *et al.*, 1985). The single item has a good convergent validity with optimism, hope, self-esteem, positive affect, extraversion, and self-ratings of both physical and mental health (high, positive correlations). Divergent validity is indicated by significant negative correlations with anxiety, pessimism, negative affect, and insomnia. Abdel-Khalek concludes that 'measuring happiness by a single item is reliable, valid, and viable in community surveys as well as in cross-cultural comparisons'.

Key references:

Abdel-Khalek, A. M. (2006). Measuring happiness with a single-item scale. *Social*

Behavior and Personality, 34, 139-150.

Diener, E. D., Emmons, R. A., Larsen, R. J. & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, 49, 71-75.

Hills, P. & Argyle, M. (2002). The Oxford Happiness Questionnaire: A compact scale for the measurement of psychological well-being. *Personality and Individual Differences*, 33, 1073-1082.

Access: Dr. Ahmed Abdel-Khalek, Department of Psychology, College of Social Sciences, Kuwait University, P.O. Box 68168 Kaifan, Code No. 71962, Kuwait; email: ahmedkuniv@hotmail.com

Subjective Happiness Scale (SHS) (Lyubomirsky, 1999)

This is a 4-item scale of global subjective happiness defined as 'a global subjective assessment of whether one is a happy or an unhappy person' (Lyubomirsky & Lepper, 1999). One item asks for an absolute rating of happiness and another asks for a rating relative to peers ('Compared to most of my peers, I consider myself ... less happy ... more happy'). Two items have descriptions of happy and unhappy individuals, and respondents are asked how much these descriptions apply to them. Items have a 7-point Likert response format, and a single composite score can be calculated. Reliability and validity were assessed with 14 separate samples, from high school students to retired adults (age range 14 to 94 years, N = 2,732) (Lyubomirsky & Lepper, 1999). Factor analysis indicated a single factor, and internal consistency reliability for the scale was good to excellent, Cronbach's alphas ranging from 0.79 to 0.94 across the 14 samples. Test-retest reliability correlation coefficients ranged from 0.61 to 0.90. There was also evidence for convergent and discriminant validity.

Key reference:

Lyubomirsky, S. & Lepper, H. S. (1999) A measure of subjective happiness: Preliminary reliability and construct validity. *Social Indicators Research*, 46(2), 137-155.

Access: Prof. Sonja Lyubomirsky: sonja.lyubomirsky@ucr.edu

Life satisfaction

Extended Satisfaction With Life Scale (ESWLS) (Alfonso *et al.*, 1996)

The Extended Satisfaction With Life Scale (ESWLS) (Alfonso *et al.*, 1996) (a long-form of the SWLS) is a 50-item self-report scale that measures satisfaction with life in 9 domains. It can be completed by most people in less than 20 minutes. Internal consistency reliability is reported to range from 0.81 to 0.96 for the individual subscales, and two-week test-retest reliability coefficients ranged from 0.74 to 0.87. Results of exploratory and confirmatory factor analyses strongly supported the factor structure of the ESWLS. There is also some evidence of convergent and discriminant validity. Gregg and Salisbury (Gregg & Salisbury, 2001) have modified the ESWLS by adding survey items to measure income, health, and safety domains. To reduce response time and respondent fatigue they have also reduced the number of items for each domain from 5 to 2, thus decreasing the number of items on the revised ESWLS to 22 as well as reducing the 7-point Likert scale to 5 points. Factor analyses support the structure of the modified scale.

Key references:

Alfonso, V. C., Allison, D. B., Rader, D. E. & Gorman, B. S. (1996). The extended satisfaction with life scale: Development and psychometric properties. *Social Indicators Research*, 38(3), 275-301.

Gregg, P. M. & Salisbury, P. S. (2001). Confirming and expanding the usefulness of the Extended Satisfaction With Life Scale (ESWLS). *Social Indicators Research*, 54(1), 1-16.

Access: Permission to use the scale can be obtained from Dr. Vincent Alfonso at: Alfonso@Fordham.edu

Personal Well-being Index (PWI-A) (International Well-being Group, 2005)

The Personal Well-being Index (PWI-A) (International Well-being Group, 2005) was created from the Comprehensive Quality of Life Scale (ComQol) (Cummins *et al.*, 1994; Cummins, 1997) when the latter was abandoned owing to major flaws. The PWI-A scale contains 7 satisfaction items, each corresponding to quality of life domains (standard of living, personal health, achieving in life, personal relationships, personal safety, community-connectedness, and future security). There is a 10-point Likert response scale. The 7 domain scores can be summed to give an average Subjective Well-being score. There is also an optional global item asking about overall life satisfaction. The scale has good factor structure, with the 7 domains consistently forming a single factor which accounts for approximately 50% of the variance. Several studies of Australian and other international samples have found good internal consistency reliability (Cronbach's alphas in the range 0.70 to 0.85, with item-total correlations of at least 0.50). A high level of sensitivity has been found between demographic groups and different countries, and there is good convergent validity (correlation coefficient 0.78) with the Satisfaction with Life Scale (Diener *et al.*, 1985). There are several translations and normative data are now available for at least 14 countries.

Key references:

Cummins, R. A., McCabe, M. P., Romeo, Y. & Gullone, E. (1994). The Comprehensive Quality of Life Scale: Instrument development and psychometric evaluation on tertiary staff and students. *Educational and Psychological Measurement*, 54, 372-382.

Cummins, R. A. (1997). Comprehensive Quality of Life Scale – Adult. Manual, 5th ed. Melbourne: School of Psychology, Deakin University.
http://acqol.deakin.edu.au/instruments/ComQoL_A5.pdf

Diener, E. D., Emmons, R. A., Larsen, R. J. & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, 49, 71-75.

International Well-being Group (2005). Personal Well-being Index. Melbourne: Australian Centre on Quality of Life, Deakin University.
http://www.deakin.edu.au/research/acqol/instruments/wellbeing_index.htm

Access: A copy of the scale and manual is available online:
http://acqol.deakin.edu.au/instruments/PWI/Adult_Manual.doc

Quality of Life Questionnaire (QLQ) (Evans & Cope, 1989)

The Quality of Life Questionnaire (QLQ) was designed to broadly assess an individual's quality of life, across several areas of life. It is a self-report scale which consists of 192 true/false items from 5 domains. These 5 domains contain 15 subscales, which have 12 questions each, and there is also an additional 12-item social desirability scale. The 5 domains are: general well-being (with the subscales: material well-being, physical well-being and personal growth), interpersonal relations (with the subscales: marital relations, parent-child relations, extended family relations and extra-familial relations), organisational activity (with the subscales: altruistic behaviour and political behaviour), occupational activity (with the subscales: job characteristics, occupational relations and job satisfiers), and leisure and recreational activity (with the subscales: creative/aesthetic behaviour, sports activity and vacation behaviour). The items themselves cover questions that relate to frequency of actions, frequency of reactions, self-descriptions, and assessment of personal relationships, employment settings and physical environments.

The QLQ can be group or individually administered, and can be used to evaluate individual, family or group treatments. However, the normative data are taken from a standard relatively homogenous group of individuals that may not be generalisable to different populations. The test-retest reliability correlation coefficients for 6 of the content scales and the total quality of life score range from 0.77 to 0.89. The QLQ takes 30 minutes to complete and is available in several other languages.

Key reference:

Evans, D. R., & Cope W. E. (1989). QLQ Quality of Life Questionnaire. Canada: Multi-Health Systems
[https://www.mhs.com/ecom/\(g3zlrijq20i43h55c40k2b55\)/TechBrochures/QLQ.pdf](https://www.mhs.com/ecom/(g3zlrijq20i43h55c40k2b55)/TechBrochures/QLQ.pdf)

Access: The copyright holders are Multi-Health Systems, Inc., <http://www.mhs.com>

Temporal Satisfaction With Life Scale (TSWLS) (Pavot *et al.*, 1998)

The Temporal Satisfaction With Life Scale (Pavot *et al.*, 1998) is a 15-item scale that assesses an individual's past, present and future life satisfaction and also provides a total life satisfaction score. Validation studies with samples of US college students and other adults have been undertaken (Pavot *et al.*, 1998). Factor analysis indicated a 3-factor structure, with the factors corresponding to the past, present and future temporal dimensions. Internal consistency reliability and test-retest reliability were also found to be high. Another study (McIntosh, 2001) confirmed the 3-factor structure and found support for convergent validity with measures of past, present, and future subjective well-being as well as with striving.

Key references:

McIntosh, C. N. (2001). Report on the construct validity of the Temporal Satisfaction With Life Scale. *Social Indicators Research*, 54(1), 37-56.

Pavot, W., Diener, E. & Suh, E. (1998). The Temporal Satisfaction With Life Scale. *Journal of Personality Assessment*, 70(2), 340-354.

Access: Prof. Bill Pavot: Pavot@southwestmsu.edu

Optimism and Hope

(Expanded) Attributional Styles Questionnaire (EASQ) (Seligman, 1979 and Peterson, 1982)

The Attributional Styles Questionnaire (Seligman *et al.*, 1979; Peterson *et al.*, 1982) assesses the attributional style of respondents (internal vs. external; stable vs. unstable; global vs. specific attributions) by presenting respondents with 12 hypothetical situations in which they are asked to imagine themselves in each situation. Half the situations are negative, e.g. 'you go out on a date and it goes badly' and half positive, e.g. 'you meet a friend who compliments you on your appearance'. Respondents then indicate on a 7-point rating scale their attribution for the cause of each situation (internal or external causes, etc). There are 6 scores for the 6 attributional styles, but also composite scores for negative and positive explanatory style. Only the composite scores have adequate internal consistency reliability, and test-retest reliability is reported as 0.67 (Golin *et al.*, 1981). The scale has also been shown to have construct and criterion validity, and is a valid predictor of depression. An expanded version of the scale (including 24 items) also exists (Peterson & Villanova, 1988), designed to improve the internal consistency reliability of the 6 dimensions by increasing the number of hypothetical situations; however, reliability of these dimensions remains problematic.

Key references:

Golin, S., Sweeney, P. D. & Schaeffer, D. E. (1981). The causality of causal attributions in depression: A cross-lagged panel analysis. *Journal of Abnormal Psychology*, 90, 14-22.

Peterson, C., Semmel, A., von Baeyer, C., Abramson, L. Y., Metalsky, G. I. & Seligman, M. E. P. (1982). *The Attributional Style Questionnaire. Cognitive Therapy and Research*, 6, 287-300.

Peterson, C. & Villanova, P. (1988). An Expanded Attributional Style Questionnaire. *Journal of Abnormal Psychology*, 97(1), 87-89.

Seligman, M. E. P., Abramson, L. Y., Semmel, A. & von Baeyer, C. (1979). Depressive attributional style. *Journal of Abnormal Psychology*, 88, 242-247.

Access: Prof. Chris Peterson: chrispet@umich.edu

Hunter Opinions and Personal Expectations Scale (HOPES) (Nunn *et al.*, 1996)

The Hunter Opinions and Personal Expectations Scale (HOPES) (Nunn *et al.*, 1996) measures global personal hopefulness (GPH), which has been found to be a stable trait. The trait version of HOPES is a 20-item scale with two factors of hope and despair. The authors claim strong support for the HOPES construct, concurrent and predictive validity. The subscales are moderately negatively correlated ($r = -0.32$), suggesting that hope and despair are not simply polar opposites. GPH has been shown to be an enduring characteristic of individuals, with a test-retest correlation of $r = 0.71$ (over 64 weeks). The association between GPH and trait anxiety ($r = -0.64$) has raised the possibility of redefining anxiety as hope under threat. Steed and Curtin

(2002) have argued that the Revised Generalised Expectancy for Success Scale and the Dispositional Hope Scale are superior to HOPES, and are the scales of choice when assessing hope and/or optimism.

Key references:

Nunn, K. P., Lewin, T. J., Walton, J. M. & Carr, V. J. (1996). The construction and characteristics of an instrument to measure personal hopefulness. *Psychological Medicine*, 26(3), 531-545.

Steed, L. G. & Curtin, U. (2002). A psychometric comparison of four measures of hope and optimism. *Educational and Psychological Measurement*, 62(3), 466-482.

Access: Terry Lewin, Research Manager and Deputy Director, Centre for Mental Health Studies, Hunter New England Mental Health and the University of Newcastle, Australia. Email: Terry.Lewin@hnehealth.nsw.gov.au

Optimism/Pessimism Instrument (OPI) (Dember *et al.*, 1989)

The Optimism-Pessimism Instrument (Dember *et al.*, 1989) consists of 56 items with 4-point Likert response ratings. There are two 18-item subscales measuring optimism and pessimism respectively (as well as 20 filler/distracter items used to distract the respondent from the true purpose of the scale). Test-retest reliability is reported as between 0.75 and 0.84 (correlation coefficients), and internal consistency reliability Cronbach's alphas as between 0.84 and 0.86 (Dember & Brookes, 1989). The scale has been shown to be moderately correlated with the Life Orientation Test, and is predictive of perceived health, depression and coping (Reilley *et al.*, 2005).

Key references:

Dember, W. N. & Brookes, J. (1989). A new instrument for measuring optimism and pessimism: Test-retest reliability and relations with happiness and religious commitment. *Bulletin of the Psychonomic Society*, 27, 365-366.

Dember, W. N., Martin, S. H., Hummer, M. K., Howe, S. R. & Melton, R. S. (1989). The measurement of optimism and pessimism. *Current Psychology: Research and Reviews*, 8, 109-119.

Reilley, S. P., Geers, A. L., Lindsay, D. L., Deronde, L. & Dember, W. N. (2005). Convergence and predictive validity in measures of optimism and pessimism: sequential studies. *Current Psychology: Developmental, Learning, Personality, Social*, 24(1), 43-59.

Access: Prof. Dember: Drsdemember@aol.com

Staats Hope Scales (Staats and Stassen, 1985; Staats, 1989)

Staats has designed two scales:

(1) Expected Balance Scale (Staats & Stassen, 1985), which assesses the affective

side of hope. It has 18 items with responses on a 5-point Likert scale. Internal consistency reliability Cronbach's alpha is 0.83 with moderate test-retest reliability ($r = 0.66$) and there is strong evidence for construct validity in terms of correlations with other hope scales.

(2) Staats Hope Index (also called Staats Hope Scale) (Staats, 1989), which assesses the cognitive side of hope, and has 16 items with 4 subscales (hope-self, hope-other, wish and expect). Internal consistency reliability Cronbach's alpha ranges from 0.72 to 0.85, with good test-retest reliability ($r = 0.74$) and there is strong evidence for construct validity.

Key references:

Staats, S. R. & Stassen, M. A. (1985). Hope: An affective cognition. *Social Indicators Research*, 17, 235-242.

Staats, S. R. (1989). Hope: A comparison of two self-report measures for adults. *Journal of Personality Assessment*, 53, 366-375.

Access: Sarah Staats, Ohio State University, Newark, 1179 University Drive, Newark, Ohio 43055-1797, USA. Email: Staats.1@osu.edu

State Hope Scale (SHS) (Snyder *et al.*, 1996)

This scale measures goal-directed thinking at a given moment in time. The authors define hope as 'a cognitive set comprising agency (belief in one's capacity to initiate and sustain actions) and pathways (belief in one's capacity to generate routes) to reach goals' (Snyder *et al.*, 1996). The State Hope Scale is derived from a previously developed dispositional self-report scale of hope (Snyder *et al.*, 1991). There are 6 items, which can be summed into a total score, and 2 subscales (agency and pathways). Responses are on an 8-point Likert scale (ranging from definitely true to definitely false). Internal consistency reliability Cronbach's alpha for the whole scale ranges from 0.79 to 0.95, and for the subscales from 0.76 to 0.95 (agency subscale) and 0.59 to 0.93 (pathways subscale) (Snyder *et al.*, 1996). Test-retest reliabilities have ranged across studies from $r = 0.48$ to 0.93. The 2-factor structure has been confirmed. There is evidence of construct validity with significant correlations in the expected direction with the State Self-Esteem Scale and the Negative and Positive Affect scales of the Positive and Negative Affect Schedule (Snyder *et al.*, 1996). Administration time is from 2 to 5 minutes.

Key references:

Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., Yoshinobu, L., Gibb, J., Langelle, C. & Harney, P. (1991). The will and the ways: development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology*, 60(4), 570-585.

Snyder, C. R., Sympson, S. C., Ybasco, F. C., Borders, T. F., Babyak, M. A. & Higgins, R. L. (1996). Development and validation of the State Hope Scale. *Journal of Personality and Social Psychology*, 70(2), 321-335.

Access: Dr. Snyder is now deceased, please contact Dr. Raymond Higgins

rhiggins@ku.edu

Self-esteem

Self-Acceptance Scale, part of the **Scales of Psychological Well-being** (SPWB) (Ryff, 1989)

The original version of the Scales of Psychological Well-being (Ryff, 1989) includes six 20-item scales that measure the eudaimonic aspects of well-being, those related to functioning and growth, at both the personal and social level. These are described as follows (from Keyes & Magyar-Moe, 2003):

Autonomy: includes 'the seeking of self-determination and personal authority or independence in a society that sometimes compels obedience and compliance'.

Environmental mastery: includes 'the ability to manage everyday affairs, to control a complex array of external activities, to make effective use of surrounding opportunities, and to choose or create contexts suitable to personal needs'.

Personal growth: includes 'the continuous pursuit of existing skills, talents and opportunities for personal development and for realising one's potential'.

Positive relations with others*: consists of 'the ability to cultivate and the presence of warm, trusting, intimate relationships with others. Concern for the welfare of others, and the ability to empathise, cooperate and compromise'.

Purpose in life*: 'consists of one's aims and objectives for living, including the presence of life goals and a sense of directedness'.

Self-acceptance*: 'the criterion toward which adults must strive in order to feel good about themselves'.

* Included in this review as these scales relate to the aspects of PMH described here.

Items have a 6-point response format from strongly disagree to strongly agree. Later versions of the scales are shorter (14, 9 or 3 items per scale). The 20-item scales have been shown to be both valid and reliable. Internal consistency reliability Cronbach's alpha for the 20-item scales ranges between 0.83 and 0.98 (Ryff, 1989), with satisfactory test-retest reliability. The 6-scale structure has been supported by confirmatory factor analyses (Ryff & Keyes, 1995). The scales have been widely used in the USA and Canada, including large population studies, e.g. Clarke *et al.*, 2001.

Key references:

Clarke, P. J., Marshall, V. W., Ryff, C. D. & Wheaton, B. (2001). Measuring psychological well-being in the Canadian Study of Health and Aging. *International Psychogeriatrics*, 13 Supp 1, 79-90.

Keyes, C. L. M. & Magyar-Moe, J. L. (2003). The measurement and utility of adult subjective well-being. In Lopez, S. J. & Snyder, C. R. (Eds.), *Positive Psychological Assessment: A Handbook of Models and Measures*. Washington, DC: American Psychological Association.

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), 1069-1081.

Ryff, C. D. & Keyes, C. L. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, 69(4), 719-727.

Access: Dr. Carol Ryff, Department of Psychology, Brogdan Hall, University of Wisconsin, Madison, WI 53706, USA; telephone (608) 262 1818; fax: (608) 263 6211

Self-Regard Questionnaire (SRQ) (Horowitz *et al.*, 1996)

The Self-Regard Questionnaire is a quick, 5-item self-report scale that takes less than a minute to complete. It was developed as a scale to assess self-experience over time and the effect that stress can have on self-regard. Having low levels of self-regard after the death of a loved one is correlated with having higher levels of distress, and also correlated with having extended levels of stress. The SRQ may also be useful for assessing patients in non-research settings.

Key reference:

Horowitz, M., Sonneborn, D., Sugahara, C. & Maercker, A. (1996). Self-Regard: A new measure. *The American Journal of Psychiatry*, 153(3), 382-385.

Access: Prof. Mardi Horowitz: mjhoro@comcast.net; website: www.mardihorowitz.com

State Self-Esteem Sale (SSES) (Heatherton & Polivy, 1991)

This scale measures short-lived changes in state self-esteem, as opposed to trait self-esteem (which is measured by, for example, Rosenberg's Self-Esteem Scale). There are 20 items rated on a 5-point response scale, with subscales on performance, social, and appearance self-esteem. Internal consistency Cronbach's alpha is reported as 0.92, and the scale is sensitive to change (in terms of manipulations designed to alter self-esteem in the short-term) (Heatherton & Polivy, 1991). Confirmatory factor analysis supported the 3-factor structure (Bagozzi & Heatherton, 1994). The scale is, as expected, highly correlated with trait measures of self-esteem.

Key references:

Bagozzi, R. P. & Heatherton, T. F. (1994). A general approach to representing multifaceted personality constructs: Application to self-esteem. *Structural Equation Modelling*, 1, 35-67.

Heatherton, T.F. & Polivy, J. (1991). Development and validation of a scale for measuring state self-esteem. *Journal of Personality and Social Psychology*, 60, 895-910.

Access: Copyright is owned by the American Psychological Association

Tennessee Self-Concept Scale: Second Edition (TSCS:2) (Fitts, 1965, Fitts & Warren, 1996)

The theory behind this scale is that self-concept is related to performance, so that

individuals with a positive self-concept are more likely to act in a confident and effective way. There are 100 items and it takes about 20 minutes to complete. There are 5 scales with an external frame of reference, and 3 with an internal frame of reference. Ninety items have 5-point response scales, the remaining 10 items form a lie scale (Fitts, 1965; Fitts & Warren, 1996). Scoring is complex, but a scoring service is available from the publisher. Several studies have shown internal consistency Cronbach's alphas ranging between 0.70 and 0.87, and test-retest reliability is reasonable. The scale was a popular, multidimensional self-esteem measure used from the mid-1960s through to the mid-1980s. Reports of problems with its psychometric structure (e.g. Marsh & Richards, 1988) have contributed to the decline in its use. Currently, it is not generally used or recommended as an outcome measure and has not been validated for use in the UK.

Key references:

Fitts, W. H. (1965). *Tennessee Self-concept Scale Manual*. Nashville, TN: Counselor Recordings and Tests.

Fitts, W. H. & Warren, W. L. (1996). *Tennessee Self-Concept Scale, Second Edition (TSCS:2)*. Los Angeles, CA: Western Psychological Corporation.

Marsh, H. W. & Richards, G. E. (1988). Tennessee Self-Concept Scale: Reliability, internal structure, and construct validity. *Journal of Personality and Social Psychology*, 55(4), 612-52.

Access: Western Psychological Services, 12031 Wilshire Blvd, Los Angeles, CA 90025-1251, USA; telephone: (800) 648 8857 (USA and Canada only), (310) 478 2061; fax: (310) 478 2061; email: help@wpspublish.com; website: www.wpspublish.com

Resilience and Coping

Connor-Davidson Resilience Scale (CD-RISC) (Connor & Davidson, 2003)

The CD-RISC is a scale designed to assess resilience. The scale comprises 25 items on a 5-point scale. These range from 0 (not true at all), to 4 (true nearly all of the time), with higher scores indicating greater resilience. Additionally, an increase in score is correlated with improvement during treatment. The scale has internal consistency Cronbach's alpha of 0.89, and the test-retest reliability shows an intra-class correlation coefficient of 0.87. The authors claim that the CD-RISC has potential uses in both clinical practice and research.

Key reference:

Connor, K. M. & Davidson, J. R. (2003). Development of a new resilience scale: The Connor-Davidson Resilience Scale (CD-RISC). *Depression and Anxiety*, 18(2), 76-82.

Access: Dr. Kathryn M. Connor, Associate Professor, Department of Psychiatry and Behavioral Sciences, Duke University Medical Center, Box 3812, Durham, North Carolina 27710, USA; telephone: (919) 684 5849; fax: (919) 864 8866; email: Kathryn.connor@duke.edu

Ego-Resiliency Scale (ER89) (Block & Kremen, 1996)

According to the term 'ego-resiliency', psychological health is dependent on the 'coupling of external affordances and constraints with the internal motivations and needs of the individual' (Block & Kremen, 1996, p. 351). The ER89 attempts to measure the quality of resilience by assessing the way each person manages the fluctuations in daily life and what they do about their own experiences. While those scoring higher in the scale are not necessarily free of emotional distress and impairment, emotional problems would be expected to be much more prevalent among those with lower scores. The ego-resiliency scale is a 14-item scale with a 4-point response scale ranging from 1 (does not apply at all) to 4 (applies very strongly). According to the authors, the items of the ER89 should be mixed and interspersed with other items from a number of other scales. The ER89 is never administered at one time on its own to a participant. The ER89 has a coefficient alpha reliability of 0.76.

Key reference:

Block, J. & Kremen, A.M. (1996). IQ and ego-resiliency: Conceptual and empirical connections and separateness. *Journal of Personality and Social Psychology*, 70(2), 349-361.

Access: Prof. Jack Block: jblock@socrates.berkeley.edu

Leddy Healthiness Scale (LHS) (Leddy, 1996)

The Leddy Healthiness Scale is a 26-item, 6-point scale with responses ranging from 6 (completely agree) to 1 (completely disagree). The scale relates to participants' current feelings, resilience and their healthiness, where healthiness indicates a sense

of purpose and an ability to achieve one's goals. The scale has an internal consistency reliability Cronbach's alpha ranging from 0.89 to 0.93, and a test-retest reliability of $r = 0.86$ at 2–6 weeks (Leddy, 1996).

Key references:

Leddy, S.K. (1996). Development and psychometric testing of the Leddy Healthiness Scale. *Research in Nursing and Health*, 19(5), 431-440.

Leddy, S. K. (2006). *Health promotion: Mobilizing strengths to enhance health, wellness and well-being*. Philadelphia: F. A. Davies.

Access: Dr. Susan Leddy, 109 Valley Green Drive, Aston, PA 19014, USA

Life Effectiveness Questionnaire- H (LEQ-H) (Neill, Marsh & Richards, 2003)

The LEQ-H (version H) is a 24-item scale with an 8-point response scale scoring from 1 (false, not like me) to 8 (true, like me). The questions relate to an individual's current feelings. The LEQ-H has been mainly used to measure the effects that personal development programmes can have on individuals in the short and long term. Life effectiveness refers to skills that people possess and require in order to be capable of achieving their life goals. These skills can be developed and learned, and relate directly to that individual's functioning in educational/work settings, and their personal and social functioning.

Key reference:

Neill, J. T., Marsh, H. W. & Richards, G. E. (2003). The Life Effectiveness Questionnaire: Development and psychometrics. Unpublished manuscript, University of Western Sydney, Sydney, NSW, Australia.

Access: <http://www.wilderdom.com/leq.html>

Personal Views Survey III-R ® (PVS III-R) (Maddi *et al.*, 2006) (supersedes the Hardiness Scale, Kobasa & Maddi, 1977)

The PVS III-R is an 18-item, 4-point scale, with a series of statements to be marked from 0 (not true) to 3 (true). The PVS III-R contains the items deemed most reliable and valid from the original PVS III (Maddi *et al.*, 2006). The PVS III-R supersedes the Hardiness Scale (Kobasa & Maddi, 1977). Permission must be obtained before use from the below address. There is a fee of \$0.50 for each administration/scoring, payable in advance, and a \$2.50 fee for clinical or consulting use, also payable in advance. No training is required to administer the scale effectively, although the author advises reading the relevant research papers and/or purchasing the PVS III-R test manual for \$20.

Key references:

Kobasa, S. C. & Maddi, S. R. (1977). Existential personality theory. In Corsini, R. (Ed.), *Current Personality Theories* (pp. 243-276). Illinois: Peacock.

Maddi, S. R. & Khoshaba, D. M. (2001). Personal Views Survey III-R: Internet instruction manual. Newport Beach, CA: Hardiness Institute.

Maddi, S. R., Harvey, R. H., Khoshaba, D. M., Lu, J. L., Persico, M. & Brow, M (2006). The personality construct of hardiness, III: Relationships with repression, innovativeness, authoritarianism, and performance. *Journal of Personality*, 74, 575-598.

Access: Hardiness Institute: Hardiness1@aol.com

Proactive Coping Inventory (PCI) (Greenglass *et al.*, 1999)

The Proactive Coping Inventory (PCI) is a 55 item, 4-point scale that can be self-administered or administered in interview. The response options range from 'not at all true' (scored as 1) to 'completely true' (scored as 4). The PCI was created to measure individuals' proactive coping skills in several different dimensions. These include measuring one's ability to cope in distress, and measuring one's skills when engaging in activities that promote well-being. The PCI consists of 7 subscales: proactive coping, preventive coping, reflective coping, strategic planning, instrumental support seeking, emotional support seeking, and avoidance coping. The scales have high internal consistency; for example, in a study involving a Canadian student sample, the Cronbach's alphas ranged from 0.71 to 0.85 for all 7 scales. Further information on the evaluation of the validity of the PCI can be found at: <http://www.psych.yorku.ca/greenglass/pcipapers.php>. The scale takes 15–20 minutes to complete, and has been translated into 12 languages.

Key reference:

Greenglass, E. R., Schwarzer, R. & Taubert, S. (1999). The Proactive Coping Inventory (PCI): A multidimensional research instrument. (On-line publication). Available at: <http://www.psych.yorku.ca/greenglass/>

Access: Dr Greenglass: estherg@yorku.ca; website: <http://www.psych.yorku.ca/greenglass/>

Spirituality

Brief Multidimensional Measure of Religiousness/Spirituality (BMMRS)

(Fetzer Institute, 2003 (1999))

The Fetzer Institute has produced this scale in collaboration with the National Institute on Aging of the National Institutes of Health (USA). The scale is designed on the basis that there is a distinction between religiousness and spirituality (Kalamazoo, 2003): religiousness having 'specific behavioural, social, doctrinal and denominational characteristics' and spirituality being concerned with 'the transcendent, addressing ultimate questions about life's meaning'. It was assumed that religiousness and spirituality can impact on health outcomes in behavioural, social, psychological and physiological ways and the scale contains many domains which have been largely ignored in health research: daily spiritual experiences, values, beliefs, forgiveness, private religious practices, religious/spiritual coping, religious support, religious/spiritual history, commitment, organisational religiousness, and religious preference. There are 38 items, with response options that vary from item to item. The scale was embedded in the 1997–1998 General Social Survey, which was gathering data on contemporary American society, results for which have supported the theoretical basis of the scale, and its reliability and validity.

Key reference:

Fetzer Institute (2003). Multidimensional Measurement of Religiousness/Spirituality for Use in Health Research: A Report of the National Working Group. In Kalamazoo, MI: Fetzer Institute, National Institute on Aging Working Group.

Access: Fetzer Institute, 9292 West KL Avenue, Kalamazoo, MI 49009-9398, USA. Telephone: 001-269-375-2000 email: info@fetzer.org; website: www.fetzer.org

Life Regard Index (LRI) (Battista & Almond, 1973)

The Life Regard Index (Battista & Almond, 1973) is a 28-item scale with two subscales assessing (1) the degree to which people have a meaningful perspective on their life (Framework), and (2) the degree to which their life goals are fulfilled (Fulfilment). Responses are scored on a 3-point scale. The English translation (Life Regard Index – Revised) (Harris & Standard, 2001) of the original version has been shown to have good reliability (test-retest reliability correlation coefficients from 0.82 to 0.87 and internal consistency Cronbach's alphas from 0.83 to 0.92 in US samples), but factor analysis only weakly supported the hypothetical two-factor structure. There was, however, adequate evidence for concurrent and discriminant validity when comparing the scale with measures of hopelessness, spiritual well-being, and other measures of personal meaning and some evidence for responsiveness (divorced people having lower levels of life meaning). It has been suggested that the scale would be more sensitive if the number of response options were increased from 3 to 5 (Harris & Standard, 2001). There is evidence of the construct validity (of the original Dutch version) in terms of predicting outcomes of psychotherapy independently of patients' pre-treatment levels of well-being (Debats, 1996). Effective coping with stressful life events in the past was associated with a current sense of meaningfulness of life (Debats *et al.*, 1995).

Key references:

Battista, J. & Almond, R. (1973). The development of meaning in life. *Journal for the Study of Interpersonal Processes*, 36(4), 409-427.

Debats, D. L., Drost, J. & Hansen, P. (1995). Experiences of meaning in life: a combined qualitative and quantitative approach. *British Journal of Psychology*, 86 (pt. 3), 359-375.

Debats, D. L. (1996) Meaning in life: clinical relevance and predictive power. *British Journal of Clinical Psychology*, 35 (pt. 4), 503-516.

Harris, A. H. (2001). Standard S: Psychometric properties of the Life Regard Index – Revised: a validation study of a measure of personal meaning. *Psychological Reports*, 89(3), 759-773.

Access: Unknown

Mysticism Scale (MS) (Hood, 1975)

The Hood Mysticism Scale (Hood, 1975) is a 32-item scale that measures reported mystical experience in a wide variety of populations and helps distinguish experience from interpretation. The scale was originally reported as having two factors: (1) an indicator of intense experiences that are interpreted neither necessarily religiously nor positively; and (2) an indicator of a joyful expression of more traditionally defined religious experiences that are not necessarily mystical (consisting of items in the categories of ego quality, noetic quality, positive affect, and religious quality). Later studies have indicated a structure of either two or three factors (Caird, 1988), the three-factor structure consisting of introvertive and extrovertive dimensions of mystical phenomenology along with a separate interpretation factor (Hood *et al.*, 2001).

Key references:

Caird, D. (1988). The structure of Hood's mysticism scale: A factor-analytic study. *Journal for the Scientific Study of Religion*, 27(1), 122-127.

Hood, R. W. (1975). The construction and preliminary validation of a measure of reported mystical experience. *Journal for the Scientific Study of Religion*, 14, 29-41.

Hood, R. W., Ghorbani, N., Watson, P. J., Ghramaleki, A. F., Bing, M. N., Davidson, H. K., Morris, R. J. & Williamson, W. P. (2001). Dimensions of the Mysticism Scale: Confirming the three-factor structure in the United States and Iran. *Journal for the Scientific Study of Religion*, 40(4), 691-705.

Access: Permission must be obtained from Prof. Ralph Hood before commercial use at: Ralph-Hood@utc.edu

Personal Growth Composite Scale (PGCS) (1994, 2002, 2004)

The Personal Growth Composite Scale is used to measure engagement in life. The scale contains items in the 16 preliminary International Personality Item Pool (IPIP) scales, measuring constructs similar to those in Cattell's 16 Personality Factors Questionnaire (16PF); items in the 30 preliminary IPIP scales measuring constructs similar to those in Cloninger's Temperament and Character Inventory (TCI); and the 5 curiosity items in the Work Preference Inventory.

Key references:

Amabile, T. M., Hill, K. G., Hennessey, B. A. & Tighe, E. M. (1994). The work preference inventory: Assessing intrinsic and extrinsic motivational orientation. *Journal of Personality and Social Psychology*, 66, 950-967.

IPEP, International Personality Item Pool: A scientific collaboration for the development of advanced measurement of personality traits and other individual differences (2002). Available from <http://ipip.ori.org/>

Kashdan, T.B., Rose, P. & Fincham, F. D. (2004). Curiosity and exploration: Facilitating positive subjective experience and personal growth opportunities. *Journal of Personality Assessment*, 82, 291-305.

Access: Prof. Joar Vittersø: joarv@psyk.uit.no

Personal Meaning Profile (PMP) (Wong, 1998

This scale measures people's perceptions of potential sources of personal meaning in their lives, i.e. what they value most. It has 57 items in 7 subscales (achievement, relationship, religion, self-transcendence, self-acceptance, intimacy, and fair treatment or perceived justice). Response scales are scored 1–7: 'not at all' to 'a great deal'. It is claimed that all subscales were positively correlated with psychological well-being. The Self-Transcendence Factor includes statements such as: 'I believe I can make a difference in the world'; 'I strive to make the world a better place'.

Key reference:

Wong, P. T. P. (1998). Implicit theories of meaningful life and the development of the Personal Meaning Profile (PMP). In *The Human Quest for Meaning: A Handbook of Psychological Research and Clinical Applications* (pp. 359-394). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Access: Permission must be obtained before use from Dr. Paul T. Wong at: ptptwong@shaw.ca or wong@twu.ca

Purpose in Life Scale – part of the **Scales of Psychological Well-being (SPWB)**
(Ryff, 1989)

See information for Self-Acceptance Scale, Self Esteem

Short Index of Self-Actualization Scale (SISA) (Jones & Crandall, 1986)

This scale is a 15-item index of self-actualisation (Jones & Crandall, 1986), based primarily on modified items from the Personal Orientation Inventory (Shostrom, 1964). Self-actualisation is the act of doing what makes you feel fulfilled. This is not the same thing as personal growth or self-improvement, both of which imply movement from a lower state to a higher state. Self-actualisation is the higher state. The authors claim that the index has good internal consistency and test-retest reliability and that the index discriminated between groups of people nominated as self-actualising and as non-self-actualising. Responses are on a 6-point Likert scale (from strongly disagree to strongly agree).

Key references:

Jones, A. & Crandall, R. (1986). Validation of a short index of self-actualization. *Personality and Social Psychology Bulletin*, 12(1), 63-73.

Shostrom, E. L. (1964). An inventory for the measurement of self-actualization. *Educational and Psychological Measurement*, 24, 207-218.

Access: Permission must be obtained before use from Dr. Rick Crandall at: RPCrandall@aol.com

Sources of Meaning Profile – Revised (SOMP-R) (Reker, 1996)

The Sources of Meaning Profile in its revised form (Reker, 1996) is a 17-item, 7-point self-report scale which measures the sources that provide an individual with a greater sense of meaning and purpose in life. There are four meaning orientations derived in the profile: (1) Pre-occupation: the sources that meet and satisfy one's immediate needs; (2) Individualism: the focus on self-improvement, realising one's potential; (3) Collectivism: sources that focus on the betterment of a group; (4) Self-transcendence: sources that transcend the self and search for ultimate meaning (Reker, 2000).

Key references:

Reker, G. T. (1996). *Manual of the Sources of Meaning Profile – Revised (SOMP-R)*. Peterborough, ON, Canada: Student Psychologists Press.

Reker, G. T. (2000). Theoretical perspective, dimensions, and measurement of existential meaning. In Reker, G. T. & Chamberlain, K. (Eds.), *Exploring Existential Meaning: Optimizing Human Development across the Life Span* (pp. 39-55). Thousand Oaks: Sage Publications.

Access: To purchase the scale, please contact Prof. Gary Reker at: greker@trentu.ca

Spiritual Meaning Scale (SMS) (Mascaro et al., 2004)

A 14-item scale measuring spiritual meaning, which was defined as 'the extent to which an individual believes that life or some force of which life is a function has a purpose, will, or way in which individuals participate' (Mascaro, 2004). Hierarchical regression analyses indicated that each of the 'spiritual meaning' variables explained variance in hope and depression beyond the variance explained by personality factors (assessed using the Big Five PF). Content and face validity appear to be good as the 14 items were derived from a pool of 83 items administered to a sample of 465 undergraduates (Mascaro, 2004). Each item is rated on a 5-point Likert scale from 'I totally disagree' to 'I totally agree'. Factor analysis was generally supportive of a single factor structure, and the Cronbach's alpha coefficient of internal consistency reliability for the whole 14-item scale was 0.89. The scale had moderate to large correlations with other measures of meaning (indicating convergent validity). The scale was found to be moderately negatively correlated with depression, and to have large positive correlations with hope, and small negative correlations with anxiety and antisocial features.

Key reference:

Mascaro, N., Rosen, D. H. & Morey, L.C. (2004). The development, construct validity, and clinical utility of the Spiritual Meaning Scale. *Personality and Individual Differences*, 37(4), 845-860.

Access: nmascaro@neo.tamu.edu

Social functioning

Duke Social Support and Stress Scale (DUSOCS) (Parkerson *et al.*, 1989)

The DUSOCS is a 24-item, 2-part scale to measure the level of support from family and non-family individuals. Part 1 measures the support the participant receives from family and non-family members; Part 2 measures the stress an individual causes to the participant's life. The first ten questions of each Part are measured using a 4-point Likert scale, where answers indicate how supportive/stress-inducing different members of society (e.g. 'your brothers or sisters' or 'your co-workers') are to the participant now, ranging from 'None' to 'A lot'. There is also a response marked 'there is no such person'. The final two questions of each Part ask the participant to indicate an individual who they can trust and go to with personal problems and their relationship to the participant (if there is such a person). Items are scored by adding the mean values for each response. The scale has a test-retest reliability Pearson correlation of 0.76 for family support, 0.67 for non-family support, 0.40 for family stress, and 0.68 for non-family stress (Parkerson *et al.*, 1989).

Key reference:

Parkerson, G. R. Jr., Michener, J. L., Wu, L. R., Finch, J. N., Muhlbaie, L. H., Magruder-Habib, K., Kertesz, J. W., Clapp-Channing, N., Morrow, D. S., Chen, A. L. & Jokerst, E. (1989). Associations among family support, family stress, and personal functional health status. *Journal of Clinical Epidemiology*, 42(3), 217-229.

Access: A copy of the scale is included in this review and also available at:

<http://healthmeasures.mc.duke.edu>

Contact for potential clinical and research users: George R. Parkerson Jr., M.D., M.P.H. Mail: Box 2914, Duke University Medical Center, Durham, NC 27710, USA; telephone: (919) 681-3043; fax: (919) 681-6560; email: parke001@mc.duke.edu

Contact for potential commercial users: H. Gilbert Smith, Ph.D., Associate Director, University Office of Science and Technology. Mail: Box 3664, Duke University Medical Center, Durham, NC 27710, USA; telephone: (919) 681-6497; fax: (919) 684-4595; email: smith087@mc.duke.edu

Family Relationship Index (FRI) (Moos & Moos, 1994)

The Family Relationship Index (FRI) is a subscale of the Family Environment Scale (FES) though it has been used widely as a scale in its own right. The FES is used as a way to measure the participant's perceptions of his or her own family in 3 dimensions – as it is (real), as it would be in an ideal situation (ideal) and as it will probably be in the future (expected). The FES is used in family counselling and psychotherapy, teaching and research. There are 90 items in the FES, which are divided into 10 subscales. These items measure 3 family environment dimensions – relationship, personal growth, and system maintenance and change. The FRI relates to the relationship dimension. The FRI measures the amount of support in the family (cohesion), the degree of emotional expression allowed/encouraged within the family (expressiveness), and the level of anger and conflict conveyed within the family to other members (conflict). The full FES takes approximately 15–20 minutes to

complete.

Key reference:

Moos, R. & Moos, B. (1994). *Family Environment Scale manual: Development, applications, research* (3rd ed). Palo Alto, CA: Consulting Psychologist Press.

Access: Mind Garden, Inc., 855 Oak Grove Avenue, Suite 215, Menlo Park, CA 94025, USA; telephone: (650) 322 6300; fax: (650) 322 6398; email: info@mindgarden.com; website: www.mindgarden.com

Positive Relations with Others Scale – part of the **Scales of Psychological Well-being** (SPWB) (Ryff, 1989)

See information for Self-Acceptance Scale, Self Esteem

Quality of Relationships Inventory (QRI) (Pierce *et al.*, 1991)

The QRI is a 25-item self-report scale that measures relationships in the context of support, conflict and the importance (depth). The items are rated on a 4-point scale, ranging from 1 (not at all) to 4 (very much), when answering questions that relate to a specific peer or family relationship. The scale is based on a model of social support which relates to several contexts: interpersonal (expectation of specific relationships), intrapersonal (the general ways individuals interpret and respond to social behaviour) and social contexts (where the supportive exchanges occur) (Pierce *et al.*, 1990). The scale has a high internal consistency (Cronbach's alphas across the scales range from 0.70 to 0.90), is stable over a year (with test-retest correlations ranging from 0.48 to 0.79), and can predict depressive symptoms (Pierce *et al.*, 1997). In a study in 1997, Pierce and his colleagues were able to conclude that the scales were reliable and consistent between children's and mothers' views on their relationships with each other. Additionally, observers' assumptions of the participants' mother/child relationships were consistent with the mothers' and children's own views.

Key references:

Pierce, G. R., Sarason, I. G. & Sarason, B. R. (1990). Integrating social support perspectives: Working models, personal relationships, and situational factors. In Duck, S. W. & Silver, R. C. (Eds.), *Personal Relationships and Social Support*. Newbury Park, CA: Sage.

Pierce, G. R., Sarason, I. G. & Sarason, B. R. (1991). General and relationship-based perceptions of social support: Are two constructs better than one? *Journal of Personality and Social Psychology*, 61(6), 1028-1039.

Pierce, G. R., Sarason, I. G., Sarason, B. R., Solky-Butzel, J. A. & Nagle, L. C. (1997). Assessing the quality of personal relationships. *Journal of Social and Personal Relationships*, 14(3), 339-356.

Access: Gregory R. Pierce, Ph.D., Professor and Chair, Department of Psychology, Hamilton College, Clinton, NY 13323, USA; office: (315) 859 4721; fax: (315) 859 4744; email: gpierce@hamilton.edu

Social Support Appraisals Scale (SS-A) (Vaux *et al.*, 1986)

The SS-A is a 23-item, 4-point scale which measures the participants' relationships with both family and friends. The scale is based on Cobb's (1976) social support model, which measures how much a person feels cared for, respected and involved. The internal consistency is good for college samples (mean Cronbach's alpha = 0.90 total, 0.80 family, 0.84 friend) and community samples (mean Cronbach's alpha = 0.90 total, 0.81 family, 0.84 friends) (Vaux *et al.*, 1986). Items are scored from 1 (strongly agree) to 4 (strongly disagree). A score is obtained by reversing the negatively stated items, and summing the total. A low score indicates a high level of social support.

Key references:

Cobb, S. (1976). Social support as a moderate of life stress. *Psychosomatic Medicine*, 5, 300-317.

Vaux, A., Phillips, J., Holly, L., Thomson, B., Williams, D. & Stewart, D. (1986). The Social Support Appraisals (SS-A) Scale: Studies of reliability and validity. *American Journal of Community Psychology*, 14(2), 195-219.

Access: Prof. Alan Vaux: alanvaux@siu.edu

Social Support Behaviours Scale (SS-B) (Vaux *et al.*, 1987)

The Social Support Behaviours Scale is a 45-item scale used to measure 5 modes of supportive behaviour; that is, emotional support, socialising, practical assistance, financial assistance, and advice/guidance. Confirmatory factor analyses demonstrate that these modes are well covered in the scale. The SS-B is similar to the Inventory of Socially Supportive Behaviours (ISSB) (Barrera *et al.*, 1981) in its scope and modes of support. However, it is different to the ISSB as the SS-B is completed with respect to family and friends separately, and focuses on the available support and the likeliness of receiving this support. With slight word changes, the SS-B can be used to measure supportive behaviour one feels they have when going through a stressful period.

The SS-B has high internal consistency, as has been demonstrated in Vaux *et al.*'s study (1987), where, for each of the 5 modes, the lowest Cronbach's alpha was 0.82.

Key reference:

Vaux, A., Riedel, S. & Stewart, D. (1987). Modes of social support: The Social Support Behaviors (SS-B) Scale. *American Journal of Community Psychology*, 15(2), 209-237.

Access: Prof. Alan Vaux: alanvaux@siu.edu

Emotional intelligence

Emotional Competency Inventory (ECI) (Boyatzis & Goleman)

(training required)

The ECI was designed for students and staff in formal learning environments. It is a 63-item scale, with 5 'discoveries' to help participants question their own ideal and real self, in relation to themselves and to their learning. Participants can also compare their own self-assessment with others' assessment of them. The Inventory takes 30–40 minutes to complete; however, training is required to become a certified user of the scale. No further information is freely available (see access details below).

Key reference:

Unknown

Boyatzis, R. E., Goleman, D., & Rhee, K. (2000) Clustering competence in emotional intelligence: insights from the emotional competence inventory (eci). In: Reuven Bar-On and James D.A. Parker (editors)(2000), *Handbook of Emotional Intelligence*, San Francisco: Jossey-Bass, 343-362

http://www.eiconsortium.org/research/eci_acticle.pdf

Access: The Hay Group has worldwide distribution rights to the test and its related tests. Visit the Hay Group website at: www.haygroup.co.uk

For more information, training classes to become a certified user and for permission to use the ECI, contact Ginny.Flynn@haygroup.com (USA) or Katrina.Lambert@haygroup.com (London). If researchers wish to use the test in research, contact Steven.Wolff@haygroup.com for the forms and procedures to obtain free research use – but this does not include the provision of feedback to individuals.

D.3 Newly designed scales

Emotional well-being

European Social Survey – Personal and Social Well-being Module (ESS) (Huppert *et al.*, 2005)

This new module to assess personal and social well-being is being developed for inclusion in the third round of the European Social Survey (the biennial multi-country survey). Pilot testing was completed in March 2006 on 800 people in two European countries and a final version containing 54 questions is being prepared. The scale will include aspects of feelings and functioning in the personal and interpersonal domains, i.e. both hedonic and eudaimonic aspects of positive mental health and well-being.

Examples of some of the constructs that will be assessed are:

- Personal feelings: life satisfaction, positive affect, negative affect, optimism, self-esteem.
- Personal functioning: autonomy, self-efficacy, interest/engagement, resilience.
- Interpersonal feelings: belonging, perceived social support, respect, social progress.
- Interpersonal functioning: altruism, caring, social engagement.

Fieldwork was completed December 2006 with data released September 2007. The survey took place in 27 countries, with around 50,000 respondents.

Key reference:

Huppert F, Marks N, Clark A, Siegrist J, Stutzer A, & Vitterso J (2005). Personal and social well-being module for the European Social Survey, Round 3.
www.europeansocialsurvey.org

Access: European Social Survey website, main questionnaire, round three:
http://www.europeansocialsurvey.org/index.php?option=com_content&task=view&id=63&Itemid=98

Prof. Felicia Huppert, University of Cambridge (email: fah2@cam.ac.uk)

Mental Health Continuum (MHC) (Keyes, 1998)

Keyes has developed a model of a mental health continuum from languishing to flourishing in life. The model proposes that mental health consists of components of emotional, psychological and social well-being (Keyes, 2002). The emotional well-being component covers the presence of positive affect, the absence of negative affect and life satisfaction. The psychological well-being component has the six dimensions that are covered in Ryff's scales (namely self-acceptance, positive relations with others, personal growth, purpose in life, environmental mastery and autonomy) (Ryff, 1989). Social well-being is covered by Keyes' five scales (namely social coherence, social actualisation, social integration, social acceptance, and social contribution) (Keyes, 1998). Keyes is now in the process of developing a short 13- or 14-item scale, the Mental Health Continuum, which will have key items from the above-mentioned scales, with hedonic aspects (emotional well-being) and which will be suitable for use in clinical applications as well as population surveys.

Key references:

Keyes, C. L. M. (1998). Social Well-Being. *Social Psychology Quarterly*, 61, 121-140.

Keyes, C. L. M. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Behavior*, 43(2), 207-222.

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), 1069-1081.

Access: For permission, contact Dr. Keyes: Corey.Keyes@emory.edu

Warwick-Edinburgh Mental Well-being Scale (WEMWBS) (Tennant *et al.*, 2007)

The Warwick-Edinburgh Mental Well-being Scale (WEMWBS) has been developed from the Affectometer 2 and currently contains 14 positively phrased items designed to measure both the hedonic and eudaimonic aspects of positive mental health. To date the construct validity, internal consistency, test-retest reliability and social desirability response bias of the scale have been tested in student samples from the Universities of Warwick and Edinburgh (UK) (Tennant *et al.*, 2006). No ceiling or floor effects have been found indicating suitability for use to monitor positive mental health at the population level and it can also distinguish between different subgroups. Future testing includes establishing face validity through focus groups and the inclusion of WEMWBS in a population survey in Scotland to obtain population-based data for validation.

Key reference:

Tennant R, Fishwick R, Platt S, Joseph S, & Stewart-Brown S. (2006). Monitoring positive mental health in Scotland: validating the Affectometer 2 scale and developing the Warwick-Edinburgh Mental Well-Being Scale for the UK. NHS Health Scotland: Glasgow.

Access: Prof. Sarah Stewart-Brown, University of Warwick: Sarah.Stewart-Brown@warwick.ac.uk

Since completion of the report, further work has been undertaken for NHS Health Scotland on validating WEMWBS, including analysis of data from two Scottish national surveys. For further information and publications see:
www.healthscotland.com/understanding/population/mental-health-indicators.aspx

D.4 Training required

Resilience and Coping

Coping Inventory for Stressful Situations (CISS) (Endler & Parker, 1990)

The Coping Inventory for Stressful Situations is a 48-item, 5-point Likert scale, used to assess an individual's 3 main coping strategies: task focused (dealing with the problem), emotion focused (concentrating on emotions), and avoidance coping. Avoidance coping can be further divided into 2 types: the distraction subscale (containing 8 items), and the social diversion subscale (containing 5 items). There are 16 items for each type of coping (Cosway *et al.*, 2000). The scale has demonstrated in tests that there is strong support for its multidimensionality; that is, that it successfully independently assesses the 3 coping dimensions. There is also high internal reliability (in the high 80s and low 90s), and 6-week test-retest reliabilities demonstrate correlations ranging from 0.51 to 0.73 (Endler & Parker, 1994).

Key references:

Cosway, R., Endler, N. S., Sadler, A. J. & Dreary, I. J. (2000). The Coping Inventory for Stressful Situations: Factorial structure and associations with personality traits and psychological health. *Journal of Applied Biobehavioral Research*, 5(2), 121-143.

Endler, N. S. & Parker, J. D. A. (1990). *The Coping Inventory for Stressful Situations (CISS): Manual*. Toronto: Multi-Health Systems, Inc.

Endler, N. S. & Parker, J. D. A. (1994). Assessment of multidimensional coping: Task, emotion, and avoidance strategies. *Psychological Assessment*, 6(1), 50-60.

Access: Multi-Health Systems, Inc. owns copyright to the CISS: www.mhs.com

Coping Responses Inventory (CRI) (Moos, 1988)

The Coping Responses Inventory is a self-report measure, designed to assess individuals' coping strategies when faced with stressful life events. The CRI contains 8 scales which relate to approach coping styles (logical analysis, positive reappraisal, seeking guidance and support, and problem solving) and avoidant coping styles (cognitive avoidance, acceptance or resignation, seeking alternative rewards, and emotional discharge). The CRI takes approximately 10–15 minutes to complete, and can be used in research or by clinicians to develop case descriptions and assess treatments.

Key reference:

Moos, R. H. (1988). *Coping Responses Inventory manual*. Palo Alto, CA: Stanford University and Department of Veterans Affairs Medical Centers.

Access: Psychological Assessment Resources, Inc. owns copyright to the CRI: 16204 N. Florida Avenue, Lutz, FL 33549, USA; website: www.parinc.com

Social functioning

Social Relationship Scale (SRS) (McFarlane, 1981)

The Social Relationship Scale is a scale which looks at the 6 areas of life where there is the potential for stress: work, money and finances, home and family, personal and social, personal health, and society in general. Participants are instructed to list people (by initials) who they have talked to about the problems in the 6 areas of life stress, and state the kind of relationship they have with them (e.g. friend, brother). There is a 7-point response scale that rates how helpful the discussions were.

The test-retest reliability was conducted over a one-week period. Correlations on the number of people listed in each category ranged from 0.62 to 0.99, with the average being 0.91. The correlations on the helpfulness of these conversations ranged from 0.54 to 0.94, with the average being 0.78, indicating that the SRS is relatively stable over time, although the authors mention that there are some differences relating to sex, marital status and age.

Key reference:

McFarlane, A. H., Neale, K. A., Norman, G. R., Roy, R. G. & Streiner, D. L. (1981). Methodological issues in developing a scale to measure social support. *Schizophrenia Bulletin*, 7(1), 90-100.

Access: Dr. Allan H. McFarlane: mcfarlan@mcmaster.ca

*Emotional intelligence***Emotional Quotient Inventory (EQ-i) (Bar-on, 1997)**

The Bar-On personality trait model of emotional intelligence has five dimensions: intrapersonal (e.g. self-regard, emotional self-awareness), interpersonal (e.g. empathy, social responsibility), stress management (e.g. stress tolerance and impulse control), adaptability (e.g. flexibility and problem solving) and general mood (e.g. optimism and happiness). These dimensions involve both emotional and social intelligence. The EQ-i (Bar-On, 1997) instrument has 133 items, with responses on 5-point scales from very seldom true to very often true. It is a reliable scale (test-retest), and there is some evidence for its validity (e.g. predictive validity). Criticisms of this personality approach to emotional intelligence include whether people are able to assess their own emotional competency accurately, and that self-reported emotional intelligence is highly correlated with personality (Salovey *et al.*, 2003).

Key references:

Bar-On, R. (1997). *Bar-On Emotional Quotient Inventory (EQ-i): Technical Manual*. Toronto: Multi-Health Systems.

Salovey, P., Mayer, J. D., Caruso, D. & Lopes, P. N. (2003). Measuring emotional intelligence as a set of abilities with the Mayer-Salovey-Caruso Emotional Intelligence Test. In Lopez, S. J. & Snyder, C. R. (Eds.), *Positive Psychological Assessment: A Handbook of Models and Measures*. Washington, DC: American Psychological Association.

Access (UK): Multi-Health Systems (UK), 39a Kingfisher Court, Hambridge Road,

Newbury, Berkshire, RG14 5SJ; website: <https://www.mhs.com/>

Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) (Mayer *et al.*, 2001)

The Mayer, Salovey and Caruso ability model of emotional intelligence has four dimensions involving the ability to perceive/identify, integrate (using emotion to facilitate thought), understand and manage emotions. These four dimensions are measured by the MSCEIT (Mayer *et al.*, 2001). For example, emotional perception involves judgement of emotions in faces, artistic designs and landscapes; understanding emotions involves questions about the way in which emotions evolve and change with time; managing emotions has scenarios about managing one's own and other people's emotions in different social situations (Salovey *et al.*, 2003). The instrument has good reliability (Cronbach's alphas in the range 0.73 to 0.87) and validity, and there is support for a 4-factor structure and an overall single factor.

Key references:

Mayer, J. D., Salovey, P. & Caruso, D. (2001). *The Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT)*. Toronto: Multi-Health Systems.

Salovey, P., Mayer, J. D., Caruso, D. & Lopes, P. N. (2003). Measuring emotional intelligence as a set of abilities with the Mayer-Salovey-Caruso Emotional Intelligence Test. In Lopez, S. J. & Snyder, C. R. (Eds.), *Positive Psychological Assessment: A Handbook of Models and Measures*. Washington, DC: American Psychological Association.

Access (UK): Multi-Health Systems (UK), 39a Kingfisher Court, Hambridge Road, Newbury, Berkshire, RG14 5SJ; website: <https://www.mhs.com/>