

“It Helped Me Stay in Touch with Myself”: A Pilot Feasibility Study of a Group Mindfulness-Based Intervention for Autistic Adolescents

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Background:

- Autistic youth experience elevated rates of internalizing symptoms, such as anxiety, depression, and perceived stress, compared to non-autistic peers, particularly during adolescence amid rising social demands.
- Mindfulness-based intervention (MBI)* promotes non-judgmental, present-moment awareness to enhance transdiagnostic processes like emotion regulation and executive function and has been associated with reduced internalizing symptoms and improved social functioning in other groups.
- Research on the effects of MBI for autistic youth is still emerging, with few programs specifically tailored for adolescence.
- This open pilot study examined the feasibility and acceptability of a minimally adapted version of an evidence-based MBI called *Learning to BREATHE (L2B)*.

Methods:

- Participants:** Eleven autistic adolescents (ages 13-18, M±SD=14.9±1.7; 27% biological female; FSIQ=118±19) recruited from the community.
- Intervention:** 6 weekly group sessions (~80-min) of L2B (Broderick, 2021) via Zoom in 2 cohorts (*n*=4, *n*=7).
- Adaptations** (tracked via FRAME; Wiltsey Stirman et al., 2019):
 - Planned prior to delivery by clinicians with expertise in MBI and autism to enhance accessibility and feasibility.
 - Spanned multiple domains but were kept minimal to maintain fidelity (e.g., added visual supports, longer sessions with a break, weekly caregiver summary emails; example content adaptations are listed in **Figure 1**).
- Measures:**
 - Feasibility* - recruitment, session attendance, and completion rates.
 - Acceptability* - participant and caregiver feedback surveys.
 - Preliminary Outcomes* - standardized measures of mental health, social functioning, and related constructs collected at baseline and post-intervention.
- Analysis:** Descriptive statistics for feasibility/acceptability; exploratory paired t-tests for preliminary outcomes (R statistical software).

B _{ODY}	Objectives Introduce the program, define mindfulness, practice breath awareness and body scan	Example Adaptations Removed prompts to "breathe into" different areas during the body scan
R _{EFLECTIONS} (Thoughts)	Introduce self-talk and associations between thoughts and feelings, practice mindfulness of thoughts	Presented vignette text both visually and aloud during a self-talk activity (<i>The Big Event</i>)
E _{MOTIONS}	Introduce the role and nature of emotions, practice mindfulness of emotions	Showed a video of ocean waves and used more concrete language during the <i>Surfing the Waves</i> practice
A _{TTENTION}	Introduce stress and its effects, identify ways to be mindful of stressors, practice mindful movement	Simplified language in a vignette (<i>Case Study</i>) and used colored markings to help participants visually identify sources of stress and support
T _{ENDERNESS}	Introduce non-judgmental thinking as a form of compassion and self-care, practice loving-kindness	Used prompts like "get a sense of" rather than "imagine" while practicing loving-kindness
H _{ealthy Habits of Mind}	Reflect on lessons learned, identify ways to integrate mindfulness in daily life, practice mindful speaking and listening	Allowed different participation options (creating, writing, silent reflection) during the <i>Mindful Quilt</i> activity

Figure 1. Overview of the L2B program (Broderick, 2021) and example content adaptations made to increase accessibility for autistic adolescents.

A minimally adapted, telehealth version of the Learning to BREATHE mindfulness-based intervention was feasible and acceptable for autistic teens.

Results:

- Feasibility:* participants were recruited and enrolled within 10 weeks, attended 94% of sessions, and all completed the study.
- Acceptability:* Most adolescents (82%) reported satisfaction with L2B and found it to be a positive learning experience (**Figure 2**).

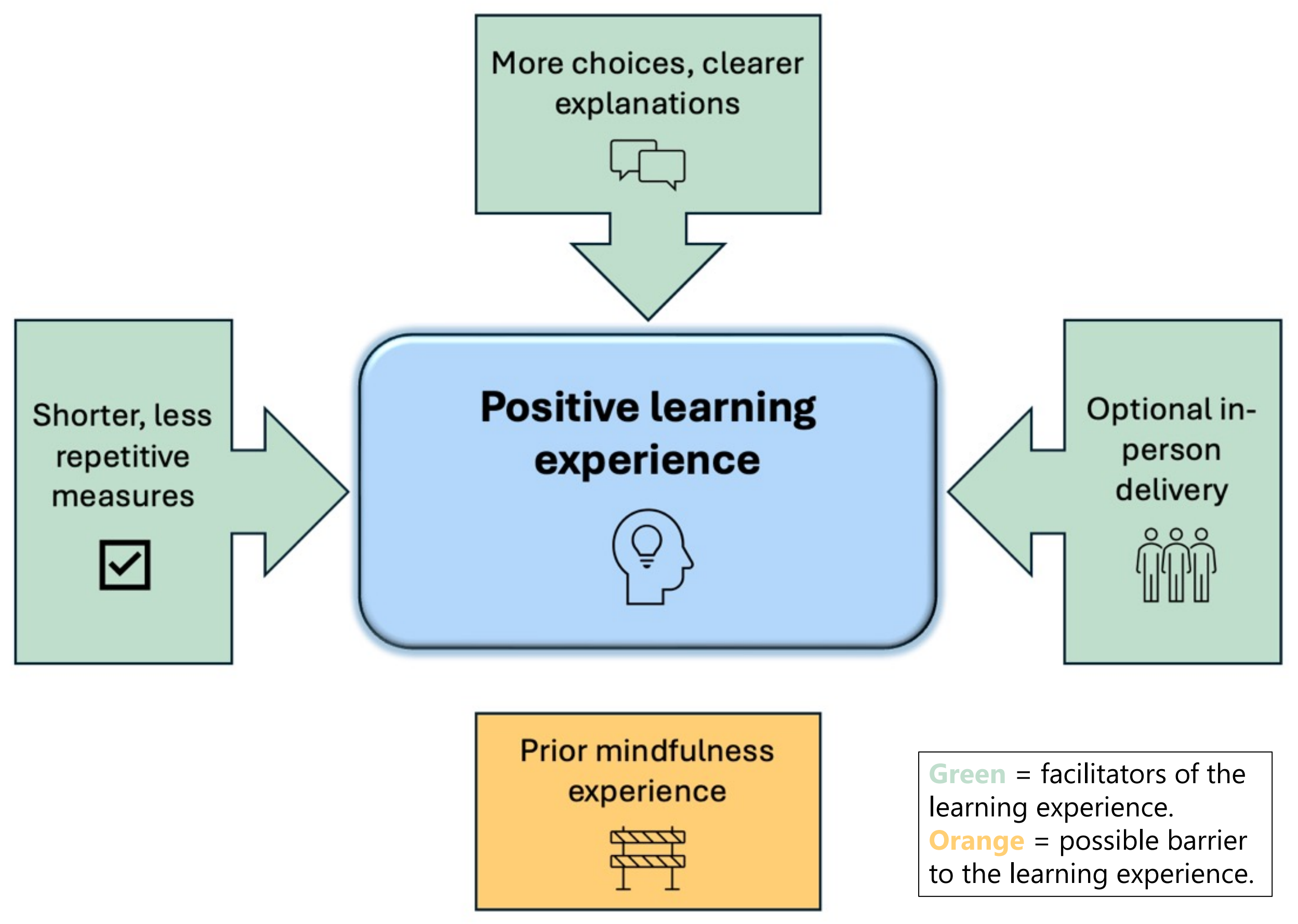


Figure 2. Visual depiction of the qualitative themes from participant feedback on the adapted L2B program and study procedures.

- Preliminary Outcomes:* Exploratory analyses revealed mean score declines (improvements) on several measures, including significant decreases in self-reported perceived stress and caregiver-reported social responsiveness challenges (**Table 1**).

Table 1. Preliminary outcomes of the adapted L2B program.

Measure	Baseline M (SD)	Post-Intervention M (SD)	t (df)	p
SRS-2 Total T-Score	67.50 (7.06)	62.00 (7.64)	-2.59 (9)	0.029*
RCADS Total T-Score	51.60 (15.90)	50.60 (15.10)	-0.79 (10)	0.450
RCADS Depression T-Score	55.90 (12.10)	54.40 (12.90)	-0.87 (10)	0.404
RCADS Anxiety T-Score	50.50 (16.30)	46.80 (12.60)	-0.56 (9)	0.587
PTQ Score	25.80 (15.00)	21.90 (15.30)	-2.08 (10)	0.064
PSS Score	32.90 (5.80)	28.50 (7.30)	-2.61 (10)	0.026*
EDI Reactivity Score	12.00 (6.81)	13.20 (5.33)	0.91 (10)	0.350
EDI Dysphoria Score	9.91 (6.44)	9.09 (2.95)	-0.60 (10)	0.563

*indicates a statistically significant decline
Note. SRS-2 = Social Responsiveness Scale, Second Edition; RCADS = Revised Children's Anxiety and Depression Scale; PTQ = Perseverative Thinking Questionnaire; PSS = Perceived Stress Scale; EDI = Emotion Dysregulation Inventory

Conclusions: This adapted version of L2B delivered via telehealth showed strong feasibility and acceptability among autistic adolescents, providing a foundation for further investigation and optimization of this promising MBI. Future research is warranted to refine adaptations and evaluate efficacy and implementation outcomes in larger, randomized controlled trials.