

A Flexible, Digital Approach to Cultivate SEL at Home

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OVERVIEW

The proposed Moxie app draws on more than 20 years of research on Social and Emotional Learning (SEL) intervention development and evaluation to bring high-quality, targeted SEL content directly to families' devices, responding to the critical need for parent-facing supports that focus on children, their parents, relationships, and routines in the home. We are seeking funding to design and develop a prototype of the Moxie app for Kindergarten through 3rd grade children; pilot the app with a diverse group of families to learn about usability, take-up, and family engagement with the content and activities; refine the app based on this feedback; and to launch a large study to determine initial effectiveness of the app for improving child and parent SEL skills, well-being, relationships, and home environments.

Moxie will include the following core components: (1) engaging videos or tutorials to teach families about the target SEL skills, (2) opportunities to play and practice through interactive SEL skill-building games and the establishment of everyday routines for parents and children, (3) tools for parents to “go deeper” and explore their own SEL skills, stress, and wellbeing, and (4) mechanisms for targeted reflection and planning using newly developed practices and strategies. Moxie leverages technology to bring evidence-based content directly to families' devices to promote high-quality relationships between parents and their children, support both child and parent SEL skill-building, mental health, and overall well-being, and promote supportive and positive home environments.

Parenting Paradigm Shift in a Post-COVID Environment

From getting out the door on time in the morning to coordinating afterschool activities while juggling work and other household responsibilities, parents and caregivers of young children face a dizzying array of hurdles, roadblocks, and distractions all while supporting children's physical, mental, and academic wellbeing.

Adversity of many types, from household instability to poverty and economic loss, to mental health challenges, to family illness or death and many others, only exacerbate these challenges.

Since 2019, the COVID-19 pandemic has upended the lives of children and families across the US and the world, requiring parents to engage in student learning and wellbeing in unprecedented ways. The pandemic intensified and compounded both basic everyday as well as chronic stress as parents dealt with changing routines, worry about sickness and close and extended family members, the demands of online schooling, and high-stakes daily dilemmas (e.g., supervising a child in remote instruction while working an in-person job without paid sick-time).

In consequence, parent, child, and household outcomes across domains declined during the pandemic with mental health symptoms reaching alarming and unprecedented rates (Office of the Surgeon General, 2021). A number of studies have now documented that during the first year of the pandemic, parental stress, parent-child relationship conflict, and household chaos increased, and parental mental health decreased while children's behavioral challenges, dysregulation, and anxiety/depression increased (Hanno et al., 2022; Kracht et al., 2021; Patrick et al., 2020). Concerns about academic recovery and social and emotional wellbeing are especially acute for low-income and marginalized students, as the negative consequences of the pandemic (e.g., increased housing and food insecurity, stress, isolation, loss of learning time, loss of life) have impacted low-income and marginalized families more than their affluent peers (Hanno et al., 2021; Margolius et al., 2020; Shah et al., 2020). This project will promote more equitable outcomes among children and families by providing high-quality SEL supports to vulnerable students while also building capacity among families to support SEL skill development and establish positive routines.

SEL Kernels

Flexible easy-to-use, targeted strategies to support children's social emotional learning in school

SEL Kernels are a low-cost and flexible way to integrate SEL into the daily routines and activities of schooling. Grounded in a content analysis of 50+

evidence-based SEL programs, Kernels are an alternative to traditional comprehensive programs, which can be expensive and difficult to implement. Kernels are easy to adapt and localize to fit different educational contexts around the world.



¹ For simplicity we refer primarily to parents throughout this concept note, but our conceptualization of parents and families also includes all other caregivers (e.g., grandparents, foster families, etc.).

More than ever before, with high levels of stress and ongoing turbulence as a persistent backdrop, there is a dire need for high-quality social, emotional, and behavioral supports for adults and children alike. Rigorous evidence is clear that SEL is foundational to learning in and out of school, supporting attention, emotion management, positive peer and teacher relationships, and effective decision-making, as well as protecting children from the adverse effects of ongoing stress (Durlak et al., 2011; Jones et al., 2021).

However, recent opposition to the implementation of SEL curricula in public schools across the country limits children's access to key social and emotional supports when they need them most (e.g., [Nixon, 2021](#)). Homes and families are therefore logical and viable settings for SEL support, particularly when schools are no longer an option. The home context provides opportunities for coordinated approaches for children and parents individually and together.

The pandemic underscored the importance of family relationships and positive parent-child interactions as protective factors that buffer children and adults from negative pandemic-related outcomes. For example, parents reported doing activities with their children as a strategy for managing parenting difficulties (Adams et al., 2021; de Miranda, 2020). Families play a critical role in creating stable and supportive environments, nurturing high-quality relationships, and engaging with children and youth about difficult yet important topics (Office of the Surgeon General, 2021), but to our knowledge no existing resources provide families with high-quality, interactive digital tools or supports to guide this important work. We propose to change this by providing parents with high-quality SEL resources in the home. Our proposal responds to the need for innovative, flexible, digital approaches designed for parent and caregiver use that incorporate scaffolded, engaging activities intended to:

- (1) build high-quality relationships between parents and their children,
- (2) support both child and parent SEL skill-building, mental health, and overall well-being,
- (3) promote supportive and positive home environments,
- (4) leverage technology to bring high-quality, evidence-based content directly to families' devices, and
- (5) embed ongoing data collection and feedback directly into the app to enable rapid cycle continuous improvement and to provide parents with some decision-making support about what to try and when.

Proposal Overview

A broad and rich body of research tells us that SEL skills are foundational to longer-term life outcomes, such as improved health, wealth, and overall wellbeing (e.g., Jones et al., 2015; Moffitt et al., 2011). There is also clear evidence that high-quality programs and interventions in schools can foster children's SEL development (Jones et al., 2017; McClelland et al., 2017; Rimm-Kaufman & Hulleman, 2015). Evidence-based SEL approaches in schools are typically curricular (i.e., follow a prescribed scope and sequence), take place during a set time (e.g., one hour "SEL Block"), and require intensive training and ongoing support (e.g., see Jones et al., 2021). These comprehensive approaches are not designed for flexible individual or family use, even though SEL is deeply woven into all aspects of children's learning, development, and interactions across settings, including the home environment.

Existing parent-facing resources tend to focus on children only and on supporting them to build a narrow set of skills. They do not typically include resources to support parents' own skill-building and mental health or sufficient supports to bring ideas or strategies into the real world.

Mightier, for example, gamifies emotion regulation by asking children to play emotionally charged tablet-based games (i.e., inducing frustration) while wearing a heart rate monitor. Children can note the connection between emotions in the game and an elevated heart rate and can earn rewards by cooling down or “pausing.” The paid app also includes added parent and family resources, though they are not central to the app.

Another approach, **Ready4K**, is a free text messaging program that sends three text messages per week to parents focused on a variety of topics, including SEL. For example, one set of weekly texts for Pre-K parents focused on taking deep breaths to manage emotions. Though text-messaging interventions show promise, limitations include the small number of characters allowed per message as well as the lack of opportunity for engagement with the messages.

The source material for **Moxie** builds on more than 20 years of research from Stephanie Jones and the EASEL Lab – grounded in two projects originating from the SECURE curriculum.

First, the SECURE Families Program, a series of nine family workshops implemented by trained facilitators in schools, covered parent and child focused topics including understanding and managing parental stress at home and discussing and managing children’s big feelings. Families received concrete strategies and tools to use immediately at home with their children. Findings from a school-based RCT indicated improvements in children’s attention, impulsivity, and literacy skills (Jones et al., 2014).

Second, recognizing the need for a useable alternative to expensive, rigid, and difficult to implement school-based programs, Jones developed SEL Kernels. SEL Kernels are routines or strategies employed by effective programs to build specific SEL skills. Described as the “active ingredients” in more traditional, comprehensive programs, SEL Kernels were identified through a content analysis of evidence-based SEL programs and simplified to their core components (Jones et al., 2021). Findings from a randomized trial in low-income Pre-K-4th grade classrooms of the original kernels prototype, Brain Games, found that students exposed to Brain Games showed improvements in attention, prosocial behavior, and global executive functions, as well as a decrease in impulsivity (Barnes et al., 2021).

In a recent quasi-experimental study of SEL Kernels targeting a wider range of SEL skills in eight elementary schools in Canada, Kernels use coincided with improvements in executive function and self-regulation skills, prosocial behavior, student-teacher relationships, and a reduction in disciplinary events (Gardner et al., 2021). These findings suggest that SEL Kernels are promising flexible, targeted, feasible strategies that are easily adaptable to different age groups, child needs, and settings, including the home.

Building on and adapting existing SECURE Families strategies and SEL Kernels, the Moxie app will address the limitations of existing parent-focused resources by creating high-quality opportunities to practice SEL skills, cultivate positive relationships, and establish structures and routines in the home environment through easy-to-digest, responsive, engaging activities for parents and their Kindergarten through 3rd grade aged children (with plans to expand in the future).

² The Social, Emotional, and Cognitive Understanding and Regulation in Education (SECURE) intervention focused on improving the social, emotional, and cognitive regulation skills of children from Kindergarten to third grade.

³ SEL Kernels are organized into five broad categories: Brain Power (executive function), Feelings Power (emotion-related knowledge and skills), People Power (social skills), Attitude Power (mindsets such as self-efficacy and growth mindset), and Citizen Power (citizenship and responsible decision making).

Proposed Plan

To build, pilot, refine and test the app (and ultimately share it widely) we have brought together two teams each with deep expertise in designing and testing SEL interventions for home and school (Jones and team at the EASEL Lab) and mobile app design and development (Moxie Partners Ltd.) to create a multiplatform (phones, tablets, computers), multicomponent, child- and parent-facing targeted SEL app. Activities will focus on specific SEL skills carried throughout the following cycle:

1. **Learn** – video or tutorial to help children and parents understand the target skill and establish goals.
2. **Play & Practice**
 - a. **Games** – short, interactive, engaging games designed for the child to practice SEL skills in fun, developmentally appropriate ways.
 - b. **Everyday Routines** – habit-building practices for parents and children to jointly explore and integrate into their daily routines.
3. **Going Deeper** – opportunities for parents to focus on their own SEL skills, stress, and wellbeing.
4. **Reflect** – tools for targeted reflection to make a plan for future situations requiring these SEL skills and newly developed practices and strategies.

Moxie provides opportunities to learn in the app and to practice outside of it, creating a strong connection between the content and its application in real world contexts. In addition to engaging with Moxie on a routine basis to learn about and practice SEL skills and establish routines, parents and children will also be encouraged and supported to use the app in moments of stress, need, or crisis. As noted above, stress exacerbates the common challenges of parenting, but Moxie can provide resources to disrupt and interrupt stress cycles by providing supports directly for adults that closely align with the daily challenges parents face.

One set of activities might focus on emotion identification (child), noticing stress (parent), and regulation strategies (joint). For example, the child will play the Game Freeze Feelings, a version of the Freeze game where the child uses their facial expressions and body language to show a specific emotion when the music stops. As part of their Everyday Routine (e.g., afterschool) *and* during moments of intense emotions, the child will use the Feelings Thermometer, a visual tool used to name and rate the intensity of feelings. The child can plot feelings words on the thermometer to build a robust emotion vocabulary that captures emotions and their intensity (e.g., furious vs. angry, happy vs. ecstatic). As part of their Everyday Routine, and as a tool to draw on in moments of need, parents will engage with a parallel tool, the Stress Thermometer, to notice and describe stress levels in response to a specific moment, behavior, situation, or overall day on a scale of 1 to 5 (1 = disconnected, bored; 3 = happy medium, alert, energized; 5 = angry, rushed, irritated).

Both tools help build the capacity to identify emotions in real time along with stress triggers, a first step in developing strategies to cope with emotional arousal and stress. The Going Deeper activity builds on the Stress Thermometer by prompting parents to create a “Stress Map.” Parents will reflect on the past day: Did anything happen that caused a stress “spike”? Did you experience several smaller, stressful events? Parents will review their maps and identify their stress triggers and signs of stress (e.g., using an angry tone, snapping, negative self-talk). Going Deeper activities will support parents to develop coping strategies to use in acute moments of stress and supports to create proactive practices and routines.

We are seeking funding for prototype development and a pilot evaluation of the Moxie app for Kindergarten through 3rd grade children followed by a larger effectiveness study with children and families across the country. This innovative, flexible, digital approach supports child and parent SEL skill-building and overall wellbeing through coordinated activities with a shared skill focus, builds high-quality relationships between parents and their children with opportunities to interact in and out of the app, supports parents to establish positive routines, and includes opportunities to customize elements of the app experience to better meet the needs of children and their families.

The COVID-19 pandemic's effect on mental health, the growing role of parent involvement in children's learning and well-being, and the recent rejection of school-based SEL programs in parts of the country create both an opportunity and acute need for high-quality home-based approaches. Moxie draws on more than 20 years of research on SEL intervention development and evaluation and leverages technology to bring high-quality, targeted SEL content directly to families' devices, responding to the critical need for parent-facing supports that focus on children, their parents, relationships, and routines in the home.

Partnership

Core team members from the EASEL Lab and Moxie bring expertise in the areas of SEL intervention design, adaptation, and implementation; research and evaluation; and app development. Our joint team is uniquely positioned for success in this project:

EASEL Lab Bios

Stephanie M. Jones is the Gerald S. Lesser Professor in Child Development and Education and Director of the EASEL Lab (<https://easel.gse.harvard.edu/>) at the Harvard Graduate School of Education. Her research, anchored in prevention science, focuses on the effects of poverty and exposure to violence on social, emotional, and behavioral development from early childhood through early adolescence. Over the past fifteen years, her work has centered on evaluation research addressing the impact of preschool- and elementary-level social-emotional learning interventions on behavioral and academic outcomes and classroom practices, as well as new curriculum development, implementation, and testing. Jones is also co-Director (with Nonie Lesaux) of the Saul Zaentz Early Education Initiative (<https://zaentz.gse.harvard.edu/>) and Co-PI of the Early Learning Study at Harvard (ELS@H). She serves on numerous national advisory boards and expert consultant groups related to social-emotional development, early childhood education, and child and family anti-poverty policies, including recently as a member of the Council of Distinguished Scientists for the Aspen National Commission on Social, Emotional, and Academic Development. Her research is published in academic and educational journals as well as in trade publications, and she regularly presents her work to national academic and practitioner audiences. Jones holds a BA from Barnard College and a PhD from Yale University.

Sophie P. Barnes is a doctoral candidate in the Human Development, Learning and Teaching concentration at the Harvard Graduate School of Education. Her research centers on understanding the setting- and individual-level mechanisms that support children's social, emotional, and behavioral skill development in home and school contexts, with a focus on executive function and self-regulation. She is also interested in increasing the quality and accessibility of digital tools designed to cultivate SEL skills across settings. Prior to beginning her doctoral studies, she worked in the EASEL Lab on several evaluations of school-based interventions that target children's SEL growth and development and research and translational writing projects. Barnes holds a B.S. in Applied Psychology from New York University and an Ed.M. in Human Development and Psychology program from the Harvard Graduate School of Education.

Moxie Partners Ltd. Bios

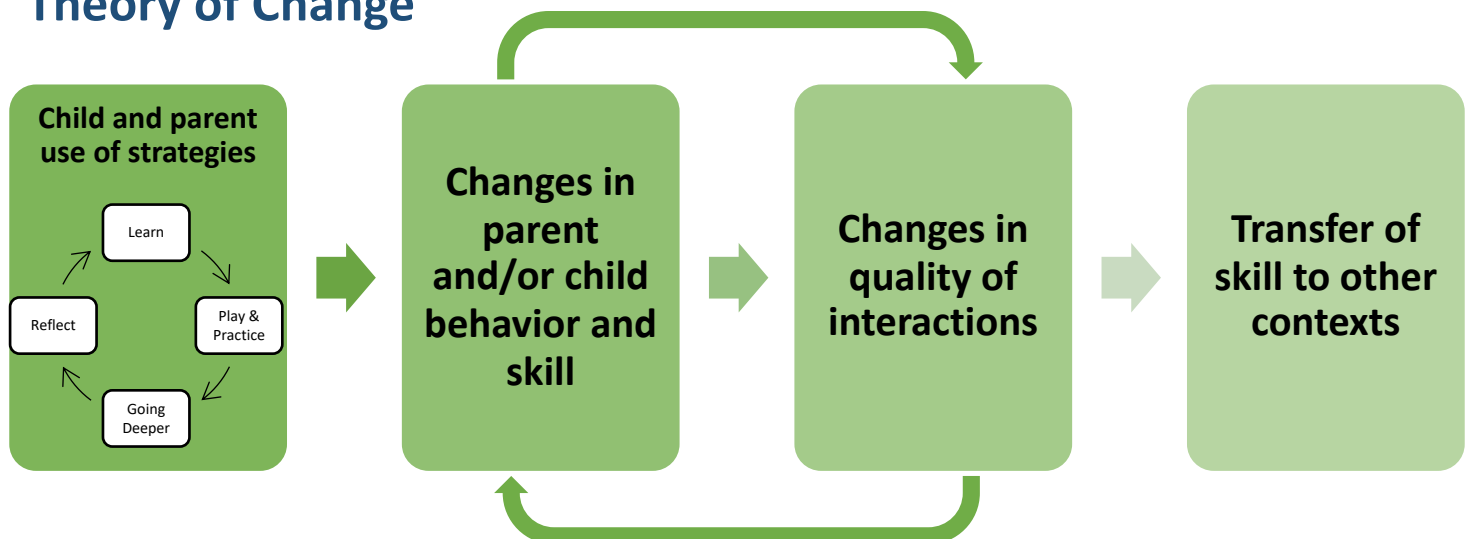
James Wall (CEO) is an entrepreneur and senior communications executive who has founded and run several companies. Educated as a lawyer in England and admitted to the Colorado Bar, Wall ran his own PR agency, Agency 33, for 15 years in Denver, CO. He was also an early investor and key consultant in the founding of TeamSnap, the world's leading team and league organizational software venture. Wall had the idea for Moxie while working with Dr. Stephanie Jones in her work with the Wallace Foundation.

Vincent Dipas (COO) is a biochemical-engineering-trained corporate and business development professional who has sourced, negotiated, and completed acquisitions, joint ventures, financings, and other partnerships. He has built multimillion-dollar books of business for two marketing consultancies and a corporate development advisory firm; helped commercialize two technology companies; and developed a benchmark synthetic biology process for amino acids. He's currently managing partner of Highway 33 Capital, a cannabis industry financial advisory firm.

Cody Cleary (CMO) is a marketing executive for Orbit Design where he oversees a broad portfolio of clients including small to medium sized businesses as well as non-profit organizations. He has been cited for multiple achievements in strategic marketing, including Excellence in Marketing Analytics as well as Social Network Marketing. Formerly with the Colgate-Palmolive Company, Cody has overseen such household names as Colgate Total; Palmolive Dish; Ajax Cleaners; Irish Spring and SoftSoap. He has developed a wide range of targeted marketing communications campaigns, driving brand salience and sales growth through digital advertising, television, promotions and PR across both US and Australian markets. Cody received his MBA from Cornell University where he was awarded the Rao Prize as the top Marketing student and the McAllister award for excellence in Marketing Writing.

Daniel Arroyo (CTO) is a startup founder with over 20 years of experience in the technology sector expanding from smartphone platform development, IoT, cloud, 3D Printing and mobile applications. Daniel has been part of the development of multiple complex mobile and web applications. He's currently the CTO and cofounder of Nieve Consulting in Malaga, Spain, where he runs the technical team offering world-class software development services.

Theory of Change



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