Analytic Plan

V1_3.9.2026

Indicator	Benchmark Target
Recruitment	> 60% of eligible and approached participants enroll in the study.
Retention	> 70% retention of enrolled participants (complete final T2 post-intervention assessments).
Intervention Acceptability	> 75% of participants report a score of 24 or more on the Client Satisfaction Questionnaire (CSQ-8), indicating "good" satisfaction.
EMA Adherence	> 50% of participants complete 50% of the daily EMA prompts.
Audio Module Adherence	> 60% of participants complete 50% of the weekly audio modules for 4 weeks.

We will apply predefined benchmarks (see above) to assess the primary outcomes of feasibility and acceptability. Scores from the CSQ-8 and Session Evaluation Form (SEF) will be calculated and summarized using descriptive statistics (means, standard deviations, frequencies). Adherence will be calculated objectively via system-captured app data: EMA compliance will be calculated as the proportion of completed prompts out of total expected prompts, and audio compliance as the proportion of modules played to completion. Engagement outcomes will summarize completion of audio modules, use of meditation recordings/practices, and engagement in EMI.

Qualitative Exit Interviews To contextualize the quantitative acceptability data, semi-structured exit interviews will be conducted at T2 to explore: (a) perceived relevance, usability, and content preference of the audio modules, along with weekly peer sessions; (b) participant experience with the burden and frequency of the daily EMA prompts (3–4 per day) and the weekly audio volume (5–10 per week); (c) feedback on the module delivery (e.g., preference for batch release vs. daily drip); (d) perceived impact of the GEM intervention on daily target behaviors (mood) and depression/anxiety prevention; and (e) suggestions for content adaptation, pacing, and refinement to reduce participant burden in future efficacy trials.

Pre-Post Changes (Clinical Outcomes) As a single-arm trial, we will use repeated measures ANOVA to assess preliminary changes in the primary clinical targets of depression (e.g., measured via PHQ-9) and anxiety (e.g., measured via GAD-7) from T1 to T2 (and T3 follow-up), characterizing within-group effect sizes using Cohen's *d*. To model individual clinical trajectories, we will use mixed-effects modeling with time entered as a fixed effect and participant as a random effect, incorporating relevant baseline covariates (e.g., age, gender, ELA severity).

EMA/Longitudinal Data Analysis

We will leverage the high-density EMA data using linear mixed-effects models to assess within-person, day-to-day, and moment-to-moment associations. Specifically, we will use time-lagged

analyses to evaluate the immediate, temporal impact of intervention engagement. For example, we will model whether the completion of an audio module at time *t* predicts significant reductions in momentary negative affect, anxiety, or perceived stress at the subsequent EMA prompt (time *t+1*). Additionally, we will visualize the interrelations between momentary stress, engagement with audio modules, and subsequent mood fluctuations via temporal network models.

To assess **momentary mechanisms**, we will utilize 1-1-1 Multilevel Structural Equation Modeling (MSEM). We will test whether momentary activation of specific psychological states (e.g., interoception, cognitive defusion, or acceptance/willingness) measured immediately post-EMI significantly mediates the relationship between EMI engagement at time *t* and reductions in negative affect at the subsequent EMA prompt (time *t+1*). We will conduct mediation analysis to understand which mechanism carries the largest indirect effect on symptom reduction. Additionally, we will visualize the interrelations between daily stressors, momentary mechanism activation, and subsequent mood fluctuations via temporal network models.