

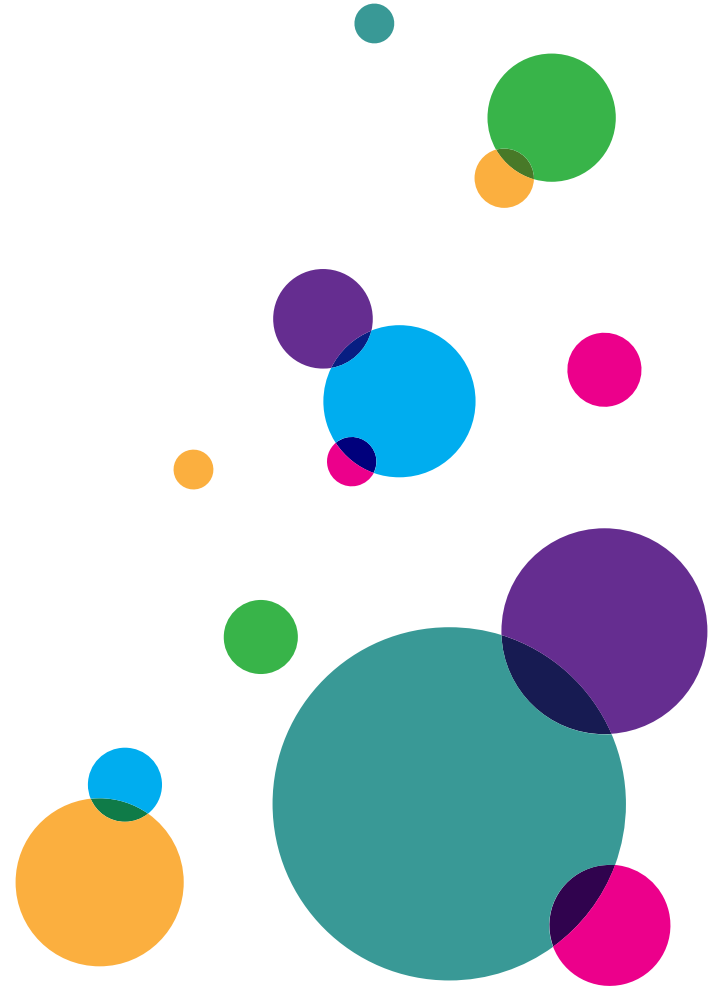
Adding standardised scales to CLOSER Discovery

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Economic
and Social
Research Council



Outline

- What are standardised scales?
- Benefits of using standardised scales
- Challenges of using standardised scales
- Aims of the standardised scales project
- Standardised scales on Discovery
- Future plans



What are standardised scales?

- Questions appear in a specific order with set wording
- Validated using a sample of the intended population
- Sometimes have multiple versions

“Standardised scales (often interchangeably referred to as summated scales or validated instruments) are a collection of related questions that measure an underlying concept.”

Scales (CLOSER Discovery, 2024)



Generalized Anxiety Disorder (GAD7) scale

GAD-7				
Over the <u>last 2 weeks</u> , how often have you been bothered by the following problems?	Not at all	Several days	More than half the days	Nearly every day
1. Feeling nervous, anxious or on edge	0	1	2	3
2. Not being able to stop or control worrying	0	1	2	3
3. Worrying too much about different things	0	1	2	3
4. Trouble relaxing	0	1	2	3
5. Being so restless that it is hard to sit still	0	1	2	3
6. Becoming easily annoyed or irritable	0	1	2	3
7. Feeling afraid as if something awful might happen	0	1	2	3

Total Score = Add Columns — + — + —

If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure 1. The generalized anxiety disorder 7-item (GAD-7) scale.

RELIABILITY AND PROCEDURAL VALIDITY

The internal consistency of the GAD-7 was excellent

(Spitzer et al., 2006, p. 1094)

chronic symptoms. Of the 433 patients with GAD-7 scores of 10 or greater, 96% had symptoms for 1 month or more, and 67% had symptoms for 6 months or more.

CONSTRUCT VALIDITY

There was a strong association between increasing GAD-7 severity scores and worsening function on all 6 SF-20 scales (**Table 2**). As GAD-7 scores went from mild to moderate to severe, there was a substantial stepwise decline in functioning in all 6 SF-20 domains. Most pairwise comparisons within each SF-20 scale between successive GAD-7 severity levels were significant. The relationship between GAD severity and functional impairment was similar in men and women.

Figure 2 illustrates graphically the relationship between increasing GAD-7 scale scores and worsening functional status. Decrements in SF-20 scores are shown in terms of effect size (ie, the difference in mean SF-20 scores, expressed as the number of SDs, between each GAD-7 interval subgroup and the reference group). The reference group is the group with the lowest GAD-7 scores (ie, 0-4), and the SD used is that of the entire sample. Effect sizes of 0.5 and 0.8 are typically considered moderate and large be-



Edinburgh Postnatal Depression Scale (EPDS)

786

COX ET AL

Appendix Edinburgh Postnatal Depression Scale (EPDS)

The Edinburgh Postnatal Depression Scale (EPDS) has been developed to assist primary care health professionals to detect mothers suffering from postnatal depression; a distressing disorder more prolonged than the 'blues' (which occur in the first week after delivery) but less severe than puerperal psychosis.

Previous studies have shown that postnatal depression affects at least 10% of women and that many depressed mothers remain untreated. These mothers may cope with their baby and with household tasks, but their enjoyment of life is seriously affected and it is possible that there are long-term effects on the family.

The EPDS was developed at health centres in Livingston and Edinburgh. It consists of ten short statements. The mother underlines which of the four possible responses is closest to how she has been feeling during the past week. Most mothers complete the scale without difficulty in less than 5 minutes.

The validation study showed that mothers who scored above a threshold 12/13 were likely to be suffering from a depressive illness of varying severity. Nevertheless the EPDS score should *not* override clinical judgement. A careful clinical assessment should be carried out to confirm the diagnosis. The scale indicates how the mother has felt *during the previous week*, and in doubtful cases it may be usefully repeated after 2 weeks. The scale will not detect mothers with anxiety neuroses, phobias or personality disorders.

Instructions for users

1. The mother is asked to underline the response which comes closest to how she has been feeling in the previous 7 days.
2. All ten items must be completed.
3. Care should be taken to avoid the possibility of the mother discussing her answers with others.
4. The mother should complete the scale herself, unless she has limited English or has difficulty with reading.
5. The EPDS may be used at 6–8 weeks to screen postnatal women. The child health clinic, postnatal check-up or a home visit may provide suitable opportunities for its completion.

EDINBURGH POSTNATAL DEPRESSION SCALE (EPDS)

J. L. Cox, J. M. Holden, R. Sagovsky

In the past 7 days:

1. I have been able to laugh and see the funny side of things
As much as I always could
Not quite so much now
Definitely not so much now
Not at all
2. I have looked forward with enjoyment to things
As much as I ever did
Rather less than I used to
Definitely less than I used to
Hardly at all
- * 3. I have blamed myself unnecessarily when things went wrong
Yes, most of the time
Yes, some of the time
Not very often
No, never
4. I have been anxious or worried for no good reason
No, not at all
Hardly ever
Yes, sometimes
Yes, very often
- * 5. I have felt scared or panicky for no very good reason
Yes, quite a lot
Yes, sometimes
No, not much
No, not at all
- * 6. Things have been getting on top of me
Yes, most of the time I haven't been able to cope at all
Yes, sometimes I haven't been coping as well as usual
No, most of the time I have coped quite well
No, I have been coping as well as ever
- * 7. I have been so unhappy that I have had difficulty sleeping
Yes, most of the time
Yes, sometimes
Not very often
No, not at all
- * 8. I have felt sad or miserable



Benefits of using standardised scales

Primary research:

- Ready for use
- Time-saving
- Cost-effective
- Questions comparable to other research's

Secondary research:

- Easy to identify what measures are used to produce the data of interest
- Compare phenomena across samples



Challenges – finding scales

- Gathering information on standardised scales is **time-consuming**
- The **original paper**
 - Often very old – may not have a persistent identifier (e.g., DOI)
 - Research intensive search is lengthy
- The **original** set of validated **questions**
 - Not always included in full in the original paper
 - May be behind a pay wall
 - May require permission



Challenges – locating the scales

- Records of metadata in studies are usually not **up-to-date** or **available**
- Information is **scattered** and **inconsistent**
 - Unrecorded **presence** and **location** of scales in research studies
 - Record of presence and location of scale in the study **often** not **publicly available**
 - For scales which have multiple versions, the **version(s)** used **not specified** in research paper



Challenges – the researcher's strain

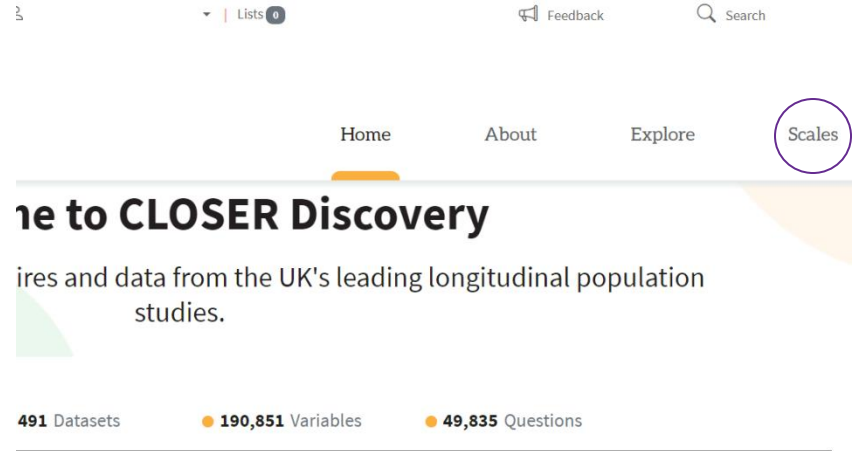
Currently, **each** individual **researcher** will have to:

- Determine **if** a scale is used
- Find the information about the scale (**citation and questions**)
- **Locate** the scale within the questionnaire
- Identify the **version** used in the questionnaire
- Find which dataset contains the **scale's variable**
- **REPEAT** for each questionnaire as needed



Aims of the standardised scale project

- Gather **up-to-date, comprehensive** information about the standardised scales used in the CLOSER Discovery studies
 - Where scales are used
 - Versions (original and non)
- Save researchers' time by document this information in one **centralised, publicly available** place (CLOSER Discovery)



The screenshot shows the top portion of the CLOSER Discovery website. At the top right, there are links for 'Feedback' and 'Search'. Below these are navigation links: 'Home', 'About', 'Explore', and 'Scales' (which is circled in purple). The main heading reads 'Welcome to CLOSER Discovery' followed by the text 'Discover scales and data from the UK's leading longitudinal population studies.' Below this, three statistics are displayed: '491 Datasets', '190,851 Variables', and '49,835 Questions'. The bottom of the image features a decorative graphic of several overlapping circles in various colors (blue, green, purple, orange, pink, teal).

Main standardised scales page



Home | Lists 0

Feedback

Search

Home

About

Explore

Scales

Standardised scales

Standardised scales (often interchangeably referred to as summated scales or validated instruments) are a collection of related questions that measure an underlying concept. Below is a list of some of the scales used by the CLOSER partner studies.

View the individual pages linked below to see the questions in each scale and their use by the CLOSER Discovery studies.

The names of the standardised scales in this table, and on the scales' individual pages, are the original versions. The individual pages of the standardised scales may also contain versions that stem from the original scale.

This is a work in progress, we will continue to add more scales to CLOSER Discovery, with links to the study questionnaires that use them. These standardised scales were chosen because they are frequently used by the CLOSER Discovery studies and in the wider community. If you know of any inaccuracies, additional questionnaires which use these scales, or scales which are not on this list which were used, please contact us at closer@ucl.ac.uk.

Standardised Scale	Summary	Citation
Alcohol Use Disorders Identification Test (AUDIT)	The Alcohol Use Disorders Identification Test (AUDIT) (Saunders et al., 1993) is a 10-item scale designed to measure hazardous or harmful alcohol consumption, which encompasses alcohol consumption, drinking behaviour (dependence), and alcohol-related problems. Different versions of the scale have been created which include a subset of the original 10 items.	Saunders, J. B., Aasland, O. G., Babor, T. F., De La Fuente, J. R., & Grant, M. (1993). Development of the Alcohol Use Disorder Identification Test (AUDIT): WHO Collaborative Project on Early Detection of Persons with Harmful Alcohol Consumption-II. <i>Addiction</i>, 88 (6), 791-804. https://doi.org/10.1111/j.1360-0443.1993.tb02093.x
Edinburgh Postnatal Depression Scale (EPDS)	The Edinburgh Postnatal Depression Scale (EPDS) (Cox, Holden & Sagovsky, 1987) is a 10-item scale designed to measure postnatal depression. Different versions of the scale have been created which include a subset of the original 10 items.	Cox, J. L., Holden, J. M., & Sagovsky, R. (1987). Detection of postnatal depression: Development of the 10-item Edinburgh Postnatal Depression Scale. <i>British Journal of Psychiatry</i>, 150(6), 782-786. https://doi.org/10.1192/bjp.150.6.782
General Health Questionnaire (GHQ)	The General Health Questionnaire (GHQ) (Goldberg, 1967) is a 60-item scale designed to measure non-psychotic psychiatric illness/disorders. Different versions of the scale have been created which include a subset of the original 60 items.	Goldberg, D. P., & Blackwell, B. (1970). Psychiatric Illness in General Practice. A Detailed Study Using a New Method of Case Identification. <i>British Medical Journal</i>, 2, 439-443. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1700485/pdf/brmedj02289-0013.pdf



Individual pages – general information

- Name of the scale
- Summary
- Reference
- “Question list” table
 - Outline of the scales’ versions used in the CLOSER questionnaires

Generalized Anxiety Disorder (GAD-7) Scale

The Generalized Anxiety Disorder (GAD) questionnaire (Spitzer et al., 2006) is a 7-item scale designed to measure generalised anxiety disorder. Different versions of the scale have been created which include a subset of the original 7 items.

[Spitzer, R. L., Kroenke, K., Williams, J. B., & Löwe, B. \(2006\). A brief measure for assessing generalized anxiety disorder: the GAD-7. Archives of internal medicine, 166\(10\), 1092-1097. http://dx.doi.org/10.1001/archinte.166.10.1092](http://dx.doi.org/10.1001/archinte.166.10.1092)

Question number	Question	Original 7-item version	GAD-2 ¹
1	Over the last 2 weeks, how often have you been bothered by the following problems? Feeling nervous, anxious, or on edge	✓	✓
2	Over the last 2 weeks, how often have you been bothered by the following problems? Not being able to stop or control worrying	✓	✓
3	Over the last 2 weeks, how often have you been bothered by the following problems? Worrying too much about different things	✓	
4	Over the last 2 weeks, how often have you been bothered by the following problems? Having trouble relaxing	✓	
5	Over the last 2 weeks, how often have you been bothered by the following problems? Being so restless that it is hard to sit still	✓	
6	Over the last 2 weeks, how often have you been bothered by the following problems? Becoming easily annoyed or irritable	✓	
7	Over the last 2 weeks, how often have you been bothered by the following problems? Feeling afraid as if something awful might happen	✓	



Individual pages – use in CLOSER studies

- Where the scale is used in the CLOSER Discovery studies' table
- Can be **sorted by**:
 - Version
 - Study
 - Year of data collection
 - Questionnaire
 - Dataset

Use of this scale in CLOSER Discovery study questionnaires and datasets

Note this table is sortable.

Version	Study	Year	Questionnaire	Dataset
Original 7-item version	ALSPAC	2013-2014	Your Life Now	ALSPAC Your Life Now (21+) Questionnaire Dataset
Original 7-item version	ALSPAC	2020	Cohort Member COVID-19 Questionnaire 1	ALSPAC COVID Questionnaire 1 Dataset
Original 7-item version	ALSPAC	2020	Cohort Member COVID-19 Questionnaire 2	ALSPAC COVID Questionnaire 2 Dataset
Original 7-item version	ALSPAC	2020	Parent COVID-19 Questionnaire 1	ALSPAC COVID Questionnaire 1 Dataset
Original 7-item version	ALSPAC	2020	Parent COVID-19 Questionnaire 2	ALSPAC COVID Questionnaire 2 Dataset
Original 7-item version	ALSPAC	2020-2021	Parent COVID-19 Questionnaire 4	ALSPAC COVID Questionnaire 4 and Life at 28+ Dataset
Original 7-item version	ALSPAC	2021	Cohort Member COVID-19 Questionnaire 5	-



Future plans

- **Update** the CLOSER Discovery **scales** when **new studies** are added to CLOSER Discovery
- Add **more** standardised scales to CLOSER Discovery
- Add the standard scales as questionnaires in Discovery so the questions are **searchable** and **documented** within DDI
 - Link the questions in the study questionnaires directly to the standardised scales' questions which they are based



Q&A









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