

Survey methods in the PhorestAll

Paweł Sowa, MPH PhD

Rafał Marecki, MD

Maria Szlachta

Natalia Zieleniewska, MD PhD

Marta Jamiołkowska

Forest therapy + repeated CAWI surveys

T0 · Tmid · T1

Medical University of Białystok / PhorestAll

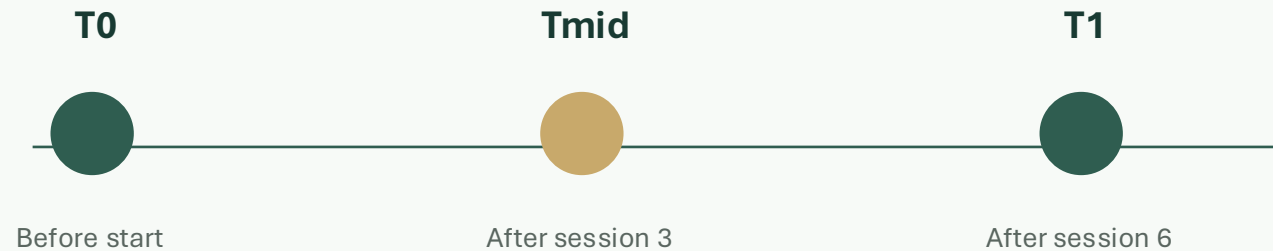
Study overview

6-week forest therapy intervention with repeated online survey assessment

Intervention frame

- 6 forest therapy sessions
-
- 1 session per week
-
- Approx. 90–120 minutes each
-
- Delivered by certified Forest Therapy Hub trainers
-
- Low-risk, non-invasive nature-based intervention

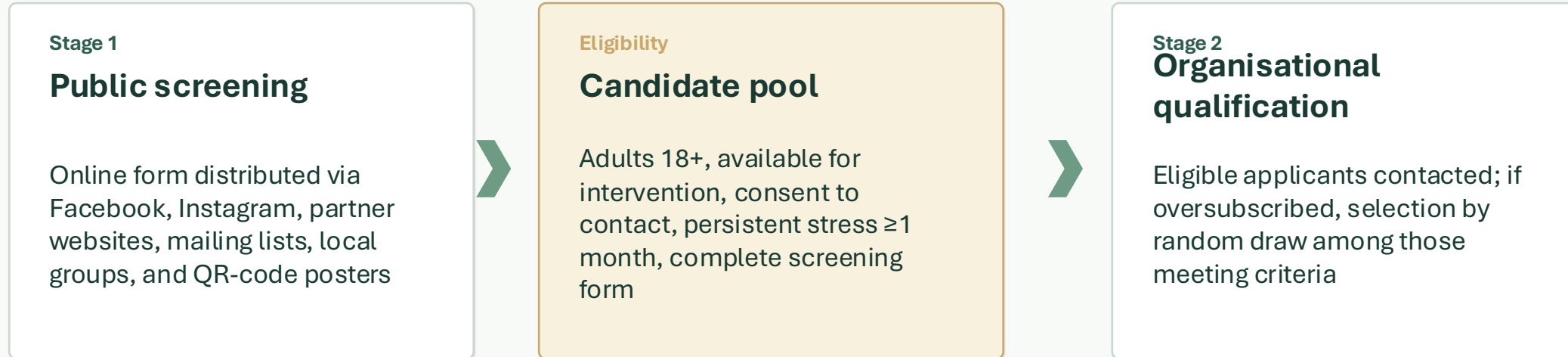
Measurement timeline



CAWI via LimeSurvey
Individual links / QR codes
Participant code used to link measurements

Recruitment methods

Two-stage online recruitment designed for feasibility, standardisation, and data quality



Recruitment rationale: online channels maximise reach and efficiency, while a brief standardised screening step reduces heterogeneity and protects data quality.

Timing of measurement

What is measured at baseline, mid-point, and post-intervention

Section	T0	Tmid	T1
Metadata	✓	–	–
Lifestyle and health	✓	✓	✓
WEMWBS mental wellbeing	✓	✓	✓
PANAS affect	✓	–	✓
DASS-21 depression/anxiety/stress	✓	✓	✓
ROS restoration	✓	✓	✓
MAAS mindfulness	✓	–	✓
ULS-3 / TILS loneliness	✓	–	✓
CNS connectedness to nature	✓	–	✓
INS inclusion of nature in self	✓	–	✓
NR-6 nature relatedness	✓	–	–
MSPSS social support	✓	–	–
Exposure to intervention	–	–	✓
Programme evaluation	–	–	✓

Design logic: stable traits and contextual covariates are concentrated at baseline; repeated outcomes capture change; exposure and satisfaction are reserved for post-intervention interpretation.

Main survey domains and rationale

The questionnaire combines outcomes, mechanisms, and explanatory covariates

Primary psychological outcomes

WEMWBS
DASS-21
PANAS
ROS

Mental wellbeing, distress, affect, and restoration are the core expected targets of forest-therapy exposure.

Potential mechanisms

CNS
INS
MAAS

These tools assess nature connectedness and mindful attention, which are plausible pathways through which the intervention may work.

Context and interpretation

Lifestyle & health
ULS-3 / TILS
NR-6
MSPSS
Exposure / evaluation

These measures help characterise participants, control for confounding, and interpret whether change depends on baseline status, support, or actual programme engagement.

Why this timing makes sense

Rationale for baseline-rich and repeated outcome measurement

Methodological rationale

- T0 gives a broad starting profile before exposure begins.
- Tmid captures early signal during the programme, not only end effects.
- T1 allows outcome interpretation together with attendance, practice between sessions, and perceived helpful elements.
- Using repeated but not excessive measurement keeps participant burden manageable across 6 weeks.

Intervention rationale

- Forest therapy is structured as repeated nature exposure rather than a one-off event.
- The programme is aligned with a “nature dose” idea: both frequency and duration matter.
- Measures of nature connectedness and mindfulness fit the intervention components such as sensory activities, noticing, reflection, and nature-connection exercises.