

Monthly Mental Health Index (MMHI) — Calculation Report

1. Purpose

The goal of this analysis is to create a single, balanced indicator of overall mental well-being — the Monthly Mental Health Index (MMHI) — by combining results from multiple standardized self-assessment tools. This helps track month-to-month trends in well-being and distress without relying on any single scale.

2. Data Sources

Scale	Focus Area	Score Range	Direction
GAD-7	Generalized Anxiety	0–21	Higher = worse
PHQ-9	Depression Severity	0–27	Higher = worse
K10	Psychological Distress	10–50	Higher = worse
WHO-5	Positive Well-being	0–25	Higher = better

3. Normalization Process

Each scale is converted to a 0–100 well-being scale to standardize results. The formulas are:

Scale	Normalization Formula	Explanation
GAD-7	$(1 - (\text{score} / 21)) \times 100$	Converts anxiety (higher = worse) into well-being (higher = better)
PHQ-9	$(1 - (\text{score} / 27)) \times 100$	Converts depression (higher = worse) into well-being
K10	$(1 - ((\text{score} - 10) / 40)) \times 100$	Adjusts the 10–50 range into a 0–100 well-being scale
WHO-5	$(\text{score} / 25) \times 100$	Keeps the positive direction (higher = better)

4. Composite Score Calculation

Each normalized score contributes equally to the final MMHI:

$$\text{MMHI} = (\text{GAD7_norm} + \text{PHQ9_norm} + \text{K10_norm} + \text{WHO5_norm}) / 4$$

Alternatively, a slightly optimistic approach can be taken:

$$\text{MMHI} = 0.2(\text{GAD7_norm}) + 0.2(\text{PHQ9_norm}) + 0.2(\text{K10_norm}) + 0.4(\text{WHO5_norm})$$

5. Interpretation

MMHI Range	Interpretation	Description
80–100	Excellent Well-being	Strong resilience and positive mood
60–79	Good / Mild Concerns	Generally balanced, slight stress possible
40–59	Moderate Concerns	Noticeable distress — consider self-care strategies
0–39	High Distress	Professional support may be beneficial

6. Summary

The Monthly Mental Health Index (MMHI) provides a clear, numerical snapshot of overall mental health using data from multiple validated questionnaires. It supports reflection, progress tracking, and early awareness of distress trends — empowering better self-care and balanced emotional health.