



**Nature-Based Interventions for Adolescent Mental Health**  
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**Robyn Campbell**

### **Why Nature-Based Interventions?**

- Research indicates that there are rising rates of stress, anxiety, and depression (WHO, 2022)
- Links between excessive screen time and psychological distress have been reported (Li et al., 2022).
- Reports suggest that adolescent screen time in Western high-income countries averages ~7 hours/day (Rideout et al., 2022).
- Attention Restoration Theory (Kaplan, 1995) and the Biophilia Hypothesis (Wilson, 1984) support the use of nature to promote mental health.

Across diverse international contexts, nature-based interventions demonstrate reliable, moderate-to-large benefits for adolescent wellbeing, particularly for outcomes linked to resilience, belonging, identity, and self-efficacy. Effects are strongest when interventions are immersive, relational, and therapeutically intentional, rather than brief or purely recreational. *Campbell et al. (2026), systematic review of group-based nature-Based interventions, 2015–2025 (N = 2,725 adolescents).*

Nature-based interventions (NBIs) are psychosocial interventions whose effects emerge from interactions between:

- Environment
- Group processes
- Developmentally calibrated challenge
- Skilled facilitation over time

### **1. What Works Best?**

Highest-effect programs ( $g \geq 1.00$ ):

- Multi-day or residential formats
- High physical and emotional challenge
- Shared responsibility and cohort living
- Novel environments
- Structured reflection and identity-building

Moderately effective programs ( $g = 0.40–0.85$ ):

- Adventure-based challenges (e.g., camping, expeditions)
- Teamwork and leadership components
- Journaling and guided reflection
- Shorter but still immersive delivery

Lower-effect programs ( $g = 0.05\text{--}0.32$ ):

- Brief, single-session exposure
- Minimal challenge or reflection
- Urban park or classroom-adjacent delivery only

**Dose and immersion matter. One-off or low-intensity programs are unlikely to produce durable mental-health change.**

## 2. Outcomes Most Likely to Improve

Most responsive outcomes are resilience, self-esteem, wellbeing, social connectedness and belonging, and self-efficacy. Less responsive outcomes are anxiety, depression, and stress. **NBIs are particularly well-suited to strength-building, prevention, early intervention, and recovery-oriented goals, rather than acute symptom reduction alone.**

## 3. Who Should Facilitate?

Largest effects occur when programs are facilitated by:

- Psychologists or mental-health clinicians
- Clinically trained mindfulness / ACT / MBSR facilitators
- Highly specialised outdoor educators working in interdisciplinary teams

Moderate effects occur when:

- Outdoor educators or youth workers integrate reflection and relational processes

Small effects occur when:

- School staff or volunteers deliver activities without immersion or therapeutic structure

**Facilitation quality is not optional. NBIs require intentional therapeutic design, not vague or unsupervised programs.**

## The RESTORE Framework

RESTORE conceptualises wellbeing as an emergent, system-level outcome arising from repeated interactions among adolescents, facilitators, and natural environments.

### R – Restorative Context

What it is: Natural or semi-natural environments that reduce everyday cognitive and emotional load.

Practically: Psychologically safe green or blue spaces that create a sense of “being away”

Clinical tip: Choose environments that remove demands before adding challenges.

### E – Extended Exposure

What it is: Sustained or repeated engagement with continuity of peers

Practically: Multi-day ( $\geq 3\text{--}5$  cumulative days) or multi-week formats involving a stable group or peers work best.

Clinical tip: Avoid single-session models and introducing new members to groups.

### S – Soft Fascination

What it is: Gentle sensory engagement that restores attentional capacity

Practically: Walking, sitting, observing, mindful movement, Nature-based mindfulness

Clinical tip: Use soft fascination before reflection or challenge.

### **T – Therapeutic Facilitation (Core Active Ingredient)**

What it is: Skilled facilitation that integrates psychological theory, reflection, and safety.

Practically: Psychologists or clinically trained facilitators lead a structured debriefing (e.g., the Kolb cycle) and embed clinical models (ACT, MBSR, CBT-informed SEL).

Clinical tip: Nature does not replace therapy - it amplifies it when guided well.

### **O – Optimal Challenge**

What it is: Graduated, developmentally appropriate challenge with choice and support

Practically: Scaffolded difficulty, mastery experiences and learning-oriented framing

Clinical tip: Challenge should stretch identity, not overwhelm regulation.

### **R – Relational Density**

What it is: Dense, meaningful peer interaction through shared tasks and interdependence.

Practically: Evidence-informed parameters suggest Group sizes of 6-12 adolescents with stable facilitators and peers.

Clinical tip: Belonging is built through group engagement in meaningful shared challenges.

### **E – Emergent Wellbeing**

What it is: Wellbeing as a non-linear outcome emerging over time

Observed outcomes include increased confidence, stronger identity and agency, and improved peer connections.

Clinical tip: Evaluate change longitudinally, not immediately post-session.

## **Translating RESTORE into Practice**

### **Important Considerations**

- NBIs are particularly suited to prevention, early intervention, and recovery-oriented frameworks.
- Programs should align with safeguarding, risk management, and local regulatory requirements.
- Cultural responsiveness is essential - connection to Country, land, and community should be contextually respectful and locally informed.
- Interdisciplinary collaboration (psychologists + outdoor educators + schools) strengthens implementation fidelity.

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