

Measuring Positive Mental Health: Developing a New Scale

The need for a new scale to measure positive mental health

Policy makers and practitioners interested in promoting mental health have had to rely on scales that focus on mental illness to assess the impact of their policies and interventions. These scales divide respondents into those who meet criteria for a mental illness and those who do not but cannot distinguish average from good mental health, and fail to capture many of the changes that might occur in mental health improvement programmes. Monitoring the impact of these requires validated scales that reflect current concepts of positive mental health. There is a need for such scales that capture current thinking and which are validated for use in Scotland and elsewhere in the UK.

Affectometer 2 had previously been identified as a promising scale for assessing population positive mental health (for adults),¹ having intuitive appeal to practitioners and policy makers in the UK and appearing to correspond to current definitions of positive mental health*. However, it had not been validated for use in the UK. Researchers at Warwick and Edinburgh Universities were therefore commissioned for the mental health indicators programme[†] to validate Affectometer 2, and if necessary adapt it or develop a new scale. This work took place between April 2005 and June 2006.

Affectometer 2

Affectometer 2 was developed in New Zealand in the 1980s.³ It consists of 40 items – 20 positive and 20 negative, half presented as sentences and half as adjectives (scale attached). Respondents rate how well the items apply to themselves on a five point Likert scale ranging from ‘not at all’ to ‘all of the time’. Responses to negative items are summed and subtracted from the sum of positive items, reflecting the scale’s underlying theoretical principle that mental health status is determined by the degree to which positive feelings and attributes outweigh negative ones.

Validation of Affectometer 2

i. National survey data

Affectometer 2 was included in Scotland’s Health Education Population Survey (HEPS) in 2002 and subsequently in 2005. Analysis of the 2002 data showed considerable, but not unequivocal, support for a single underlying factor for Affectometer 2 (which means subtracting the negative item score from the positive items score is valid) but also hinted at a two factor solution (which would mean such a subtraction of scores is not valid).⁴ In most other ways Affectometer 2 performed very well. It showed expected correlations with socio-demographic factors (eg gender, social class, household income and self-reported health status) discriminating between population groups in a way that was consistent with findings from other population surveys. Correlation with GHQ-12 confirmed that Affectometer 2 is capturing something more than the absence of mental illness and a low level of affect. Scores showed a normal distribution, indicating that the scale had no ‘ceiling effect’, and suggesting that it had potential for assessing changes in the level of positive mental health in populations.

* There is increasing agreement that positive mental health has two aspects: hedonic (subjective experience of happiness and life satisfaction) and eudaimonic (psychological functioning, good relationships with others and self realisation).²

[†] The indicators programme is being taken forward by NHS Health Scotland for the Scottish Executive’s National Programme for Improving Mental Health and Well-being <http://www.healthscotland.com/understanding/population/mental-health-indicators.aspx>



ii Focus groups – face validity

Members of the general public recruited to focus groups in Scotland and England to discuss the scale, liked it and thought it easy to complete.⁵ They preferred the sentences to the adjectives and commented on some individual items and the Likert response scale. Interestingly, although positive and negative items are balanced in the scale, the impression gained was that the scale measured mental illness.

iii. Student samples – construct validity, internal consistency and reliability (stability over time)

Students at Warwick and Edinburgh universities completed Affectometer 2 in parallel with a number of other scales measuring different aspects of mental health and well-being.⁵ Affectometer 2 correlated as predicted with the other scales showing good construct validity - it correlated very well with scales of psychological functioning and scales of affect/feeling, slightly less well with scales of life satisfaction and mental health, and was only moderately correlated with a scale of emotional intelligence and a scale of general health. Mean scores remained relatively stable over a one week period, indicating that general positive mental health is being captured rather than a transitory mood state. Affectometer 2, however, showed higher levels of response bias (specifically self-deception, the tendency to exaggerate certain responses or behaviours) than other comparable scales and a very high level of internal consistency. The latter suggested the scale had more items than necessary to capture its underlying concept of positive mental health indicating redundancy of items and potential to be shortened.

Assessment of Affectometer 2

Overall, Affectometer 2 performed reasonably well as a measure of positive mental health in the UK population.⁵ The main limiting factors were a tendency to response bias (desirable responding), its length (and high internal consistency). Additionally, recent research on positive mental health suggests Affectometer 2's underlying theoretical principle that mental health status is determined by the degree to which positive feelings and attributes outweigh negative ones (reflected in its scoring system) may not be a valid approach. Studies have shown mental illness to be partially independent of positive mental health, meaning that people with mental illness can experience some aspects of positive mental health and that those who are not mentally ill may not.⁶⁻¹⁰

Development of the Warwick-Edinburgh Mental Well-being Scale (WEMWBS)

On the basis of the above validation of Affectometer 2, the researchers and a project Advisory Group developed a new scale based on Affectometer 2.⁵ Early versions of the new scale included both positively and negatively worded items (I feel loved, I don't feel useful). The negative items, however, proved problematic with respect to the Likert scale responses creating double negatives (eg I don't feel useful – 'none of the time'). After much deliberation, it was agreed that the new scale would include only positively worded items relating to positive aspects of mental health. Scales which do not have both positive and negative items are regarded as prone to response bias, but in the event this problem did not emerge (see below). During development, constant reference was made back to the positive mental health literature and to Affectometer 2 to ensure that as wide a range as possible of attributes of positive mental health were covered in the new scale. Because spirituality is regarded as an important aspect of positive mental health, items capturing this concept were considered for inclusion. In the event it proved impossible to identify items which were not contentious and the concept is not covered in the final scale.

WEMWBS

WEMWBS is a 14 positively worded item scale with five response categories from 'none of the time' to 'all of the time' (scale attached). It has a time frame for assessment of the previous two weeks which is the same as that for Affectometer 2. It covers most aspects of positive mental health currently in the literature, including both hedonic and eudaimonic perspectives: positive affect (feelings of optimism,

cheerfulness, relaxation), satisfying interpersonal relationships and positive functioning (energy, clear thinking, self acceptance, personal development, mastery and autonomy). It does not include items specifically on life satisfaction, but hedonic well-being is well represented. Items are summed to give an overall score that can be presented as a mean score or graphically.

Validation of WEMWBS

i. Focus groups – face validity

WEMWBS proved very popular with focus groups.⁵ Participants reported it easy to complete, clear and straightforward. No comments were made about modifications or improvements to the scale. Completion generated much more discussion about positive mental health and well-being than about mental illness.[‡]

ii. Students – construct validity, internal consistency and reliability (stability over time)

As above, WEMWBS was tested against other scales with students at Warwick and Edinburgh universities.⁵ It performed well. Scores were normally distributed and analysis indicated a clear single underlying factor. Its internal consistency suggested less risk of item redundancy than for Affectometer 2 but remained high. Correlations with other measures were as predicted. It had moderate to high levels of construct validity with the other comparable scales, and mean scores remained relatively stable over a one week period. It also had a lower measure of response bias than that of the Affectometer 2 and many other mental health scales. Correlation with Affectometer 2, whilst not as high as anticipated, given that WEMWBS is derived from Affectometer 2 (possibly due to the removal of the negative items), suggested that WEMWBS is tapping into a very similar concept to Affectometer 2.

Assessment of WEMWBS

WEMWBS showed significant improvements over Affectometer 2 being shorter and easier to complete, and less prone to response bias.⁵ Its correlation to Affectometer 2 indicates that it can be regarded as a suitable alternative measure of positive mental health. In addition, its exclusively positive content appears to fit better with lay views on what constitutes positive mental health. It also retains some of the key strengths of Affectometer 2, having good face validity with a high degree of acceptability in the population, and appropriate levels of construct validity with a range of comparable scales. However, its internal consistency remained high enough to suggest that further reduction in the number of items might be possible.

Merit of WEMWBS over other measures

This research suggests that WEMWBS is likely to be a user-friendly and psychometrically sound tool for monitoring positive mental health at a population level in the UK. This new 14 item scale with its five response categories may prove something of a landmark. What differentiates WEMWBS from all existing measures of mental health is that it has been developed specifically to measure positive mental health - all the items represent positive thoughts or feelings. Its positive focus offers a vision of future population mental health and enables others to see where mental health promotion programmes might be headed. If the adage, so well proven in cognitive and behaviour change programmes, that ‘what you pay attention to is what you get more of’ is true, it may of itself help to promote mental health. The only other entirely positive scale relating to well-being is the ‘WHO-5’ a 5 item scale covering physical and mental aspects of health (feeling vigorous, interested, cheerful) but not psychological functioning. WEMWBS is very likely to prove a useful step forward, but it should not be regarded as the last word

[‡] Although the number of participants taking part in this phase of research was small, the results are consistent with WEMWBS having good face validity in the general population

on the subject. As the focus on the positive end of the spectrum of mental health increases, understanding of the concept will grow and develop, and new measures may be required.

Ongoing validation of WEMWBS

WEMWBS needs also to undergo two further validation studies. The findings now need testing on a large population sample. Data for such a study is currently being collected in Scotland as WEMWBS has been included in the 2006 HEPS and 'Well? What do you think?'[§] surveys. This will add to the student findings and clarify the way the scale varies with factors such as social class, age, marital status, income level and other known correlates of mental health, and contribute to the development of population norms. The scale's sensitivity to change also needs to be investigated in intervention studies to indicate whether WEMWBS can be used to test changes in positive mental health due to a programme or intervention. In this respect, the fact that Affectometer 2 has been shown to be sensitive to change makes it likely that WEMWBS will also prove to be so. When these studies are complete WEMWBS could fill a current gap, proving useful to those who want to monitor positive mental health and evaluate the impact of mental health promotion policies and interventions.

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The full research report is available on request.

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[§] The attitudinal mental health survey run by the National Programme for Improving Mental Health and Well-being <http://www.wellscotland.info/public-attitudes-survey.html>

Affectometer 2**

1 – STATEMENTS

Look at each statement and circle the number that best fits how often you've felt that way in the last 2 weeks.

STATEMENTS	Not at all	Occasionally	Some of the time	Often	All of the time
My life is on the right track	0	1	2	3	4
I have been left alone when I don't want to be	0	1	2	3	4
I feel I can do whatever I want to	0	1	2	3	4
I have been thinking clearly and creatively	0	1	2	3	4
Like a failure	0	1	2	3	4
Nothing seems very much fun any more	0	1	2	3	4
I like myself	0	1	2	3	4
I can't be bothered to do anything	0	1	2	3	4
Close to people around me	0	1	2	3	4
As though the best years of my life are over	0	1	2	3	4
My future looks good	0	1	2	3	4
I have lost interest in other people & don't care about them	0	1	2	3	4
I have energy to spare	0	1	2	3	4
I smile and laugh a lot	0	1	2	3	4
I wish I could change some part of my life	0	1	2	3	4
My thoughts go around in useless circles	0	1	2	3	4
I can handle any problems that come up	0	1	2	3	4
My life seems stuck in a rut	0	1	2	3	4
I feel loved and trusted	0	1	2	3	4
I feel there must be something wrong with me	0	1	2	3	4

2 - ADJECTIVES

Look at each word and circle the number that best fits how often you've felt that way in the last 2 weeks.

Words	Not at all	Occasionally	Some of the time	Often	All of the time
Satisfied	0	1	2	3	4
Lonely	0	1	2	3	4
Good natured	0	1	2	3	4
Clear headed	0	1	2	3	4
Helpless	0	1	2	3	4
Impatient	0	1	2	3	4
Useful	0	1	2	3	4
Depressed	0	1	2	3	4
Relaxed about things	0	1	2	3	4
Hopeless	0	1	2	3	4
Optimistic	0	1	2	3	4
Withdrawn	0	1	2	3	4
Enthusiastic	0	1	2	3	4
Interested in other people	0	1	2	3	4
Discontented	0	1	2	3	4
Confused	0	1	2	3	4
Confident	0	1	2	3	4
Tense	0	1	2	3	4
Understood	0	1	2	3	4
Insignificant	0	1	2	3	4

** Permission to use this scale should be sought from the author, Dr. Ross Flett, New Zealand. Email. r.a.flett@massey.ac.uk.

The Warwick-Edinburgh Mental Well-being Scale (WEMWBS)

Below are some statements about feelings and thoughts.

Please tick the box that best describes your experience of each over the last 2 weeks

STATEMENTS	None of the time	Rarely	Some of the time	Often	All of the time
I've been feeling optimistic about the future	1	2	3	4	5
I've been feeling useful	1	2	3	4	5
I've been feeling relaxed	1	2	3	4	5
I've been feeling interested in other people	1	2	3	4	5
I've had energy to spare	1	2	3	4	5
I've been dealing with problems well	1	2	3	4	5
I've been thinking clearly	1	2	3	4	5
I've been feeling good about myself	1	2	3	4	5
I've been feeling close to other people	1	2	3	4	5
I've been feeling confident	1	2	3	4	5
I've been able to make up my own mind about things	1	2	3	4	5
I've been feeling loved	1	2	3	4	5
I've been interested in new things	1	2	3	4	5
I've been feeling cheerful	1	2	3	4	5

"Warwick-Edinburgh Mental Well-Being Scale (WEMWBS)
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