Amir Lopatin Fellowship | Kavindya Thennakoon

Building and Measuring Emotion Awareness and Regulation in K-2 Classrooms in Sri Lanka

Research Problem

The Case for Social Emotional Learning (SEL) - Research shows that well-designed, high-quality, culturally relevant social-emotional learning programs can improve a host of student outcomes from academic success and more positive mental health outcomes, to improved classroom environments and teacher approaches (Durlak et al., 2011). While social-emotional learning is widely adopted in North America and Europe, it remains a rather novel concept in low- and middle-income countries, particularly in my own country, Sri Lanka. Several factors contribute to this, including state budget restrictions, focus on rote learning, high-stakes summative assessments, and cultural norms around discussing topics like feelings, conflict, and mental health within classroom settings.

The case for Sri Lanka: The local education system in Sri Lanka is now at an important policy juncture about SEL with the passing of a gazette in parliament to mandate the inclusion of SEL across national schools[1]. However, the approach to this national rollout has been mostly ad hoc. To date, there have only been two research studies conducted in Sri Lanka on SEL - one focused on measuring emotional intelligence in a small sample of high school students, and the other was a USAID-funded intervention study.

Through this research project, I aim to build a preliminary research base around SEL measures and interventions in Sri Lanka and a set of localized research tools and protocols (surveys, direct assessments, and co-creation protocols) to bridge this research gap.

My Positionality: As a Sri Lankan researcher and learning designer, having worked across the island both designing classroom interventions and also conducting teacher training over the past 10 years, I have a deep commitment to translating research into practice for my community, as I have experienced the disastrous effects of haphazard education policy and interventions. My focus on SEL began at the Learning, Design, and Technology program (LDT) at Stanford, where I designed Tilli, a SEL tool for parents and primary school kids that is now used by over 15,000 learners primarily in Sri Lanka. Given my ongoing work in this space, I have had the rare opportunity to engage in discussions with the Ministry of Education and the National Insitute of Education (the two key state bodies involved in the SEL policy formulation). I hope to leverage my existing community network of collaborators in both the design of this study and the subsequent dissemination of findings.

[1] https://moe.gov.lk/wp-content/uploads/2022/05/english-book.pdf

Scope and Setting

The long-term aim of this study is to support Sri Lanka's national early childhood education policy and implementation plan by contributing towards a robust research base to design measures, interventions, and teacher training that is evidence-based, culturally inclusive, and accessible.

Research Questions: The study focused on K-2 classrooms in urban, rural, and semi-rural communities across 2 school sites in Sri Lanka.

- Question 1: What kinds of social-emotional learning and foundational skills and behaviors are named and valued within home and classroom contexts in Sri Lanka?
- Question 2: Exploration of Emotion-Awareness and Emotion-Regulation domains: How might we measure social-emotional learning outcomes around self-awareness and emotion-regulation in culturally responsive, ecologically valid, and learner-friendly ways?
- Question 3: Building Interventions: How might we co-create classroom interventions to enhance SEL and foundational skill outcomes alongside teachers?

Scope: While the initial scope of this research was to focus only on social-emotional learning skills, my literature review and scoping interviews revealed a need to start more broadly, focusing on foundational skills to include both Executive Functions (like working memory, attention, and cognitive flexibility) and social-emotional learning skills like emotion awareness and emotion regulation.

While multiple SEL domains exist, I aim to focus on two social-emotional learning skills that have emerged frequently in my past work in Sri Lanka - emotion-awareness and emotional regulation. While there is much complexity and disagreement within the SEL field around the specific definitions of various domains and constructs as a starting point, I have used the EASEL Labs's Taxonomy Project[2] and the Indian Social and Emotional Learning Framework (ISELF)[3]; the most extensive SEL framework designed for a South Asian context to loosely define these two skills. I define emotional awareness through two constructs: a) emotional knowledge and expression, which refers to a child's ability to recognize and label a range of emotions and b) self-knowledge, which refers to a child's ability to construct a general sense of self, including likes, dislikes, strengths, weaknesses, and personality traits. I define emotion regulation through the lens of a) emotional and behavioral regulation with a focus on a child's ability to use various self-regulation strategies to communicate and manage a range of emotions, and understand what constitutes appropriate vs. inappropriate expressions of emotion, and express oneself appropriately.

Sample: After discussions with our community partners, this study focused on two semi-urban public schools in the district of Kurunegala in Sri Lanka. We worked with a sample of 170+ first and second-grade students, their caregivers, and teachers. One of our schools was a primary school, which meant they only admitted students from 1st to 2nd grade, and was a Tamil

[2] Taxonomy Project | EASEL Lab
[3] Indian Social and Emotional Learning Framework (ISELF) – The Teacher Foundation

language school. The second school was larger in size and admitted students up to 12th grade, and was a Sinhala language school. Sri Lanka has historically had schools that were segregated by language and in some cases religion. In the two schools we worked in, the key differentiator was the language of instruction.

Sample Breakdown

- N: 168
- 1st Graders (55%) and 2nd Graders (44.9%)
- Ethnicity: Sinhala (32.3%) / Tamil(67.7%)
- Gender: F (45.5%) M (54.5%)

School Site 1 in Kurunegala, Sri Lanka.

School Site 2 in Kurunegala, Sri Lanka

Methods

Phase 1: Understanding values and perceptions of students' Executive Functions and Social Emotional Learning skills among teachers and caregivers: Literature review, ecosystem mapping, and survey measure

Literature Review and Ecosystem Mapping: During phase 1 of the study, I conducted an extensive literature review examining at how Executive Functions and Social Emotional Learning (focused on the two domains of Self Awareness and Emotion Regulation) were articulated, constructed, measured, and built within south asian contexts. During this phase, I was able to get involved in the creation of a new measure for Executive Functions that focused on cultural differences called the Executive Functions from Observation and Reflection Tool (EFFORT), which was created by my advisor, Dr. Jelena Obradović and the Spark Lab. Given the overlapping domains, we decided to administer the EFFORT survey alongside a battery of other assessments as a starting point to obtain a baseline of student foundational skills.

Survey and Direct Assessments: We conducted two rounds of fieldwork in Sri Lanka, where we administered the following survey instruments and iPad-based direct assessments to obtain a holistic view of students' current foundational skills and how parents and teachers perceived and articulated these skills.

Measure	Description	Primary Skill Domain(s)
Teacher and Parent Reports		
EFFORT Teacher and Parental Survey	A survey filled out by parents and teachers about each child's specific EF behaviors (attention, planning, persistence, etc.) in everyday life..	Executive Functions (EF), Social-Emotional Learning (SEL), Academic Outcomes (related to EF/SEL application)
Strengths and Difficulties Questionnaire	Teacher Parent report on child's emotional symptoms, conduct problems, hyperactivity/inattention, peer problems, and prosocial behavior.	Social-Emotional Learning (SEL), Aspects of EF (hyperactivity/inattention)
Academic Competence	Teacher and Parent report on child's perceived performance in school subjects (math, reading) and overall academic ability.	Academic Outcomes (related to EF/SEL application)
Cognitive Interview (Parent)	An interview with selected parents to elaborate on their Parental Survey responses, providing reasons and specific examples for their ratings.	Qualitative data on Child's EF & SEL (via parent perspective)
Direct Assessments with Students		
Direct Assessments on I-pads (Child Tasks)	The tasks were administered via an iPad directly to the child, observed, and rated by the research assistant. They included iPad-based games (Hearts and Flowers, Memory Game) designed by the Spark Lab and a paper task.	Executive Functions (EF), Social-Emotional Learning (SEL)
* Hearts and Flowers (within DA)*	I-Pad game assessing inhibitory control (Go/No-Go) and working memory (Simon Says variant).	Executive Functions (EF)

* Memory Game (within DA)*	I-Pad game assessing working memory (grid sequence recall).	Executive Functions (EF)
* Emotion Awareness Task (within DA)*	Paper task (Emotion Matching) assessing the child's ability to recognize/label emotions.	Social-Emotional Learning (SEL - Self/Social Awareness)
* Assessor Report (for DA)*	The research assistant observed and rated the child's behaviors (attention, persistence, interaction, emotions) during the direct assessment tasks.	Executive Functions (EF), Social-Emotional Learning (SEL)
Joint Tasks: Challenging Situations Task (Parent & Child)	Parent and child discuss hypothetical social/emotional scenarios; observer assesses emotional vocabulary, recognition, self-awareness, and empathy.	Social-Emotional Learning (SEL - Emotion Awareness, Self-Awareness, Empathy)

Phase 1: Findings

Findings from phase 1 of the research were presented as a poster presentation (refer: figure 1) during the 2nd year poster presentation of the Developmental and Psychological Sciences (DAPS) program.

Key findings:

a. The EFFORT subscales demonstrated high reliability [Figure 1] with all 6 subscales showing good to excellent internal consistency based on Cronbach's alpha (in both parent and teacher reports)
b. Parent vs. Teacher ratings of executive functions saw weak correlations across all subscales [Figure 2], suggesting limited agreement, with parents rating children significantly higher than teachers (expected occurrence)
c. Age differences: teachers rated 2nd graders higher than 1st graders, while parents didn’t observe any significant grade level differences.
d. Gender differences: Teachers rated girls more favorably than boys in 5/6 EF subscales, supporting cultural perceptions of girls being perceived as more rule-abiding/obedient. Parents didn’t report such differences.
e. Academic success and EF were strongly co-related: teacher reports revealed strong positive associations between all EF composites and academic scores, with attention showing the strongest relationship

f. Assessor observations rated the following skills as those that the community attached minimal value to or struggled to visualize everyday manifestations of:
    i. Cognitive flexibility (expresses itself in a new way when not understood)
    ii. Planning and organization (begins routines without prompting)

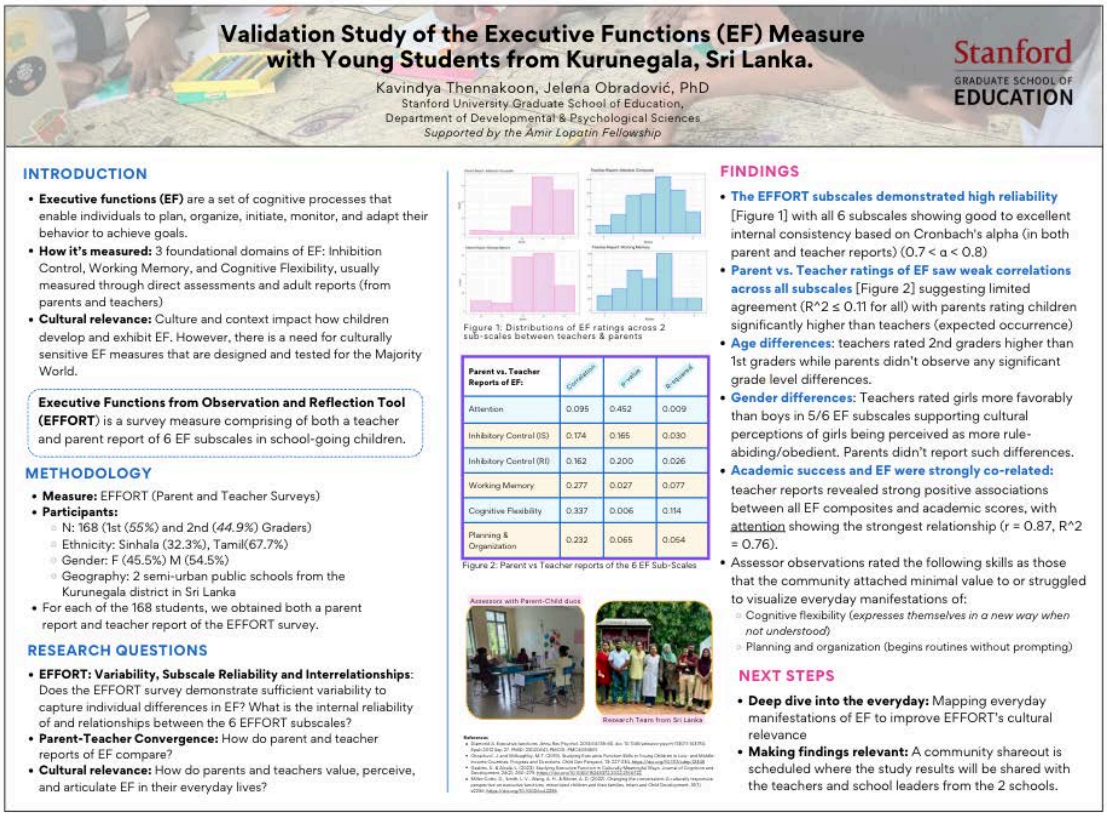
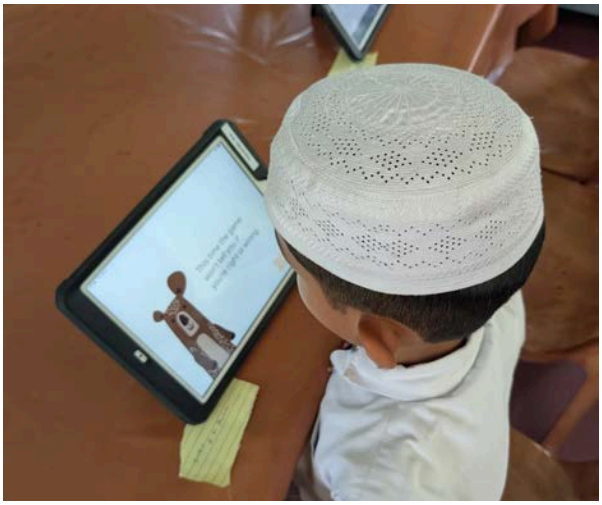


Figure 1

Assessors conducting direct assessments with students



Parents completing the first round of survey measures

Phase 2: Parental Interviews and WhatsApp Diary Study

After the first phase of field work, I realized there were still lingering questions that required me to revisit the format and design of our original diary study that we had planned to administer on WhatsApp. Several themes emerged that led me to return to the drawing board:

- Screen use: First was the increasing influence of screentime on children's foundational skills, particularly attention and emotion regulation. During interviews with parents and teachers, screen use became a consistent theme that emerged. During my initial conceptualization of the diary study, there was no focus on looking at the nature and frequency of screen use of the child, caregiver, and forms of joint media engagement.

- Constrain the scope: My initial design of the dairy study involved the parents being sent daily prompts via WhatsApp for 10-15 days to share everyday observations and reflections via quick polls and voice notes on how children engage with various tasks and behaviors related to self-awareness and emotion regulation (my two domains of interest). Following my interviews with parents, I realized that observing emotion awareness and regulation as a skill in everyday situations would be difficult, given that, as a skill and behavior, it was difficult to translate the essence of it into the two local languages of Sinhala and Tamil. Therefore, I decided to shift the focus to looking at the impact of screen time and emotion regulation.

2.1: Parental Interviews

In April, we conducted 6 interviews and a survey with parents from both school sites as a primer for re-designing the diary study. Our aim here was to adopt an exploratory approach to map the different themes that emerged around screen use and children's emotional awareness and regulation. The survey measure was designed to test a battery of questions that we hoped to use for the diary study.

We focused on three domains during the interview and the survey:

a. The Questionnaire of Parent-Child Conversations about Emotions: To understand how conversations around emotions come up during everyday conversations
b. Parents' Beliefs About Children's Emotions (PBACE): To understand parental mental models around emotions
c. Child Media Use – Parent Report: To get a sense of the types of screens used in the home, time spent, and the nature of media use (child watches screens independently versus co-viewing with a parent or sibling)

2.2: WhatsApp Diary Study [Ongoing]

A select group of parent-child duos (N: 60) from each school site were invited to participate in a WhatsApp diary study. They receive daily prompts via WhatsApp for 14 days to share everyday observations and reflections via quick polls and voice notes on:

a. **Screen use:** Types of screen, nature of content, and nature of consumption (independent, co-viewing)
b. **Emotion Regulation:** Parent-child conversations around emotions
c. **Data from well-being tracker:** Consenting parents will have a well-being tracker installed on their most frequently used device which will show the different apps consumed, duration, and time of use.

A revised and more detailed overview of the diary study is detailed here:
[For Lopatin Fellowship] Kids, Screens and Emotions | Diary Study

Phase 3: Co-creation of Interventions

The focus of phase 3 was two-fold: the first was to share the findings from the caregiver interviews, the teacher surveys, and the student direct assessments with the teachers, school leaders, and the wider community from each of our school sites. I have often seen educational research as being rather extractive, where findings are rarely shared with the communities we study in ways that are meaningful and useful to their everyday realities. In my past work, I have always noticed that parents and caregivers are curious and eager to understand more about their children's behaviors, thoughts, and skills.

Training local researcher: While this wasn't a part of my original research proposal, as I started recruiting research assistants and discussing more about the research design with my school partners, I realized there was an appetite for research in developmental psychology and learning sciences but countries like ours lacked robust training opportunities and a mentorship model to train young researchers.

Over the year, we trained a team of 10 young researchers in designing and conducting research focused on executive functions and social emotional learning. We covered aspects like direct assessments, interview protocols, child safety protocols when working with children, and various aspects of observing child behaviors. We were able to bring together a team of researchers who spoke both Sinhala and Tamil languages to facilitate a more representative sample and who brought in deep community-level expertise as teachers, counsellors, and social workers.

Phase 2 of the research project at School Site 1

Phase 1 of the research project at School Site 2

In-person training workshop with the research team in Kurunegala, Sri Lanka

Phase 1 of the research project at School Site 1

The team role-playing direct assessments

Our research collaborator - Ms. Imalka, who is a teacher at one of our school sites, became a Fulbright Scholar ,and we were able to host her at Stanford in April 2025

Community sharing sessions: We conducted a community sharing session where we shared the findings from our first phase of research with teachers and parents who were a part of the study. This sharing session was designed to gather feedback and questions, and to brainstorm ideas on next steps.

The key learning for me here was that all the stakeholders had one question in common: *What do we do now?* While they were interested in learning more about the findings, there was a stronger need to discuss interventions and what should be done next. As I plan the next phase of this study, I aim to find ways of making the research findings more accessible and actionable while focusing on how we could co-create a set of interventions that could be tested at home and in the classroom.

Community sharing session 1

The school principal shares her reflections

My Reflections

I am truly grateful to the Lopatin Fellowship and my advisors and faculty, Dr. Jelena Obradovic, Dr. Roy Pea, and Dr. Phil Fisher, for their thoughtful feedback and support as I conducted field work, revisited my initial research questions, and explored a new direction for my research focused on screen use.

During our training workshop, I shared Amir's wonderful life, his vision for using creative technologies to make learning better, and the clear imprint he has left on the lives of many with our team. I hope this project becomes the starting point for creating a robust practice in Sri Lanka of bringing together developmental psychology research, principles of learning sciences, and technology to make learning better in our K-2 classrooms.