

WELLBEING TRACKER: KEY FACTS

The Wellbeing Tracker is a self-report questionnaire developed by Unmind, in collaboration with the Psychometrics Centre at the University of Cambridge.¹

Encompassing a *whole-person* approach, it's designed to capture key elements of mental health and wellbeing across seven domains. The Tracker can be used globally, with scientifically benchmarked population data from USA, UK, Australia and New Zealand.²

HAPPINESS

An inverse of depression and low mood

CALMNESS

An inverse of anxiety and worry

COPING

Perceived ability to manage demands and stressors

SLEEP

Quality of sleep and its impact on day-to-day functioning

HEALTH

Overall satisfaction with health and its impact on day-to-day functioning

CONNECTION

Quality of relationships and sense of feeling supported or valued

FULFILMENT

Overall sense of growth and purpose

Relevant for everyone

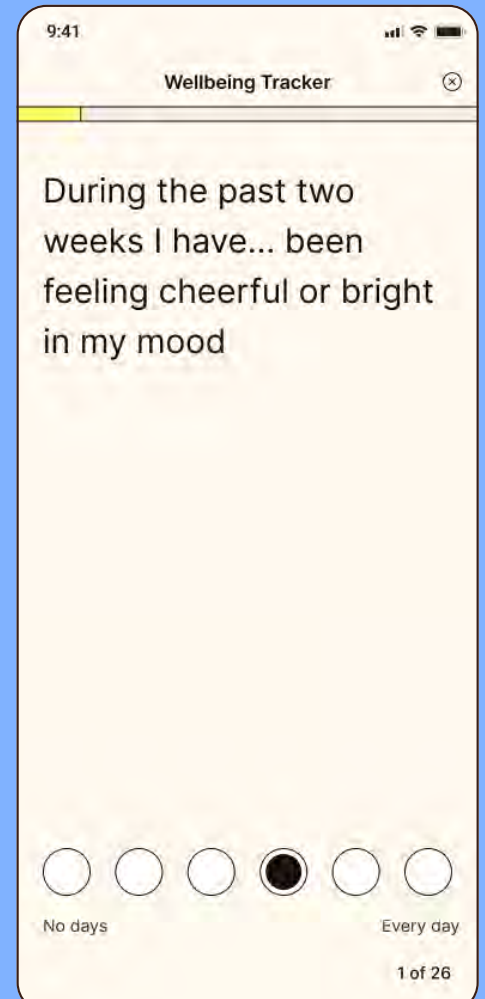
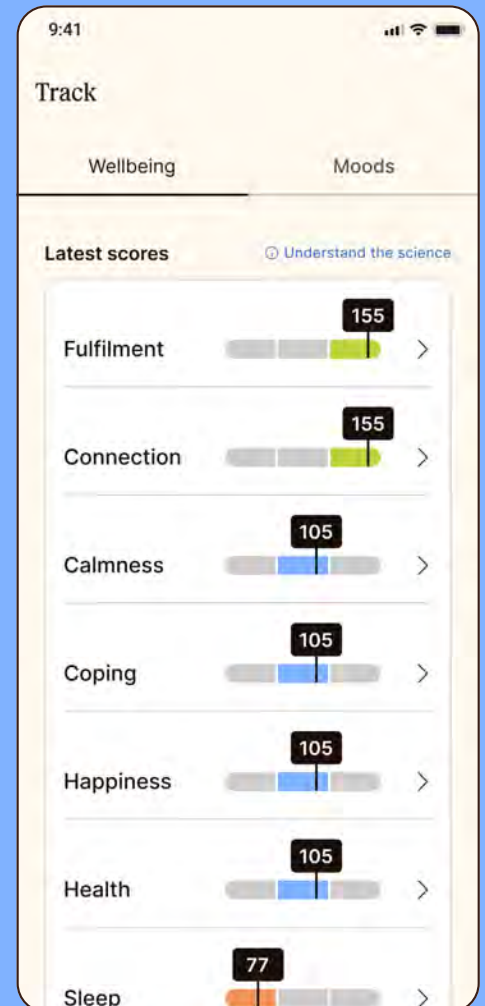
The Wellbeing Tracker encompasses the full spectrum of mental wellbeing, from key components of positive wellbeing (often referred to as thriving or flourishing) to emerging or existing symptoms of mental health problems. This means that it's relevant for all users, regardless of their position on the spectrum.

Increasing insight

On completion of the Wellbeing Tracker, users are presented with a visual representation of their scores, with personalised feedback for each of the seven domains in simple, accessible language. This normalises, educates and helps raise awareness of emerging or persistent symptoms. Visual representation of scores helps illustrate how each domain has changed over time, so users are better able to spot patterns and make inferences about how different areas might interlink.

Proactive, preventative action

The Wellbeing Tracker also serves as a trusted roadmap to guide engagement with the rest of the platform, empowering users to make informed choices in following personalised content recommendations. Because we know that timely intervention is important in determining mental health outcomes, the Wellbeing Tracker also helps users to connect with trusted sources of support via the Mental Health Resources section. This removes some of the barriers to access and helps users access the right help at the right time, beyond the Unmind platform.



THE SCIENCE BEHIND THE WELLBEING TRACKER

As a scientifically-validated psychological measure, the Wellbeing Tracker went through a robust series of steps in its development.

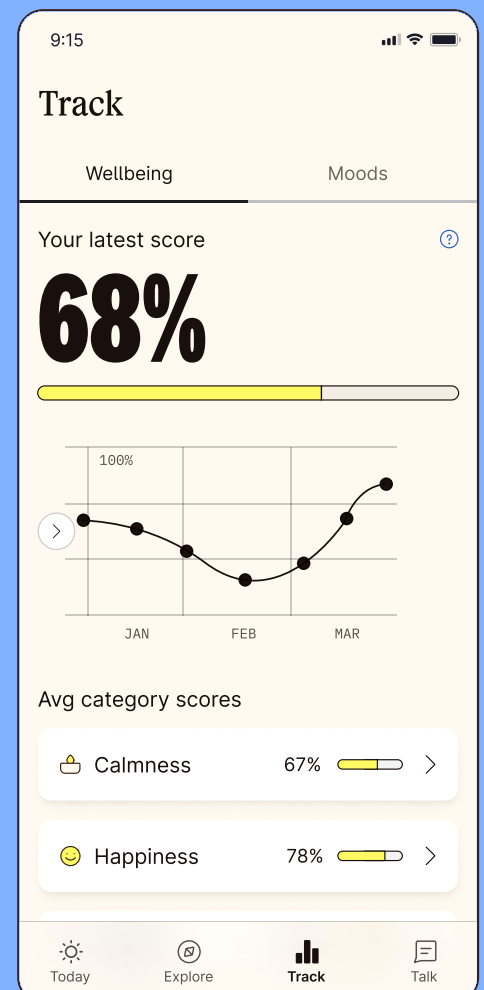
Building

We began by working with six clinical psychologists specialising in adult mental health to create a pool of candidate questions that tap into different aspects of mental health and wellbeing. We then asked over one thousand research participants to answer these questions, and applied a statistical method called exploratory factor analysis to this data to identify clusters of questions that seem to go together and tap into the same domains of mental wellbeing. Focusing on the most important domains, and selecting the questions that best measured each domain, we were left with the 26 questions across seven domains that make up the Wellbeing Tracker.

Validating

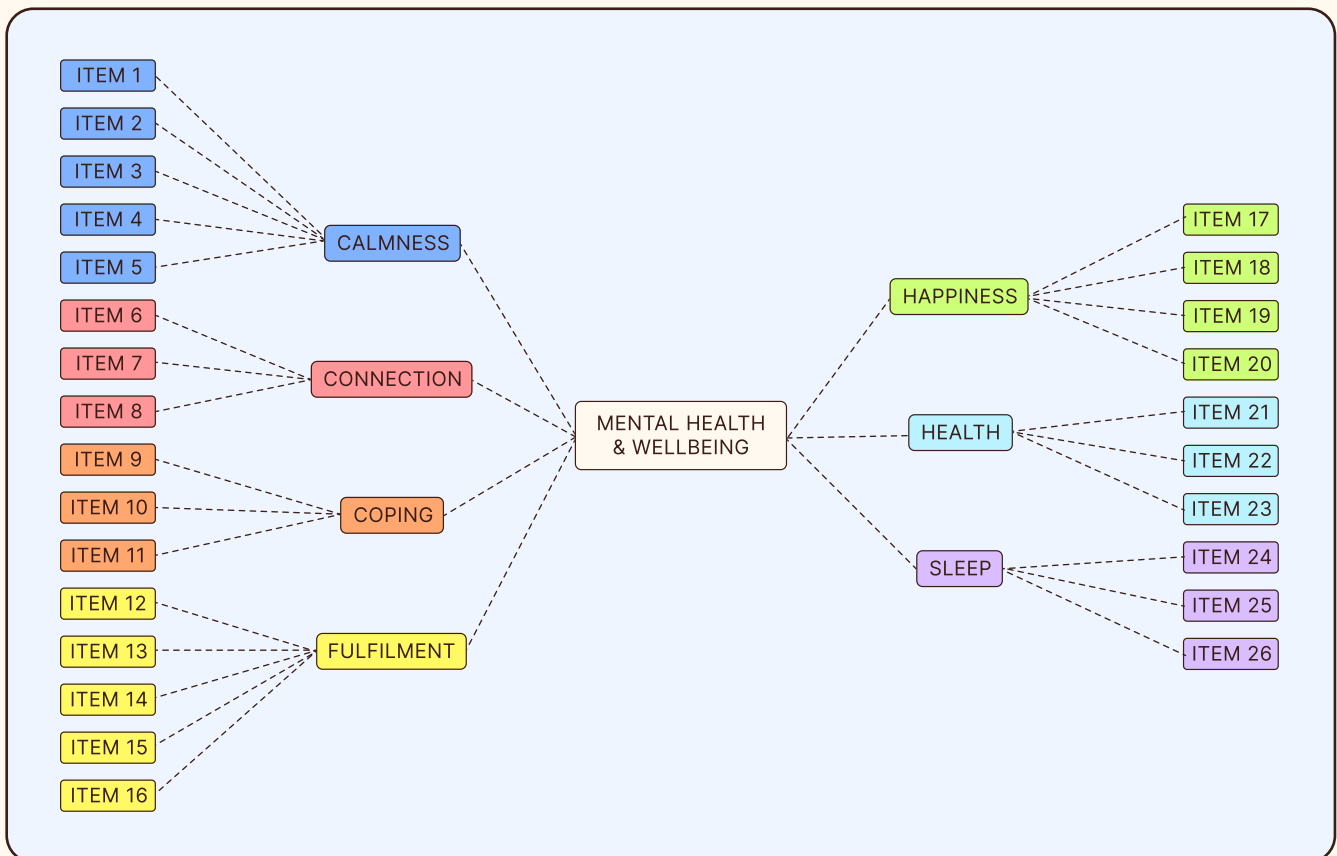
Our next goal was to assess how well the Wellbeing Tracker does its job. To do this, we asked another thousand research participants, a representative sample of the UK population, to complete the now-finished Tracker, along with some other established gold-standard mental health measures, including the PHQ-9³ and GAD-7.⁴

To explore how the different domains fit together, we used another method, called *confirmatory factor analysis*. We found that the data were well-explained by what's called a *second-order model* (next page): each question taps into a different aspect of one of the seven domains, and each domain in turn taps into a different aspect of overall *wellbeing*. We also used this model to build an algorithm for scoring users' responses on the Wellbeing Tracker.



To ensure that the Wellbeing Tracker is reliable, we asked some of the participants to complete it again one week later and calculated its *test-retest reliability*. Participants' second sets of scores were very strongly correlated with their first, with reliability estimates of 78%-85% for each of the seven domains, and 90% for overall wellbeing. This shows that the Wellbeing Tracker is a reliable measure, and that mental wellbeing doesn't fluctuate too much week-to-week.

To ensure that questions in each domain measure what they're intended to measure, we checked that domain scores correlated with corresponding well-established existing measures – what is known as *concurrent validity*.



For example, we found that Wellbeing Tracker *Calmness* scores are strongly negatively correlated with scores on the GAD-7, the gold-standard clinical measure of anxiety, and *Happiness* scores are strongly negatively correlated with the PHQ-9, the gold-standard measure of depression.

The overall *Wellbeing* score was similarly strongly correlated with other measures of wellbeing, including the WEMWBS.⁵ It is also important to show that the Wellbeing Tracker is a measure of users' current *state* of mental health, rather than less relevant factors like personality *traits*. To do this, we asked participants to also complete the TIPI,⁶ a standard measure of the five main personality dimensions, and found that these traits were only weakly related to Wellbeing Tracker scores.

Wellbeing tracker Subscale	Gold-Standard Measure	Correlation
Happiness	PHQ-9 ³	-.84
Calmness	GAD-7 ⁴	-.82
Coping	PSS ⁷	-.78
Sleep	Insomnia Severity Index ⁸	-.82
Health	PROMIS-10 (Physical Health) ⁹	-.65
Connection	UCLA Loneliness Scale ¹⁰	-.76
Fulfilment	Brief Inventory of Thriving ¹¹	+.85
Wellbeing	WEMWBS ⁵	+.89

Correlations between Wellbeing Tracker subscales and existing gold-standard measures of mental health and wellbeing.

Finally, the Wellbeing Tracker should be applicable to everyone. One way of ensuring this is to make sure that it measures the same underlying things for men and women, and for older and younger people. To do this, we statistically tested the *measurement invariance* of the Tracker, and found that it does indeed tap into the same constructs for men and women, and for older and younger people.

Taken together, these results show that the Wellbeing Tracker is a valid and reliable measure of overall mental wellbeing, and of the subdomains that make up wellbeing, and that it is an appropriate tool to enable Unmind users to explore their own minds, and to identify tools suited to their needs.

Cross-cultural testing

To ensure that the Wellbeing Tracker is science-backed and suitable for our users around the world, we conducted a further study to investigate whether the Tracker is valid and reliable for English-speaking users around the world (UK, US, Australia, New Zealand).

It's important to expand the validity of the Tracker across cultures to make sure it's suitable for global use. If an index is not valid internationally, this would limit its value and how meaningfully it can be used to compare scores across territories.

Despite the importance of validating wellbeing measures internationally, few studies have been carried out in this area.

We collected and analysed data from 1,300 participants from the UK, US, Australia and New Zealand in employment, with a follow-up one week later to test how responses differed over time.

Our results showed good **internal-consistency**, meaning that the questions belonging to the same area of mental health and wellbeing were strongly related to each other. The Wellbeing Tracker also showed strong **measurement invariance**, which means that scores from the Tracker can be directly compared across users from different territories. This can help global organisations reliably track wellbeing trends.

Our results support that the Wellbeing Tracker is suitable for global use and has been published in *PlosOne*, a peer-reviewed scientific journal.²

Learn more

To find out more about Unmind's research and Science team, visit www.unmind.com/research-lab or [book a call](#) with one of our workplace wellbeing experts.

References

¹ Sierk A., Travers, E., Economides, M., Loe, B.S., Sun, L., & Bolton, H. (2022). A New Digital Assessment of Mental Health and Well-being in the Workplace: Development and Validation of the Unmind Index. *JMIR Ment Health*, 9(1):e34103. <https://doi.org/10.2196/34103>

² Travers, E., Loe, B. S., Sun, L., & Bolton, H. (2023). Validating the Unmind Index as a measure of mental health and wellbeing among adults in USA, Australia, and New Zealand. *PLoS ONE* 18(11): e0287215. <https://doi.org/10.1371/journal.pone.0287215>

³ The Patient Health Questionnaire (PHQ-9; [Kroenke et al., 2001](#)) asks about symptoms of depression, and is widely used in clinical practice.

⁴ The Generalised Anxiety Disorder questionnaire (GAD-7; [Kroenke et al., 2006](#)) is similar to PHQ-9, but for anxiety.

⁵ The Warwick-Edinburgh Mental Well-being Scale (WEMWBS; [Tennant et al., 2007](#)) is a thoroughly-validated measure of general mental wellbeing.

⁶ The Ten Item Personality Inventory (TIPI; [Gosling et al., 2003](#)) measures five personality traits: Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness to Experiences.

⁷ The Perceived Stress Scale (PSS; [Cohen et al., 1983](#)).

⁸ The Insomnia Severity Index (ISI; [Morin et al, 2011](#)), a sleep quality scale used in research and clinical practice.

⁹ The Patient-Reported Outcomes Measurement Information System (PROMIS; [Hays et al., 2009](#)) is a quality of life measure designed for clinical use. We are using the Physical Health subscale of the ten-item PROMIS-10.

¹⁰ The first, and most popular, scientifically-validated measure of loneliness and social isolation ([Russell, 2010](#))

¹¹ The Brief Inventory of Thriving (BIT; [Su et al., 2014](#)) measures positive aspects of wellbeing and fulfilment, and is based on principles from positive psychology.