

Factor Analyses identified one dominant global factor in a new scale for Recovering Quality of Life (ReQoL) for use with mental health service users



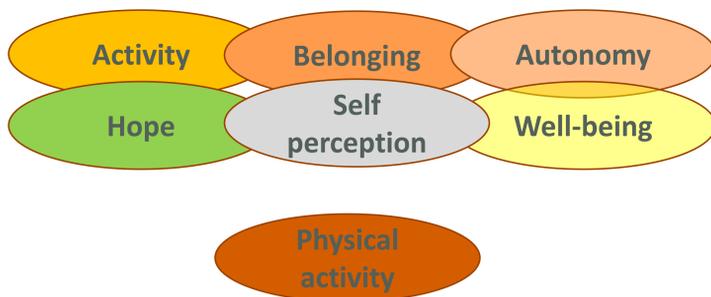
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Background

- A new PROM was needed in mental health to reflect domains that really matter to service users
- EQ-5D has been shown to be unable to adequately capture health benefits in the area of mental health necessitating a new PROM with preference weights
- ReQoL is a new self-reported measure of quality of life that developed for use with people experiencing mental health difficulties aged 16 and over.
- The themes were identified from a review of qualitative reviews and interviews.

Figure 1. Original conceptual domains in ReQoL



Aims of the study

To assess the dimensionality of ReQoL as a precursor to IRT modelling and final item selection.

Methods

Data

- Mental health service users were recruited in two waves from trusts, general practices, the voluntary sector and a trial cohort.
- To achieve high response rates, participants could respond in multiple ways: during inpatient stays, during outpatient treatment visits, through postal questionnaire, or online.
- Most participants came from the following diagnostic groups: depression, anxiety, psychotic disorders, bipolar, personality disorders, eating disorders.

Table 1 Characteristics of samples and questionnaires

| | Wave 1 | Wave 2 |
|----------------------|--------|--------|
| No of respondents | 2,062 | 4266 |
| Average age (years) | 48 | 47 |
| Percent female | 58 | 55 |
| No of items | 61 | 39 |
| No of positive items | 23 | 15 |

Statistical Analysis

- Exploratory (EFA) and confirmatory (CFA) factor analyses were undertaken for the mental health items only using Mplus 7.4.
- Model fit was evaluated by root mean square error of approximation (RMSEA) <0.08 and comparative fit index (CFI) >0.95.
- Confirmatory models included:
 - Six factor model based on the original themes
 - Two factor model distinguishing positive and negative items
 - Bifactor model including a global factor and two methods factors: positive wording and negative wording

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Further information on ReQoL

www.reqol.org.uk
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Results

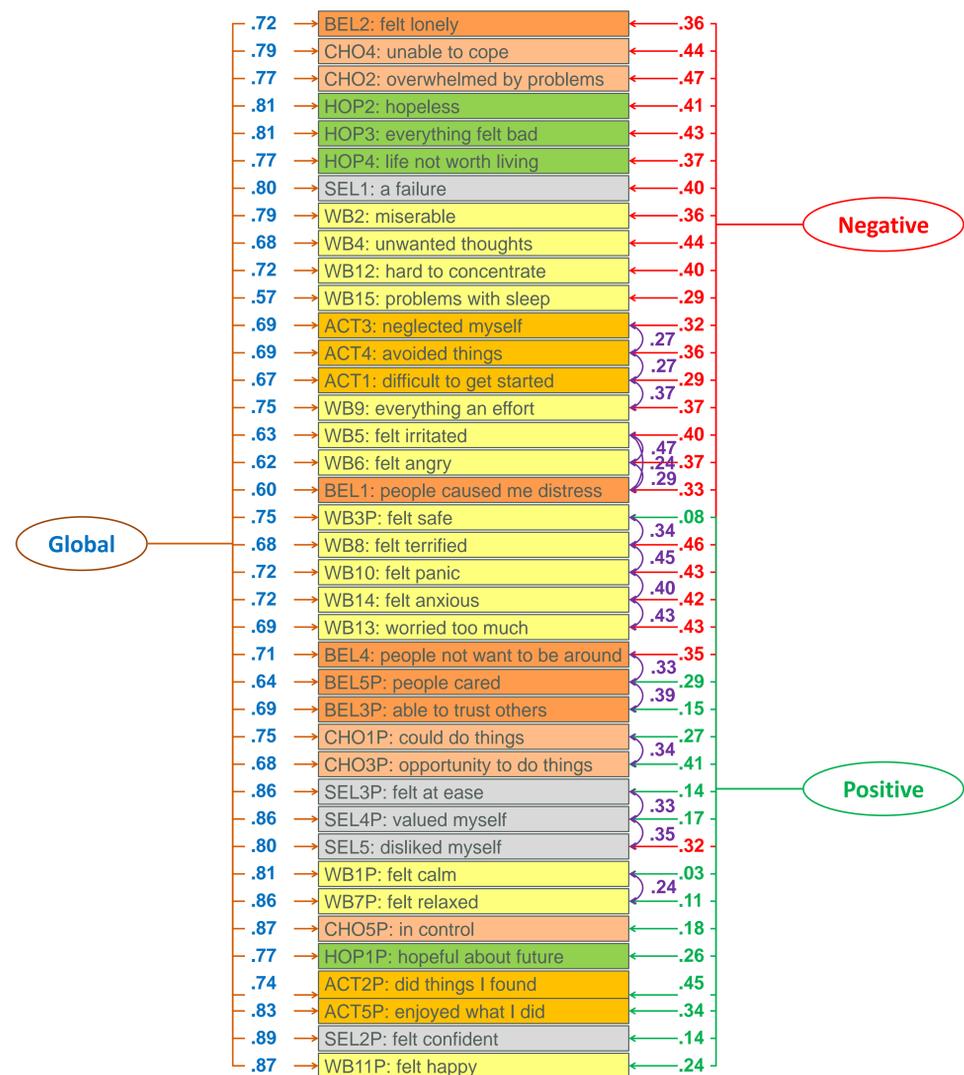
Across both waves:

- Eigen value analyses revealed a strong general factor. Wave1/Wave2 eigen values were: factor 1: 21.3/24.6, factor 2: 2.2/2.3.
- The six factor model showed poor fit (table 2)
- Adequate fit could be achieved for the two factor and bifactor models (table 2)
- Several instances of local dependence needed to be modeled (figure 2)

Table 2. Fit statistics for six factor, two factor and bifactor CFA models

| | 6 factor model | | 2 factor model: negative, positive | | Bifactor model: global, negative, positive | |
|------------------|----------------|--------|------------------------------------|--------|--|--------|
| | Wave1 | Wave2 | Wave1 | Wave2 | Wave1 | Wave2 |
| Chi Square Value | 21,576 | 26,483 | 13,093 | 13,317 | 12,859 | 11,224 |
| DF | 1,524 | 687 | 1,538 | 694 | 1,482 | 647 |
| RMSEA (<0.08) | 0.091 | 0.095 | 0.069 | 0.066 | 0.070 | 0.062 |
| CFI (>0.95) | 0.921 | 0.937 | 0.955 | 0.969 | 0.955 | 0.974 |
| WRMR | 3.486 | 6.015 | 2.475 | 2.978 | 2.260 | 2.304 |

Figure 2. Bifactor model for 39 REQOL items (Wave 1)



Theoretical concepts



Conclusions

- As in previous studies, positively and negatively worded items loaded on separate but highly correlated factors in a two-factor model.
- Bi-factor models supported the unidimensionality of the item pool for ReQoL.
- Several instances of potentially redundant items were identified, suggesting possibilities for developing a short form of the ReQoL.