For a 28-year-old adult with MDD, will taking a 20-minute walk with a friend during midday help promote mindful relaxation & enhance social engagement?

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The Problem

Major Depressive Disorder (MDD) is a condition that affects 7% of the population, with 15% of those affected dying by suicide.

Those who experience the condition undergo symptoms related to their mood, such as irritability, feelings of worthlessness, poor concentration, and overall extreme depressed mood. These behaviors impact how an individual lives throughout their life, making it difficult to have any meaning or purpose in their daily activities.

All areas of function are impaired, including participation in social settings and mindful relaxation practices.
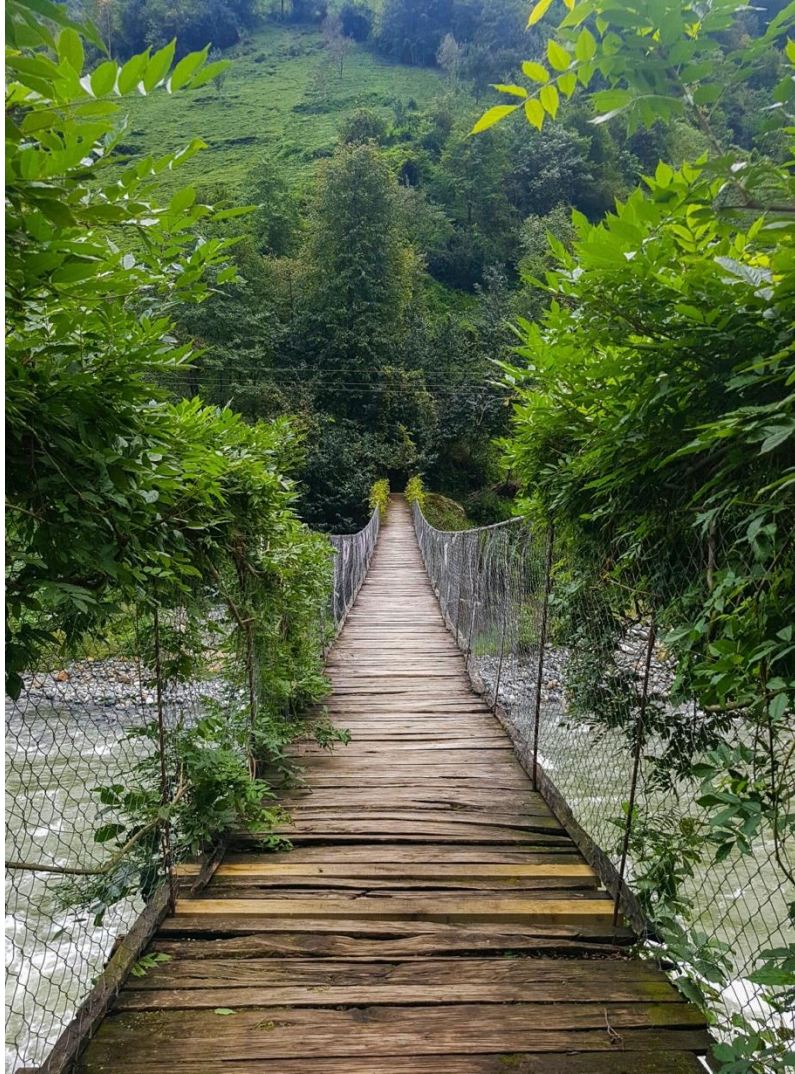
Rationale

Walking in nature is a low-impact physical activity, is cost-effective, and decreases the severity of depressive symptoms. Walking with a friend provides a sense of support from friends who are trustworthy and non-judgmental

The theoretical basis is rooted in the Behavioral Activation (BA) Theory.

BA is an evidence-based, time-limited intervention that engages individuals in goal-directed and active activities in the environment.

Outcomes show increased exposure to positive reinforcers and decreased negative thoughts and behaviors brought on by MDD.

This study will investigate the effectiveness of BA through walking with a friend in nature
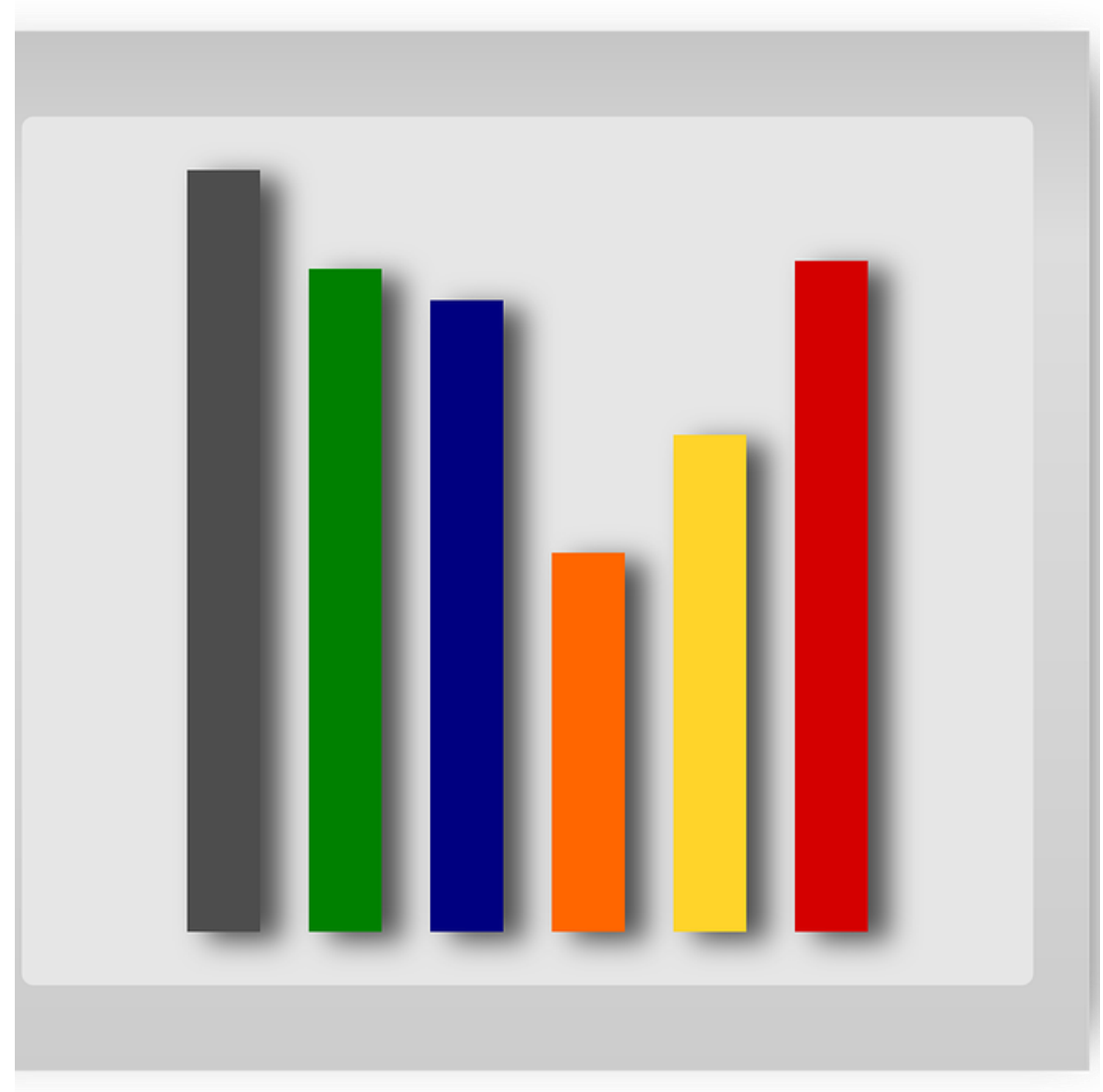
Research Team

Data Collector / Research Assistant

Tracks quantitative and qualitative data (e.g., mood ratings, engagement scales, mindfulness checklists)

Conducts daily/weekly progress logs and structured interviews if needed

Data Analyst

Analyzes trends and patterns between baseline (A) and intervention (B)

Subjects

Inclusion Criteria:

- Age: 28 years old (or within a narrow adult range, e.g., 25–30)

- Diagnosed with Major Depressive Disorder (MDD) (confirmed via DSM-5 criteria, clinical documentation, or physician referral)

- Physically able to engage in light activity, such as a 20-minute walk

- Available for daily or routine participation during midday hours

- Willing to participate in mindfulness and social engagement activities

- Has access to a consistent walking partner/friend

Exclusion Criteria:

- Severe depression with **suicidal ideation or recent hospitalization**

- Medical conditions that **limit safe walking or social activity**

- Lack of a reliable friend/partner available for consistent participation

- Walking Environment
- Safe, accessible outdoor settings such as:
  - Local park or greenway
  - Quiet neighborhood path
- Key Features:
  - Low noise and distraction levels
- The setting remains the same (e.g., home or workplace) to ensure routine activity during the baseline phase

Setting

Design

A-B Single Subject Design: Social Engagement & Mindful Relaxation
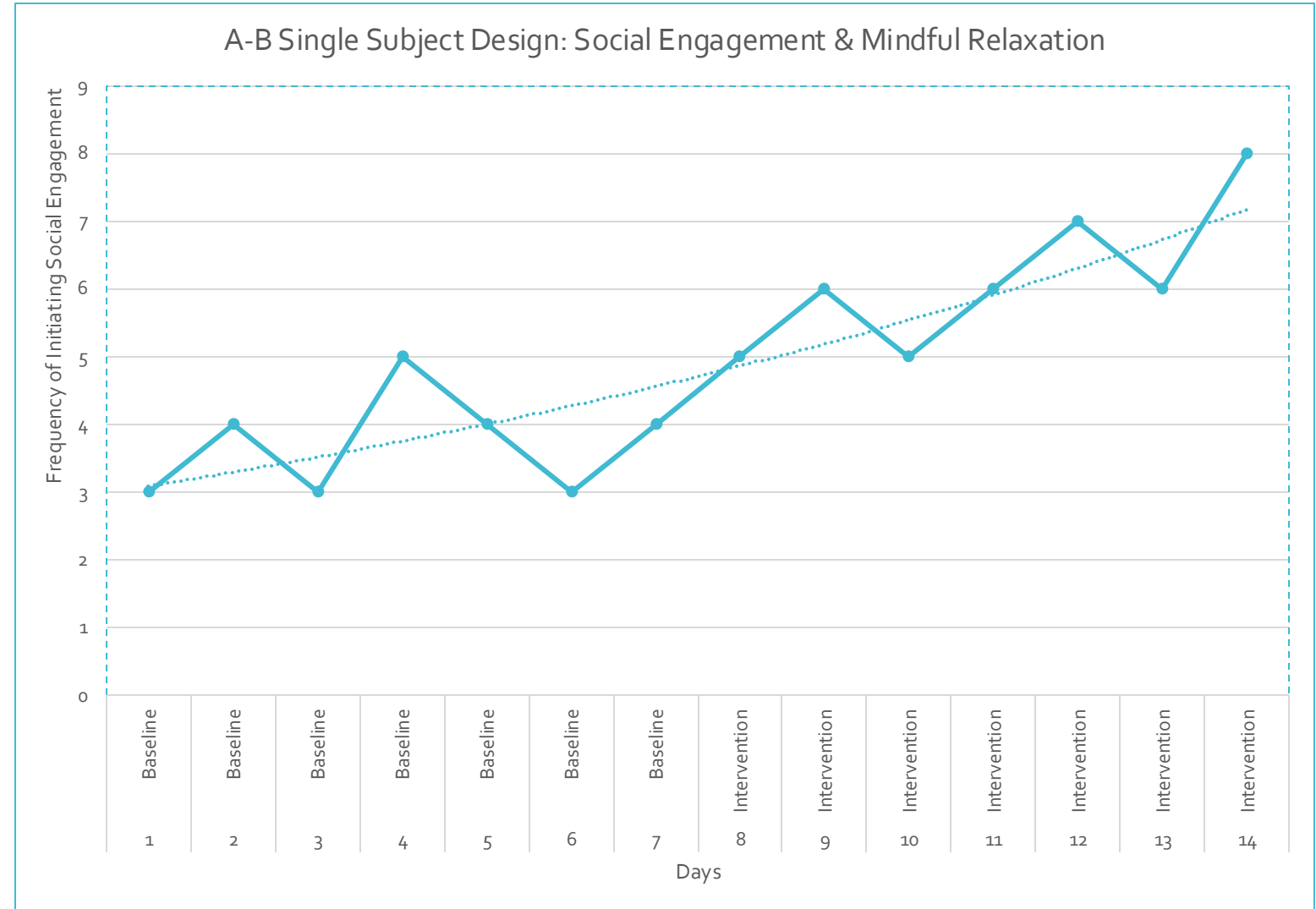
Intervention (IV)

Activity:

- **20-minute mindful walk** with a familiar friend or peer during midday.

Frequency & Duration:

- **5 days a week**, for **2–4 weeks** (depending on your study duration)
- The walk occurs around **midday** (e.g., 11:30 a.m.–1:30 p.m.)

Mindfulness Component

- At the beginning of the walk:
    - 1–2 minutes of **deep breathing** or **grounding (5-4-3-2-1)**
- During the walk:
    - Focus on the **present moment** (e.g., sounds, scenery, breath, physical sensations)
    - Avoid phones or distractions

Social Engagement Component:

- The walk is done with a **consistent friend/peer**
- A friend is briefed to:
    - Maintain a **supportive and positive tone**
    - Ask open-ended questions, listen actively, and be nonjudgmental

Treatment Fidelity
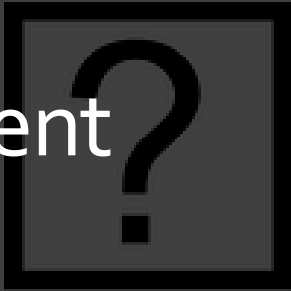
A simple **checklist for the participant** to track:

- Walk lasted **20 minutes**
- Walk occurred during **midday (11:30 AM–1:30 PM)**
- Walk was done with **same peer/friend** each time
- **Mindfulness prompt** was used at start (e.g., deep breathing, grounding)
- No use of phones or music during the walk
- **Conversation occurred** (social engagement)
- Pre- and post-walk **ratings completed**

Fidelity Checks by Research Assistant

- Weekly or random **spot-checks via phone/video/text** to:
  - Confirm walk occurred as described
  - Ask short questions like "Did you engage in the walk?" or "How was the conversation?"

IOA on the tx Fidelity Measure

- **Fidelity was tracked using a participant checklist** (e.g., walk duration, time, mindfulness used, social engagement).

- **The research assistant performed periodic spot checks** (via phone, video, or text) to confirm the accuracy of self-reports.

IOA was determined by comparing:

- The **participant's self-reported data**

- With the **research assistant's observations or interview responses**

Rating the DV

- **Mindful Relaxation**
  - **Likert scale,** either self-reported by the participant or scored by the research assistant

"How relaxed or mindful did you feel after the walk?"

- 1 = Not at all relaxed or mindful

- 2 = Slightly

- 3 = Moderately

- 4 = Very

- 5 = Extremely

- Participants would complete this **before and after each walk,** and you could calculate the **change score** (post – pre) to measure effect.

- **Social Engagement**

Checklists (Yes/No): "Walk was done with the same peer/friend, "Conversation occurred."

Use a **short scale:** "How socially engaged did you feel during the walk?"

- 1 = Not at all

- 2 = A little

- 3 = Somewhat

- 4 = Quite a bit

- 5 = Very much

Consistent Rating Tools

- Standardized **pre- and post-walk Likert scale questionnaires**
  - **Mindful relaxation**: Rated using a 5-point scale (e.g., 1 = not at all relaxed; 5 = very relaxed)
  - **Social engagement**: Rated using a 5-point scale (e.g., 1 = not at all engaged; 5 = very engaged)

Interobserver Agreement (IOA)

- A **research assistant conducted periodic spot-checks** (via phone/video/text) to verify fidelity and gather brief follow-up responses from the participant and their walking partner. These follow-ups helped verify consistency between:
  - Participant self-report
  - Research assistant observational data or interview responses

Reliability of Measuring the DV

Social Validity

Participant Feedback

After the study, the participant was asked open-ended questions such as:

- "Did the walks feel helpful to your mood or stress levels?"

- "Did you enjoy walking with your friend?"

- "Would you continue this activity on your own?"

Everyday Relevance

- The intervention was grounded in a **natural, real-world context**—a midday walk in a familiar environment with a trusted friend.

Results/Data

Baseline Phase (Days 1–7)

- **Average frequency**: **0.71 engagements/day**

- Range: 0 to 1

- Pattern: Low and relatively flat with minimal engagement

Intervention Phase (Days 8–14)

- **Average frequency**: **4.29 engagements/day**

- Range: 3 to 5

- Pattern: Sharp and immediate increase following start of intervention, with consistently high engagement

Overall Outcomes:

- **Clear functional relationship** between intervention (midday mindful walk with a friend) and **increase in social engagement**

- Behavior change was both **immediate and sustained** across all intervention days

- **Supports hypothesis** that structured social activity with a mindfulness component promotes engagement in adults with MDD

Ethical Considerations

Participant Well-Being

- Due to the nature of MDD and its potential for mood instability, care was taken to ensure that the intervention posed **no risk of harm**.

- Participants with **severe depression, suicidal ideation, or recent hospitalization** were excluded to protect safety and ensure appropriate scope.

Informed Consent

- Written informed consent was obtained, and participation was entirely **voluntary**, with the right to withdraw at any time without penalty.

Confidentiality

- All personal health information and data were kept **confidential** and stored securely.

- Any communication (e.g., phone/video/text check-ins) was done with sensitivity and privacy in mind.

Respect for Autonomy

- Activities were participant-directed and involved a familiar, trusted peer to promote **comfort and empowerment**.

Fidelity Without Intrusiveness

- Spot-checks by the research assistant were designed to ensure treatment fidelity while being **non-invasive and minimally disruptive** to the participant's routine.

EBP/Implications

The intervention is grounded in **Behavioral Activation (BA) Theory**, a well-established evidence-based approach for treating depression.

Prior research supports that **walking in nature** reduces depressive symptoms and **increases exposure to positive reinforcers**—both key components of BA.

Mindfulness and **social engagement** are both evidence-supported strategies to improve mental health outcomes in individuals with Major Depressive Disorder (MDD).

Implications

      Simple, Accessible Intervention

      Supports Occupational Therapy Practice

      Promotes Mindfulness and Social Connection

Future Plans

- Using wearable technology
  - Integrate tools like fitness trackers or mindfulness apps to measure physical activity levels, heart rate, and stress indicators objectively.

- Develop a Replicable Program Guide
  - Create a toolkit or protocol manual that therapists or wellness providers can use to implement the intervention in their own practice.

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