Methods and Findings Supplement

Building Futures

Using Metaphors and Values to Tell a Story of Early Childhood Development in Bangladesh

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This Methods and Findings Supplement accompanies the strategic report Building Futures: Using Metaphors and Values to Tell a Story of Early Childhood Development in Bangladesh. It provides a fuller description of the research approach, including the design, data collection, and analysis processes. It also offers a more detailed presentation of findings, including the ways in which participants engaged with tested frame metaphors (রূপক), values (মূল্যবোধ), and a phrase (প্রবচন), as well as the nuances of those responses. By documenting these details, the supplement demonstrates the rigor underlying the recommendations and provides additional insights for those communicating about early childhood development (ECD) and related issues in Bangladesh.

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Part 1: Detailed Methodology with Research Instruments

The research was conducted following an iterative approach to data collection and drawing data from different geographical locations in Bangladesh, involving people with diverse socioeconomic backgrounds (age, gender, education, etc.).

Iterative Methodology: Qualitative → Qualitative

The philosophy behind using an iterative research approach was to allow flexibility and ongoing adaptation of the research design and data collection in response to new information (Bassett, 2010). In this methodology, each research cycle is adjusted based on insights from the previous one, rather than following rigid, linear steps. For this project, lessons from one qualitative stage (sidewalk on-the-street [OTS] interviews) informed the next stage (a two-wave quantitative survey), which in turn shaped the final qualitative stage (either focus groups or peer discourse sessions). By applying iteration at multiple points, the approach fostered continuous discovery and reflexive meaning-making—key to generating insights and refining research tools to better answer the study's questions.

The OTS Interview Guide was designed to explore people's understandings of ECD, then introduce a framing intervention (a metaphor or phrase) to assess its impact on their thinking and language. OTS results informed a two-wave quantitative survey that tested these frames against outcome measures to evaluate their effectiveness in deepening the understanding of early developmental processes and building support for ECD as a public investment. Findings from both OTS and the survey then guided the peer discourse sessions (PDS), which tested potential reframes from earlier stages. The PDS also examined how well metaphors, phrases, and values built understanding and shaped attitudes and observed which frame elements proved most effective in participant interactions.

1. On-the-Street Interviews (OTS)

OTS interviews are an exploratory method that offer a glimpse into the thoughts and perspectives of everyday people (McCormack et al., 2012). This method allows researchers to capture top-of-mind thoughts and perspectives directly from individuals who may not be part of traditional interviews or focus group discussions.

Initial approach: The OTS Interview Guide was designed using open-ended questions to encourage introspection and critical thinking. Following a set of opening questions, people's default ways of thinking about early childhood were explored. Next, using interventions and follow-up questions, participants' comprehension of the frames was discovered. Openended *why* and *how* questions were used to promote reflection and deeper exploration of participants' perspectives.

Interventions: In the OTS tools, interventions are meant for (a) a one-line sentence designed to elicit responses regarding the phrase, (b) the passages on five metaphors, and (c) a question about values. It is to be noted that each participant was exposed to only one metaphor or the phrase. While the description of the metaphors focused on concepts, the value question emphasized investments. These interventions were included in the OTS tool to understand the changes in recruited people's thinking before and after the exposure to the intervention. Each participant was exposed to a single frame intervention, either a metaphor or a phrase. The intervention tool is provided as Appendix A at the end of this Detailed Methodology section.

Sampling strategy: The OTS interviews were conducted among 72 participants selected using opportunistic sampling in the Dhaka, Rajshahi, and Barisal divisions to see whether and how the frames worked across the diversity in the sample. The focus was not on *unique understanding* per se, but rather on evaluating the effectiveness of the frames across people's diverse life contexts. By exploring these different perspectives, a comprehensive insight was gained into how each frame (a metaphor or a phrase) led to a deeper level of understanding among the recruited participants.

Piloting, lessons learned, and adjustments to the methodology: Importantly, deliberate efforts were made to contextualize the research tools to collect data from research participants from diverse linguistic, geographical, and socioeconomic backgrounds. The research team consciously made several efforts to contextualize the research.

First, the qualitative research tools were translated from English to Bangla and piloted in Dhaka and rural areas. Frequently used words were incorporated, and difficult terms and long sentences were simplified. For example, the English word *brain* was added alongside its Bangla equivalent *mastishka* because many participants found the Bangla term difficult to understand.

Second, the metaphor concepts and related questions were simplified to make them easier to understand. Everyday examples were added to illustrate the metaphors, and statements were expanded slightly to keep the conversation moving and help participants grasp their meaning. For example, during interviews on the *Resilience Scale*, an actual weighing scale was used as a visual aid to make the concept more tangible. Opening and follow-up questions were also reformulated to better fit the context and support participants in conceptualizing the ideas.

Third, the team sought insights from experts and para-counselors. Ten para-counselors from BRAC IED, experienced in regional dialects across Bangladesh, advised on accessible language. Additionally, a globally renowned psychologist reviewed the Bangla terminology used in the metaphors for accuracy.

Finally, the interview approach itself was piloted and refined. Techniques such as conversational interviewing, metaphor repetition, use of prompts, and rapport-building encouraged participants from diverse backgrounds to share rich, detailed responses. The *Resilience Scale* demonstration was also adapted to local culture; instead of using a pencil balanced on a finger (as had been used in other national contexts), researchers used a *daripalla* (traditional weighing scale), a familiar object for participants.

2. Quantitative Experiment

Large-scale, nationally representative surveys—with intervention and control groups and subsequent statistical analysis—can reveal what works and what does not. Accordingly, two survey waves were conducted to assess the effectiveness of the metaphors, phrase, and value frames.

Frame development: Insights generated from the OTS interviews informed systematic revisions to the language of the five metaphors and the accompanying phrase, ensuring their consistent and standardized presentation across the large-scale survey. In parallel, the research sought to articulate a set of core values that reflect the collective identity of the Bangladeshi population. These values were identified through consultation with Advisory Board members and were selected to capture the country's enduring resilience, adaptability, and capacity to overcome significant national and natural challenges. The intent was to frame these values as levers for unlocking human potential and advancing national development.

These values are not merely aspirational constructs; they constitute foundational principles for building a stronger, more equitable, and prosperous Bangladesh. To ensure cultural and linguistic appropriateness, the values underwent multiple rounds of piloting and informal testing with participants from diverse socioeconomic backgrounds in Dhaka and surrounding areas prior to finalization. During the second wave of research, the values were subjected to additional testing, with refinements made to enhance their clarity and resonance. The complete set of value narratives is provided in Appendix B of this detailed methodology section.

Sampling strategy: A nationally representative digital data set of BRAC IED was used for two waves of the survey. This was created in 2021 for a research project on school education during the COVID-19 pandemic and subsequently updated in 2023 (Nath et al., 2022, 2023; Nath, 2024). The data set encompassed 11,370 households from 200 communities across 100 *upazilas* (sub-districts) throughout Bangladesh. The total population within these households was 54,179, comprising 30,955 individuals aged 18–60 years in 2025. These 30,955 individuals were the targeted population for this study, from which the samples were drawn. Statistical Package for Social Sciences was used to draw the samples. The minimum sample size for each group was set at 225.

For Wave 1, a sample of 294 was selected for each group using the simple random sampling method, totaling 3,822 (294 x 13). The nonresponse (noncooperation, unavailability at home, and migration) rate was 21.7 percent. Therefore, 2,992 individuals were successfully interviewed. The sample size in each group varied from 226 to 235. After deducting the 3,822 individuals, the population size for Wave 2 became 27,133. From them, seven samples, each consisting of 300 individuals, were selected using the same method for the second wave, totaling 2,100 individuals. The success rate was 74.2

percent. Consequently, 1,559 individuals, ranging from 215 to 228 per study group, participated in the second wave.

Measurement tool development: The measurement tool was developed through a multi-step process: reviewing similar tools used in other countries (e.g., Australia, United States); incorporating findings from the Phase 1 research and insights from OTS interviews; conducting several rounds of informal interviews; and piloting draft tools with adults from diverse socioeconomic backgrounds. Three pilot surveys were conducted—36 participants with a 30-item tool, 168 participants with a 33-item tool, and 270 participants with a 44-item tool. These iterations produced a reliable 25-item, five-point Likert scale instrument, organized into four batteries, for use in Wave 1. Participants for the informal interviews and the first pilot survey were chosen from various locations in Dhaka and its surrounding areas. The second and the third pilot surveys were carried out in six *upazilas* (subdistricts) located in three divisions.

Analysis of the Wave 1 data showed that all intervention groups outperformed the control group, without any meaningful differences across them. The observation was that each of the values tested was embedded in language that made a call for greater government action and public investment in early childhood interventions and programs. In short, some factors other than the value statements themselves had elevated support for ECD interventions. After lengthy discussions, the research team hypothesized that the call for government action and investments was the factor driving up support and blurring distinctions among the values being tested. As a result, in Wave 2, the language calling for government action and investment was removed, and each value statement was left on its own as an intervention in the experiment, resulting in statistically significant differences in the effectiveness of the values across outcome measures.

The revised 25-item tool for Wave 2 contained 15 five-point Likert scale items divided into four batteries: government efficacy (five items), parental responsibility (two items), government responsibility (three items), and collective efficacy (five items). Of the remaining, four fell under salience, and six were forced-choice (FC) items. The FC items focused on government prioritizing funding for families, government efficacy, salience, responsibility, start of learning, and whole child development. This tool is given as Appendix C at the end of the detailed methodology section.

Data collection and analysis: In both Waves 1 and 2, trained field research assistants administered the tools to sampled participants in their homes (*see sampling strategy*). In Wave 1, items were presented in a fixed order for all participants. Intervention frames were read aloud to the intervention group at least twice—before the first item and after the 13th—and, if requested, once more before starting. Responses were recorded on paper in the field and later digitized. In Wave 2, Kobo software was used to randomize item order. Interventions were read aloud only at the start (and repeated once if requested), with no mid-survey delivery. Data was recorded directly into the software. The items were presented orally to participants in the intervention groups immediately after confirming that they understood how to respond and had received the frame interventions.

Battery-specific exploratory factor analysis with Likert scale items, reliability check (Cronbach's

alpha), examination of ceiling and floor effects, analysis of response distribution, and mean and standard deviation were the statistical tools used for analyzing data. Ordinary and logistic regression analyses were performed as appropriate. All intervention groups were included together in the regression models, with the control group as the reference. As the study groups were homogeneous regarding their backgrounds, these were not included in the regression models.

3. Peer Discourse Sessions (PDS)

PDS are a structured form of focus group used to examine shared patterns of talk and how participants use prospective frames—introduced as *primes* or *cues* by a moderator—when forming opinions and making decisions on a topic (Manuel & Kendall-Taylor, 2009).

Interventions: The first exercise began with opening questions to elicit participants' default ways of thinking and talking about early childhood in a group context.

Next, participants engaged in a metaphor exercise. In three of the six sessions, participants split into two groups, each given the name and brief description of a metaphor or phrase. Their task was to explain it effectively to the other group, testing both understanding and communicability after brief exposure. In the other three sessions, participants received even shorter versions of the metaphors and were asked to elaborate on them creatively before explaining them to the other group, exploring how new meanings and features might emerge.

In the final exercise, groups were asked to imagine they were members of a village committee tasked with convincing the union parishad/ward commissioner grassroots level local government of Bangladesh to build a pre-primary center. Each group selected one value from six options and developed a case for the investment in the pre-primary center based on that value.

Sampling strategy: For the PDS, research sites in Dhaka, Jessore, and Sylhet were chosen purposefully, and participants were recruited following a homogeneous sampling strategy emphasizing diverse socioeconomic backgrounds.

RESEARCH INSTRUMENTS

Appendix A: On-the-Street (OTS) Metaphor and Phrase Frames

These are the Bangla and English language iterations of the metaphor and phrase frames that were tested during OTS interviewing.

Bangla Version

মস্তিষ্কেব নিৰ্মাণ

মায়ের গর্ভে থাকার সময় থেকেই শিশুর মস্তিষ্কের (ব্রেনের) প্রাথমিক নির্মাণ শুরু হয় যা শিশু বড় হওয়া পর্যন্ত চলতে থাকে। মস্তিষ্কের (ব্রেনের) এই নির্মাণকে অনেকটা বাড়ি তৈরি করার সাথে তুলনা করা যায়। বাড়ি বানানোর সময় প্রথমে আমরা একটি মজবুত ভিত তৈরি করি। এই ভিতটি বাড়ির দেয়াল ও ছাদ তৈরি এবং বিদ্যুতের তার ও পানির পাইপ বসানোর আগেই করতে হয়। এই কাজগুলো সঠিকভাবে এবং ধাপে ধাপে হওয়া প্রয়োজন।

শিশুর মস্তিষ্কের (রেনের) নির্মাণও একই রকম। শিশুর জীবনের শুরুর দিকের অভিজ্ঞতা ও বড়দের সহায়তা তার রেনের ভিত তৈরি করে। জীবনের শুরুতে এই ভিত যত শক্ত হবে, পরবর্তীতে শিশু স্বাস্থ্য ও শেখার সম্ভাবনা তত বাড়বে।

সহনশীলতার দাঁড়িপাল্লা

কোনো কোনো শিশু নেতিবাচক অভিজ্ঞতা বা প্রতিকুল পরিস্থিতিতে বেড়ে ওঠে। শিশুদের বিকাশ বা বেড়ে ওঠায় সহায়তা করলে, তা তাদের পরবর্তী জীবনে প্রতিকুল পরিস্থিতির সাথে খাপ খাইয়ে নেওয়ার দক্ষতা বাড়িয়ে দেয়-এটাই হলো সহনশীলতা। বিষয়টিকে আমরা একটি দাঁড়িপাল্লার সাথে তুলনা করতে পারি। [নমুনা হিসেবে একটি দাঁড়িপাল্লা হাতে রাখুন।]

মনে করুন, দাঁড়িপাল্লার একপাশে শিশুর ভালোভাবে বেড়ে ওঠার ভালো দিকগুলো রয়েছে। যেমন- শিশুর বেড়ে ওঠায় সহায়ক ভালো পরিবেশ, মা-বাবার সাথে শিশুর সু-সম্পর্ক এরকম আরো কিছু। দাঁড়িপাল্লার অন্যপাশে শিশুর বেড়ে ওঠাকে বাধা দেয় এমন দিকগুলো রয়েছে। যেমন- অভাব-অনটন, নির্যাতন, সহিংসতা এরকম আরো কিছু। [দার্ডিপাল্লা দেখিয়ে বুঝিয়ে বলুন।]

প্রতিটি সমাজের লক্ষ্য হলো, শিশুকে সুষ্ঠুভাবে বেড়ে উঠতে এবং সহনশীল হতে সাহায্য করে এমন বিষয়গুলো নিয়ে কাজ করা। এর জন্য শিশুর জীবনের শুরুর বছরগুলোতে যতদূর সম্ভব- দাঁড়িপাল্লা থেকে বেড়ে ওঠার খারাপ দিকগুলোর ভার কমিয়ে ফেলে ভালো দিকগুলোর ভার বাড়ানো দরকার। যা পরবর্তীতে শিশুদের সুস্বাস্থ্য ও শেখার সম্ভাবনা বাড়াবে। [প্রথমে দাঁড়িপাল্লার নেতিবাচক দিকের ভার কমিয়ে এবং পরে ইতিবাচক দিকের ভার বাড়িয়ে বুঝিয়ে বলুন।]

বল ছোড়াছুড়ি খেলা

ছোট শিশুর সাথে মা-বাবার ভাবের আদান-প্রদান সম্পর্ক তার মস্তিষ্কের (ব্রেনের) উন্নতিতে ভূমিকা রাখে। আপনি নিশ্চয়ই দেখেছেন, বল ছোড়াছুড়ি খেলার সময় একজন বল ছুড়ে দেয় এবং অন্যজন সেই বলটি ধরে ফিরিয়ে দেয়। বলটি ফিরিয়ে না দিলে খেলাটি তখনই থেমে যায়। শিশুর সাথে মা-বাবার ভাবের আদান-প্রদানের বিষয়টি অনেকটা বল ছোড়াছুড়ি খেলাব মতোই।

শিশুরা যখন আ-উ আওয়াজ এবং মুখের নানান ভাবভঙ্গি করে, বড়রা সে অনুযায়ী সাড়া দিয়ে তার সাথে ভাবের আদান-প্রদান করে। বড়রা যদি এতে সাড়া না দেয় তাহলে বল খেলাটির মতোই ভাবের আদান-প্রাদান থেমে যাবে। এর ফলে শিশুর সুষ্ঠুভাবে বেড়ে ওঠা বা বিকাশ বাধা পাবে। অপরদিকে, জীবনের শুরুর বছরগুলোতে শিশুদের চোখের চাহনি, বিভিন্ন ধরনের শব্দ, আ-উ আওয়াজ এবং নানান অঙ্গভঙ্গিতে বড়রা সাড়া দিলে তা তাদের বেড়ে ওঠায় সাহায্য করে। এতে পরবর্তীতে শিশুদের সুস্বাস্থ্য ও শেখার সম্ভাবনা বাডবে।

বিষাক্ত মানসিক চাপ

শিশুরা সাধারণত তিন ধরণের মানসিক চাপের মুখোমুখি হতে পারে। এগুলো হলো ইতিবাচক মানসিক চাপ, সহনীয় মানসিক চাপ এবং বিষাক্ত মানসিক চাপ। এখন আমি এই তিন ধরণের মানসিক চাপ সম্পর্কে আপনাকে বলবো।

ইতিবাচক মানসিক চাপ হচ্ছে এমন এক ধরনের মানসিক চাপ যা মূলত শিশুর ভালোভাবে বেড়ে ওঠায় সাহায্য করতে পারে। যেমন- প্রথমদিন স্কুলে যাওয়া নিয়ে বা নতুন কোনো মানুষের সাথে দেখা হলে শিশুরা এক ধরনের মানসিক চাপ অনুভব করতে পারে।

সহনীয় মানসিক চাপ হচ্ছে এমন এক ধরনের মানসিক চাপ যা শিশুর ভালোভাবে বেড়ে ওঠায় বাধা হতে পারে। অন্যদের সহায়তা, যেমন- প্রিয়জনের মৃত্যুতে পরিবারের সদস্যদের বা কাছের মানুষের সহানুভূতি পাওয়া, এ ধরনের চাপ কমাতে সাহায্য করে।

আরেক ধরনের মানসিক চাপ হচ্ছে **বিষাক্ত মানসিক চাপ**। বিষাক্ত মানসিক চাপ হচ্ছে এমন এক ধরনের অসহনীয় মানসিক চাপ যা শিশু দীর্ঘ সময় ধরে অনুভব করে। যেমন- অভাব-অনটন, পারিবারিক নির্যাতন, আশেপাশের পরিবেশের সহিংসতা ইত্যাদি। বিষাক্ত মানসিক চাপ মস্তিষ্কের (ব্রেনের) উন্নতিতে বাধা দেয়। সমাজের সদস্য হিসেবে আমাদের উচিত শিশুদের মধ্যে এই বিষাক্ত মানসিক চাপ কমানোর জন্য কাজ করা। যা পরবর্তীতে শিশুদের সুস্বাস্থ্য ও শেখার সম্ভাবনা বাডাবে।

দড়ি বুনন দক্ষতা

জন্মের পর থেকে শিশুরা বিভিন্ন দিক থেকে বেড়ে ওঠে। এই বেড়ে ওঠার ক্ষেত্রে দক্ষতাগুলো হলো- কথা বলতে শেখা যেটা হলো ভাষার দক্ষতা, বুদ্ধি বাড়া যাকে বলে বুদ্ধিবৃত্তিক দক্ষতা, অন্যদের সাথে মেলামেশা করতে শেখা যা কিনা সামাজিক দক্ষতা।

শিশুদের শেখার এই প্রক্রিয়াটি অনেকটা পাটের আঁশ দিয়ে মজবুত দড়ি বোনার মতো। একটি মজবুত দড়ি তৈরি করতে পাটের আঁশের একটি অংশকে যেমন অন্য অংশগুলোর সাথে শক্তভাবে বুনতে হয়, ঠিক তেমনি শিশুদের বেড়ে ওঠার ক্ষেত্রে তাদের কথা বলতে শেখা, অন্যদের সাথে মেলামেশা করতে শেখা, বুদ্ধি বাড়া ইত্যাদি দক্ষতাগুলো একই সাথে শিখতে হয়। কেননা একটি দক্ষতা শক্তিশালী হলে তা অন্য দক্ষতাগুলোকে শক্তিশালী করতে সহায়তা করে। অর্থাৎ একটি দক্ষতার উন্নয়ন ছাড়া অন্য দক্ষতাগুলোর উন্নয়ন ভালোভাবে হয় না।

এজন্য, পরিবার ও শিক্ষা কেন্দ্রগুলোর পরিবেশ এমন হওয়া উচিত যা শিশুদের অন্যদের সাথে মেলামেশা করতে পারা, আবেগ-অনুভূতি প্রকাশ করা, তাদের বুদ্ধি বাড়া ইত্যাদি দক্ষতাগুলোকে একই সাথে বাড়াতে সাহায্য করে। এটি ঠিক মজবুত দড়ি বোনার মতো, যা তাদের পুরোপুরিভাবে বেড়ে উঠতে সাহায্য করে এবং পরবর্তীতে শিশুদের সুস্বাস্থ্য ও শেখার সম্ভাবনা বাড়াবে।

জন্ম থেকেই শিখি

জন্মের পর থেকে শিশুদের মস্কিষ্ক (বেন) চারপাশ থেকে তথ্য নিতে শুরু করে। তখন থেকেই শিশুরা বিভিন্ন দক্ষতা যেমন-কথা বলা, আবেগ-অনুভূতি প্রকাশ এসব শিখতে শুরু করে যা তাদের সারা জীবন কাজে লাগে। তার মানে, শিশুরা জন্ম থেকেই শিখে। এ কারণেই মা-বাবার করণীয় হলো- শিশুর জন্মের পর থেকেই, অর্থাৎ স্কুল শুরু করার অনেক আগে থেকেই তাকে বিভিন্ন দক্ষতা শিখতে সাহায্য করা। "শিশুরা জন্ম থেকেই শিখে" এই কথাটি মেনে নিলে, জন্মের পর থেকেই শিশুকে শিখতে সাহায্য করত আমবা আবাে বেশি সচেত্রন হবো।

English Version

Brain Building (মন্তিষ্কের নির্মাণ): From the mother's womb, through a process, the basic architecture of a child's brain begins to form and continues into adulthood. This construction process of the brain can be compared with the construction of a house. When constructing a house, we first lay a strong foundation. This foundation is constructed before building walls and a roof, as well as electrical wiring and water pipes. These activities have to happen correctly, following a right order. Children's brain development process follows a similar path. The early experiences of children's lives and adult support shape how children's brains develop. The stronger the foundation at the beginning of a child's life, the greater the chances of the child's good health and the possibility for learning later on.

Resilience Scale (সহনশীলতার দাঁড়িপাল্লা): Some children grow up with negative experiences or in adverse conditions. If we support children early in their development, it helps them to develop coping skills for various situations later—this is called resilience. We can compare this with a daripalla. (Show a sample daripalla.) Imagine that one side of the daripalla has positive aspects for child development, such as a good environment that motivates children to do well, supportive relationships with parents, etc. On the other side of the daripalla are the negative factors that hamper children's development, such as poverty, abuse, community violence, etc. (Demonstrate using the daripalla.) The goal of every community is to have as many kids as possible tipped toward the positive side. To do this, we can off-load as much weight as possible from the negative side, and we can stack as many factors on the positive side as possible. (First reduce the weights from the negative side, then add them onto the positive side to demonstrate.) We know that if we support children early, it helps them to develop coping skills for various situations later. For this, we need to make sure that we reduce the weight on the negative side and increase the weight on the positive side, which would increase the chance of healthy development and learning for the child later on.

Playing Catch (বল ছোড়াছুড়ি খেলা): A vital ingredient in a child's brain development is the *give-and-take* interactions they have with their parents and other caregivers. You must have seen, when playing catch, one throws the ball and another person returns it. If the ball is not returned, the game stops. Children's give-and-take interactions are a lot like this game of playing catch. When children reach out for interaction with adults through babbling and facial expressions, adults can respond by returning these kinds of noises and gestures. If they do not respond, then just like a game of playing catch, this give-and-take of gestures also stops. This can hamper children's healthy development. On the other hand, if adults respond to children's facial expressions, babbling, and different gestures, it helps them grow up well. This increases the child's chances for healthy development later on.

Toxic Stress (বিষাক্ত মানসিক চাপ): There are three main kinds of stress that children can experience—there's positive stress, tolerable stress, and toxic stress. *Positive stress* is the type of challenges that can actually help children develop—like how the first day of school or meeting new people can make children feel stressed. However, this stress helps the child

adjust to a new environment/situation. *Tolerable stress* comprises things that could damage development but are buffered by having supportive positive relationships—like having strong family support when a loved one dies. And then there is *Toxic Stress*. *Toxic Stress* happens when a child experiences severe and ongoing stress—like extreme poverty, abuse, or violence in the community. *Toxic Stress* affects the way that the brain develops and can lead to lifelong problems in learning, behavior, and both physical and mental health.

Weaving Skills Rope (দড়ি বুনন দক্ষতা): Children develop in many ways after being born. These development skills are: learning to talk, which is known as language development, becoming more intelligent, which is called cognitive development, and learning how to socialize with others, which is known as social development. This learning process of children is a lot like weaving a rope made out of strands of jute. Just as one strand needs to be strongly woven with the others to make a strong rope, the developmental skills of children also make each other stronger. That means, without the development of one, the others will not improve. For this reason, families and learning center environments need to be equally supportive for children to learn to talk, to socialize with others, to be more intelligent, etc., just like a tightly woven rope, that promotes their holistic development.

Learning Begins at Birth (জন্ম থেকেই শিখি): Children's brains start to take in information right from birth. From that very moment, children learn different skills—such as learning to talk, expressing emotions—which they use their whole lives. That means that children learn from birth. For this reason, it is important for parents to support children in learning different skills right from birth, which is long before they start school. If we acknowledge the statement "children learn from birth," we can be more aware of supporting children to start learning at birth.

Appendix B: Value Frames (Quantitative Experiment—Wave 2)

These are the Bangla and English language iterations of the value frames that were tested during the second wave of the quantitative experiment.

Bangla Version

জাতীয় উন্নয়ন

আমরা আমাদের জাতির উন্নতি চাই। দেশের সব মানুষের জীবনের উন্নতি হলেই কেবল জাতির উন্নতি নিশ্চিত হয়। কিন্তু সবার উন্নতির জন্য যতটা করা দরকার আমরা ততটা করছি না। সবার মধ্যে জাতীয় উন্নয়নের বোধ ফিরিয়ে আনতে হলে আমাদের শিশুদের মধ্যে এটি জাগিয়ে তুলতে হবে। এর জন্য আমাদের অবশ্যই জীবনের শুরুর বছরগুলোতে শিশুদের সুষ্ঠুভাবে বেড়ে ওঠা বা বিকাশ নিশ্চিত করতে হবে। শিশুর জন্ম থেকেই যদি আমরা তার সুষ্ঠুভাবে বেড়ে ওঠা বা বিকাশে সহায়তা করতে পারি, তাহলে আগামীতে আমবা বাংলাদেশের উন্নতি নিশ্চিত করতে পারব। সেটাই হবে আমাদের জাতির অন্যতম প্রধান লক্ষ্য।

মানুষের সম্ভাবনা

সব শিশুর মধ্যে অসীম সম্ভাবনা রয়েছে। প্রতিটি শিশুরই তার নিজের এই সম্ভাবনার ক্ষমতা বোঝার সুযোগ পাওয়া উচিত। কিন্তু বর্তমানে আমাদের দেশের অনেক শিশুই এ সুযোগ পাচ্ছে না। ফলে শিশুরা তাদের সম্ভাবনার শক্তি পুরোটা কাজে লাগাতে পারছে না। শিশুদের মধ্যে এই সম্ভাবনার ক্ষমতা বাড়াতে হলে, জীবনের শুরুর বছরগুলোতে শিশুদের সুষ্ঠুভাবে বেড়ে ওঠা বা বিকাশ নিশ্চিত করতে হবে। শিশুর জন্ম থেকেই যদি আমরা তার সুষ্ঠুভাবে বেড়ে ওঠা বা বিকাশে সহায়তা করতে পারি, তাহলে আগামীতে বাংলাদেশের প্রতিটি শিশু তার পূর্ণ সম্ভাবনার শক্তি কাজে লাগাতে পারবে। সেটাই হবে আমাদের জাতির অন্যতম প্রধান লক্ষ্য।

সম্মিলিত দায়িত্ব

আমাদের সমাজে সবাই মিলে করার মতো কিছু দায়িত্ব আছে। শিশুদের সুষ্ঠুভাবে বেড়ে ওঠা বা বিকাশ নিশ্চিত করা তেমনি একটি সম্মিলিত দায়িত্ব। কিন্তু অনেক ক্ষেত্রেই আমরা সম্মিলিতভাবে এই দায়িত্ব পালন করছি না। আমাদের অবশ্যই সম্মিলিতভাবে এই দায়িত্ব পালনের স্প্রা দিয়ে জীবনের শুরুর বছরগুলোতে শিশুদের সুষ্ঠুভাবে বেড়ে ওঠা বা বিকাশ নিশ্চিত করতে হবে। আমরা যদি প্রতিটি শিশুর জন্ম থেকেই তার সুষ্ঠুভাবে বেড়ে ওঠা বা বিকাশে সহায়তা করতে পারি, তাহলে আমরা বাংলাদেশের সকল শিশুর প্রতি আমাদের সম্মিলিত দায়িত্ব পালন করতে সফল হব। সেটাই হবে আমাদের জাতির অন্যতম প্রধান লক্ষ্য।

সবার জন্য সমান সুযোগ

শিশুরা যে পরিস্থিতিতেই জন্মগ্রহণ করুক না কেন, তাদের সবার বিকাশ বা বেড়ে ওঠার সমান সুযোগ পাওয়া উচিত। কিন্তু এখনো অনেক শিশু সুষ্ঠুভাবে বেড়ে ওঠা বা বিকাশের সমান সুযোগ পাচ্ছে না। জীবনের শুরুর বছরগুলোতে শিশুদের সুষ্ঠুভাবে বেড়ে ওঠা বা বিকাশ নিশ্চিত করতে হলে, আমাদের অবশ্যই তাদের সবার সমান সুযোগ পাওয়া নিশ্চিত করতে হবে। আমরা যদি প্রতিটি শিশুর জন্ম থেকেই তার সুষ্ঠুভাবে বেড়ে ওঠা বা বিকাশে সহায়তা করতে পারি, তাহলেই আমরা বাংলাদেশের সব শিশুর সমান সুযোগ নিশ্চিত করতে সফল হব। সেটাই হবে আমাদের জাতির অন্যতম প্রধান লক্ষ্য।

খাপ খাইয়ে নেওয়া

নানান পরিস্থিতি মোকাবেলা করে তার সাথে খাপ-খাইয়ে নিতে পারা ব্যক্তি ও জাতি উভয়ের জন্য প্রয়োজনীয়। কিন্তু আমরা জাতি হিসেবে আমাদের শিশুদের এই খাপ খাইয়ে নেওয়ার দক্ষতা বৃদ্ধির জন্য যথেষ্ট করছি না। শিশুদের মধ্যে খাপ-খাইয়ে নেওয়ার এই ক্ষমতা বাড়াতে হলে, জীবনের শুরুর বছরগুলোতে শিশুদের সুষ্ঠুভাবে বেড়ে ওঠা বা বিকাশ নিশ্চিত করতে হবে। আমরা যদি প্রতিটি শিশুর জন্ম থেকেই তার সুষ্ঠুভাবে বেড়ে ওঠা বা বিকাশে সহায়তা করতে পারি, তাহলেই আমরা এমন একটি জাতি তৈরি করতে পারব, যারা ভবিষ্যত বাংলাদশেকে সব ধরনের পরিস্থিতির সাথে খাপ খাইয়ে নিতে সহায়তা করবে। সেটাই হবে আমাদের জাতির অন্যতম প্রধান লক্ষ্য।

সহমর্মিতা

অপর ব্যক্তির সুখ-দুঃখের অনুভূতিকে তার মতো করে অনুভব করতে পারাই হলো সহমর্মিতা। সহমর্মিতা মানুষের একটি বিশেষ গুণ। আমরা বিশ্বাস করি, জাতি হিসেবে আমাদের সহমর্মি হওয়া গুরুত্বপূর্ণ। কিন্তু শিশুদের মধ্যে এই সহমর্মিতার গুণটি বাড়ানোর জন্য আমরা যথেষ্ট করছি না। শিশুদের মধ্যে এই সহমর্মিতা বাড়াতে হলে, আমাদের উচিত হবে জীবনের শুরুর বছরগুলোতে শিশুদের সুষ্ঠুভাবে বেড়ে ওঠা বা বিকাশ নিশ্চিত করা। আমরা যদি প্রতিটি শিশুর জন্ম থেকেই তার সুষ্ঠুভাবে বেড়ে ওঠা বা বিকাশে সহায়তা করতে পারি, তাহলেই আমরা এমন একটি সহমর্মি জাতি তৈরি করতে পারব, যারা একে অপরের প্রতি যতুশীল হবে এবং পরস্পরকে সহায়তা করবে। সেটাই হবে আমাদের জাতির অন্যতম প্রধান লক্ষ্য।

English Version

National Progress (জাতীয় উন্নয়ন): We want our nation to progress. If there is progress in the lives of all the people, then we can ensure the prosperity of the nation itself. But right now, compared to the amount we should do to attain this, we are not doing enough. To bring back the spirit of national progress in everyone, we must first start with the children and ensure every child's healthy development in the very early years. If we do more as a people to help ensure all children, right from birth, can experience healthy development, we will help ensure that Bangladesh makes great progress and grows in prosperity in the years to come. That is a worthy goal for our nation.

Human Potential (মানুষের সন্তাবনা): All children have great potential within them, and every child should have the opportunity to realize that potential. But right now, too many children in our nation are not given this opportunity, and as a result, they cannot realize their full potential in life. For children to realize their potential, we must ensure every child's healthy development from the very early years. If we do more as a people to help ensure all children, right from birth, can experience healthy development, we will help ensure that every child in Bangladesh can reach and apply their full human potential. That is a worthy goal for our nation.

Shared Responsibility (সম্মিলিত দায়িত্ব): In our society, there are certain shared responsibilities we all must work to uphold. Ensuring children's healthy development is one such shared responsibility. But right now, we are not doing enough to uphold this duty. To maintain our shared responsibilities, we must collaborate and work together for all children's healthy development from the very early years. If we do more as a people to help ensure all children, right from birth, can experience healthy development, we will fulfill our shared responsibility to each and every child in Bangladesh. That is a worthy goal for our nation.

Equal Opportunities for All (সবার জন্য সমান সুযোগ): Every child should get equal opportunities for healthy development. But right now, children in our nation grow up in different circumstances, and too many children don't have opportunities for healthy development. We must ensure that every child receives equal opportunities for healthy development from the very early years. If we do more as a people to help ensure all children, right from birth, can experience

healthy development, we will help create a Bangladesh where there are equal opportunities for every child to do well in life. That is a worthy goal for our nation.

Adaptability (খাপ-খাইয়ে নেওয়া): Being adaptable in the face of different circumstances is essential for both individuals and nations. But right now, we are not doing enough as a nation to build adaptability in our children. To build adaptability in all children, we must ensure their healthy development from the very early years. If we do more as a people to help ensure all children, right from birth, can experience healthy development, we will create a nation of adaptable people who can help Bangladesh respond to the changes and challenges of the future. That is a worthy goal for our nation.

Empathy (সহমর্মিতা): Empathy—the ability to sense and feel another person's emotions—is an essential human characteristic. We believe that, as a nation, empathy is important. But right now, we are not doing enough to build empathy in our children. To build stronger empathy in all children, we need to ensure their healthy development from the very early years. If we do more as a people to help ensure all children, right from birth, can experience healthy development, we will create a nation of empathetic people who can support and care for each other and create a better Bangladesh. That is a worthy goal for our nation.

Appendix C: Measurement Instrument (Quantitative Experiment—Wave 2)

This measurement tool was developed through a multi-step process, beginning with a review of similar tools used in other contexts (notably in the United States and Australia), and refined through piloting with adults from diverse socioeconomic backgrounds in Bangladesh. For Wave 1, three pilot surveys were conducted. Based on those findings, the tool was revised and a 25-item version was developed for Wave 2. The Wave 2 tool included 15 five-point Likert scale items, grouped into four batteries: government efficacy (five items), parental responsibility (two items), government responsibility (three items), and collective efficacy (five items). The remaining items consisted of four measuring salience and six forced-choice (FC) items. The FC items explored themes such as government prioritization of funding for families, perceptions of government efficacy, salience, responsibility, the start of learning, and whole child development.

Bangla Version

আমি এখন একটি একটি করে বিবৃতি/কথাগুলো পড়বো। আপনি শুনে, চিন্তা করে, কার্ড দেখে আপনার মতামত জানাবেন।

ক্রমিক	বিবৃতি/কথা	সম্পূর্ণভাবে দ্বিমত	দ্বিমত	মতামত নেই/ নিরপেক্ষ	একমত	সম্পূর্ণভাবে একমত
5	আমার আস্থা আছে যে সরকার শিশুর বেড়ে ওঠা বা বিকাশের জন্য প্রয়োজনীয় অর্থ-সম্পদ বাড়াবে।	٥	ż	o	8	Q
÷.	আমি মনে করি যে শিশুর বিকাশ বা বেড়ে ওঠা নিশ্চিত করার ক্ষেত্রে সরকার শিক্ষা এবং স্বাস্থ্য সেবায় যতটা করা দরকার ততটাই করবে।	১	ż	O	8	Q
v	আমি বিশ্বাস করি যে সরকার শিশুদের বেড়ে ওঠা বা বিকাশের জন্য নীতিমালা ভালোভাবে বাস্তবায়ন করবে।	5	ż	O	8	Q
4	আমি বিশ্বাস করি যে শিশুর বিকাশ বা বেড়ে ওঠা নিশ্চিত করার ক্ষেত্রে সরকারের যতটা করণীয় ততটাই করবে।	১	ż	Ŋ	8	Q
Ġ.	আমি নিশ্চিত যে সরকার শিশুদের বেড়ে ওঠা বা বিকাশের কার্যক্রমে অর্থ বাড়ানোকে আরো বেশি গুরুত্ব দিবে।	5	ż.	O	8	Q
৬	শিশুর সুষ্ঠুভাবে বেড়ে ওঠা বা বিকাশ নিশ্চিত করা তার মা- বাবা ও পরিবারের দায়িত্ব, এতে সরকারের জড়িত হওয়াটা ঠিক নয়।	১	ż.	O	8	Ğ

ক্রমিক	বিবৃতি/কথা	সম্পূর্ণভাবে দ্বিমত	দ্বিমত	মতামত নেই/ নিরপেক্ষ	একমত	সম্পূর্ণভাবে একমত
q	শিশুর সুষ্ঠুভাবে বেড়ে ওঠা বা বিকাশের জন্য যা কিছু প্রয়োজন তা নিশ্চিত করার সম্পূর্ণ দায়িত্ব তার মা-বাবার, সরকারের নয়।	8	ż	v	8	Q
<mark></mark>	শিশুর সুষ্ঠুভাবে বেড়ে ওঠা বা বিকাশের জন্য মা-বাবার চেয়ে সরকারের দায়িত্ব বেশি।	٥	ż.	O	8	Q
8	শিশুরা সুষ্ঠুভাবে বেড়ে ওঠার জন্য প্রয়োজনীয় সহায়তা না পেলে, আমাদের সরকারই তার জন্য দায়ী হবে।	5	ż.	v	8	Q
50	আমাদের দেশের শিশুরা কীভাবে বেড়ে উঠবে তার দায়ভার শেষ পর্যন্ত সরকারের উপরেই বর্তায়।	٥	÷.	O	8	Q
55	আমার আস্থা আছে যে আমাদের সমাজ ছোট শিশুদের বেড়ে ওঠা বা বিকাশের জন্য প্রয়োজনীয় অর্থ-সম্পদ বাড়াবে।	১	ż	v	8	Q
55	আমি নিশ্চিত নই যে আমাদের (এই) সমাজ শিশুদের বেড়ে ওঠা বা বিকাশের বিভিন্ন কার্যক্রমে অর্থ বাড়ানোকে আরো বেশি গুরুত্ব দিবে।	১	ż.	v	8	Q
১৩	সমাজের সদস্য হিসেবে শিশুদের সুষ্ঠুভাবে বেড়ে ওঠা বা বিকাশে আমাদের বেশি কিছু করার নেই।	٥	২	v	8	Ŷ
58	দেশের সকল শিশুর সুষ্ঠুভাবে বেড়ে ওঠা বা বিকাশে সহায়তা করতে সমাজের সদস্য হিসেবে আমরা সক্ষম নই।	٥	ź	v	8	¢

ক্রমিক	বিবৃতি/কথা	সম্পূর্ণভাবে দ্বিমত	দ্বিমত	মতামত নেই/ নিরপেক্ষ	একমত	সম্পূর্ণভাবে একমত
১৫	আমি বিশ্বাস করি, আমাদের দেশের শিশুদের সুষ্ঠুভাবে বেড়ে ওঠা বা বিকাশ নিশ্চিত করতে সমাজের সদস্য হিসেবে আমরা একত্রে কাজ করতে পারি।	5	ż.	O	8	Q

Salience

গবেষণার এই অংশে এখন আমি আপনাকে ৪টি প্রশ্ন করব এবং প্রতিটি প্রশ্নের পর ৫টি সম্ভাব্য উত্তর বলব। আপনি আমার প্রশ্নগুলো এবং উত্তরগুলো মনোযোগ সহকারে শুনবেন তারপর যেই উত্তরটির সাথে আপনি একমত তা আমাকে বলবেন। উত্তর দেওয়ার ক্ষেত্রে আপনি পাঁচটি উত্তরের মধ্যে যে কোনো একটি বেছে নিতে পারেন। আপনি কি বুঝতে পেরেছেন? [না বুঝলে আবার বুঝিয়ে বলুন।]

ক্রমিক	প্রম	উত্তর কোড	
5	আপনার জীবনে যে বিষয়গুলো	আমি মোটেও গুরুত্ব দেই না	5
	আপনি গুরুত্ব দেন সেগুলোর মধ্যে তুলনামুলক বিচারে শিশুর সুষ্ঠুভাবে	আমি কম গুরুত্ব দেই	২
	বেড়ে ওঠা বা বিকাশের বিষয়টিকে আপনি ব্যক্তিগতভাবে কতটা গুরুত্ব	আমি কিছুটা গুরুত্ব দেই	৩
	দেন?	আমি খুব গুরুত্ব দেই	8
		আমার কাছে এটি সবচেয়ে বেশি গুরুত্বপূর্ণ	Q
٤	শিশুর সুষ্ঠুভাবে বেড়ে ওঠা বা	সম্পূর্ণভাবে দ্বিমত	٥
	বিকাশের বিষয়টি আমাদের দেশে এখনই সবচেয়ে বেশি গুরুত্ব পাওয়া উচিত- আপনি এই কথার সাথে কতটা একমত?	দ্বিমত	২
		মতামত নেই/নিরপেক্ষ	O
		কিছুটা একমত	8
	4,001 44,40.	সম্পূর্ণভাবে একমত	¢
o	আমাদের দেশে শিশুদের সুষ্ঠভাবে	মোটেও না	১
	বেড়ে ওঠা বা বিকাশ নিশ্চিত করতে পরিবারগুলোকে প্রয়োজনীয় সহায়তা করার জন্য সরকারের কতটা মনোযোগ দেওয়া উচিত বলে	সামান্য পরিমাণ	٤
		সামান্য পরিমাণ	O
		প্রয়োজনীয় পরিমাণ	8
	আপনি মনে করেন?	যথেষ্ট পরিমাণ	Q
8	এই মুহূর্তে আমাদের দেশে আমরা	মোটেও গুরুত্বপূর্ণ নয়	٥
	যে সমস্ত সমস্যার মুখোমুখি হচ্ছি	খুবই কম গুরুত্বপূর্ণ	٤
	তার মধ্যে শিশুর সুষ্ঠুভাবে বেড়ে	কিছুটা গুরুত্বপূর্ণ	O
	ওঠা বা বিকাশের বিষয়টি আপনার কাছে কতটা গুরুত্বপূর্ণ?	অত্যন্ত গুরুত্বপূর্ণ	8
	কাঙে কতঢ়া স্তক্তপ্বসূবং	সবচেয়ে বেশি গুরুত্বপূর্ণ	Q

Forced Choice

গবেষণার এই অংশে এখন আমি আপনাকে ৬টি বিষয়ের প্রতিটির উপর দুটি (২) করে বিবৃতি/কথা পড়ে শোনাব। আপনি বিবৃতি/ কথাগুলো মনোযোগ সহকারে শুনবেন। তারপর প্রতিটি বিষয়ের দুটি বিবৃতি/কথার মধ্যে যেটির সঙ্গে আপনি একমত হবেন তা আমাকে বলবেন। নিচের কোন বিবৃতি/কথার সাথে আপনি একমত?

ক্রমিক	বিবৃতি/কথা	উত্তর/কোড
১	শিশুদের শেখায় সহায়তা করতে সরকারের আরো অর্থ ব্যয় করা উচিত, বিশেষ করে তিন বছর বয়স পর্যন্ত শিশুদের জন্য। অথবা	δ
	শিশুদের শেখায় সহায়তা করতে সরকারের আরো অর্থ ব্যয় করা উচিত, বিশেষ করে স্কুল বয়সী শিশুদের জন্য।	ż
Į.	আমি বিশ্বাস করি যে আমাদের সরকার শিশুদের বেড়ে ওঠা বা বিকাশ কার্যক্রমে আরো অর্থ বাড়াবে। অথবা	δ
	আমি বিশ্বাস করি না যে আমাদের সরকার শিশুদের বেড়ে ওঠা বা বিকাশ কার্যক্রমে আরো অর্থ বাড়াবে।	ż
O	শিশুর সুষ্ঠুভাবে বেড়ে ওঠা বা বিকাশ নিশ্চিত করা এই সময়ের (এখন/বর্তমানে) সবচেয়ে গুরুত্বপূর্ণ বিষয়। অথবা	১
	শিশুর সুষ্ঠূভাবে বেড়ে ওঠা বা বিকাশের চেয়েও বাংলাদেশে এখন মনোযোগ দেওয়ার মতো অনেক গুরুত্বপূর্ণ বিষয় রয়েছে।	Ż.
8	বাংলাদেশে শিশুদের সুষ্ঠূভাবে বেড়ে ওঠা বা বিকাশ নিশ্চিত করার প্রথামিক দায়িত্ব সরারের। অথবা	১
	বাংলাদেশে শিশুদের সুষ্ঠূভাবে বেড়ে ওঠা বা বিকাশ নিশ্চিত করার প্রাথমিক দায়িত্ব তাদের মা-বাবার।	Į.
Q	জন্মগ্রহণ করার মুহূর্ত থেকেই শিশুরা শিখতে শুরু করে। অথবা	5
	স্কুল শুরু না করা পর্যন্ত শিশুরা শিখতে শুরু করে না।	Ş
৬	মেলামেশা, আবেগ প্রকাশ এবং বুদ্ধি বাড়ার দক্ষতাগুলো একসঙ্গে শেখার সুযোগ পেলে শিশুরা সবচেয়ে ভালোভাবে বেড়ে ওঠে। অথবা	১
	বুদ্ধি বাড়ার দক্ষতার দিকে মনোযোগ দিলেই কেবল শিশুরা সবচেয়ে ভালোভাবে বেড়ে ওঠে।	ş

English Version

How much do you support or oppose the following statements?

5-point Likert Scale

		5-point likert Scale				
Serial No.	Statement	Fully Disagree	Disagree	Neutral	Agree	Fully Agree
	Government Efficacy					
1.	I am confident that our government will increase necessary investments in early childhood development.	1	2	3	4	5
2.	I think our government will contribute as much as it should to ensure young children's learning and health services.	1	2	3	4	5
3.	I believe that our government will properly implement policies for children's healthy development.	1	2	3	4	5
4.	I believe that the government will do as much as they are required to ensure young children's healthy development.	1	2	3	4	5
5.	I am confident that our government will prioritize funding for early childhood development programs.	1	2	3	4	5
	Parental Responsibility					
6.	Healthy child development is a matter for parents and families; it is inappropriate for the government to get involved.	1	2	3	4	5
7.	Parents—not the government—are responsible for providing what their children need to develop well.	1	2	3	4	5
	Government Responsibility					
8.	The government is more responsible for healthy child development than parents are.	1	2	3	4	5
9.	If children don't have support to develop well, our government is mostly to blame.	1	2	3	4	5
10.	The government is ultimately responsible for how children in Bangladesh develop.	1	2	3	4	5

		5-point Likert Scale				
Serial No.	Statement	Fully Disagree	Disagree	Neutral	Agree	Fully Agree
	Collective Efficacy					
11.	I am confident that our society will make necessary investments in early childhood development.	1	2	3	4	5
12.	I am not confident that our society will prioritize funding for early childhood development programs.	1	2	3	4	5
13.	There is not much that we, as a society, can do to help all young children develop well.	1	2	3	4	5
14.	As a society, we are not capable of helping all young children of Bangladesh develop well.	1	2	3	4	5
15.	As a society, I believe we can work together to help all young children in Bangladesh develop well.	1	2	3	4	5

Salience

Now, at this part of the study, I will ask you four questions and tell you five possible answers after each question. You will listen attentively to my questions and answers, and then tell me the answer you agree with. When providing your answer, you may choose one answer out of five. Do you understand? (If the respondent doesn't understand, please explain again.)

Serial Number	Question	Response/Code	
1.	Compared to all the things you care about in your life, how much do you personally care about the issue of	I don't care at all	1
	healthy child development?	I care a little	2
		I care quite a bit	3
		I care very much	4
		It is the most important thing to me personally	5

Serial Number	Question	Response/Code	
2.	How much do you agree that healthy child development should be an urgent priority in	Strongly disagree	1
	Bangladesh?	Disagree	2
		Neither agree or disagree	3
		Somewhat agree	4
		Strongly agree	5
3.	How much attention do you think the government should devote to ensuring that all families in	None at all	1
	Bangladesh have what they need for their children to develop well?	A little	2
		Some	3
		A considerable amount	4
		A substantial amount	5
4.	Of all the issues facing us in Bangladesh right now, how important to you is the issue of early childhood	Not at all important	1
	development?	A little important	2
		Somewhat important	3
		Very important	4
		I believe it is the most important thing	5

Forced Choice

In this part of the study, I will now read you two statements on each of the six topics. You will listen to the statements attentively. Then tell me which of the two statements on each topic you agree with. Which of the following statements do you agree with?

Serial Number	Statement	Response/ Code
1.	Government Prioritizing Funding for Families	
	a) The government should spend more money to support learning for children, but mostly for children aged 0–3.	1
	b) The government should spend more money to support learning for children, but mostly for school-aged children.	2
2.	Government Efficacy	
	a) I believe that our government will invest more money in early childhood development programs.	1
	b) I <i>do not</i> believe that our government will invest more money in early childhood development programs.	2
3.	Salience	
	a) Right now, ensuring healthy child development is the most important issue in Bangladesh.	1
	b) Right now, Bangladesh has more important issues to address than healthy child development.	2
4.	Responsibility	
	a) The government is primarily responsible for ensuring healthy child development in Bangladesh.	1
	b) Parents are primarily responsible for ensuring healthy child development in Bangladesh.	2
5.	Start of Learning	
	a) Children start learning from the moment they are born.	1
	b) Children don't begin learning until they start school.	2
6.	Whole Child Development	
	a) Children develop best when they have opportunities to build social, emotional, and cognitive skills together.	1
	b) Children develop best when they focus on learning cognitive skills only.	2

Part 2: Detailed Findings

This section of the supplement presents detailed findings from three methods: on-the-street (OTS) interviews, the quantitative experiment, and peer discourse sessions (PDS). The findings are organized into three appendices. Appendix A reports findings from research on the metaphors and phrase, drawing on OTS and PDS data. Appendix B covers findings on value frames, based on the quantitative experiment and PDS. Appendix C presents findings from the second wave of the quantitative experiment, specifically tables showing regression analyses across the tested values.

Appendix A: Metaphor Findings

The phrase and the metaphors were used to explore how these can reset people's thinking around early learning. The analysis was conducted in line with questions such as why the metaphors and the phrase work, how the metaphors and the phrase work, and how the communicators can effectively use the metaphors and the phrase. For each metaphor and the phrase analysis, data from 12 OTS interviews and two PDS were used to describe how the public constructed meanings and used the metaphor in their communications.

Brain Building (মস্তিষ্কের নির্মাণ)

Contextualizing the Metaphor

The term *Brain Architecture* (*Mastishker Sthapattya*) was initially rephrased as *Brain Formation* (*Mastishker Gathan*) but after conducting OTS, it was changed to *Brain Building* (*Mastishker Nirman*) to make it easier for the general public to understand. In both OTS interviews and PDS, participants' responses showed that the metaphor was effective across contexts—urban, rural, and even remote rural areas. Informants from a wide range of geographical locations, socioeconomic backgrounds, and education levels easily used the phrase *Brain Building* in their responses and discussions, suggesting that the term successfully helped people grasp the core idea behind the metaphor.

How the Metaphor Worked

Before being introduced to the metaphor, informants' views on brain development were shaped by their implicit assumptions and patterns of thought, values, and practices. OTS findings showed a strong religious understanding of brain creation, alongside an *aging-up* model that linked development mainly to school education, nutrition, and immunization. A mimetic model also appeared, with participants emphasizing that children imitate older people, suggesting development unfolds naturally with little adult intervention. Family was widely seen as the primary institution shaping child development. At the same time, OTS responses revealed gaps in understanding. Many informants hesitated or said "I don't know" when asked about the brain, while a few described it narrowly as storing information or controlling the body. Missing from their thinking was the idea that the brain is actively built from birth through early experiences and stimulation and that the first months and years lay a critical foundation. This indicates a limited awareness of the role of environments and early interactions in brain development.

Conceptualization of early brain development: In both OTS interviews and PDS, exposure to the metaphor gave participants the confidence to speak and helped reshape their thinking. They reflected on core ideas such as the critical period for brain development starting in the womb, continuing through early childhood, and building step-by-step from the ground up. As some explained: "From the mother's womb the process starts and continues till the later stage"; "This is an ongoing process"; "The nine months in the mother's womb are the base; next, the first three years [...] are important for full-fledged development." Participants also connected brain development to house building, which showed a clear shift in their understanding. They stressed the need for a strong foundation and a gradual process, noting: "This can be compared with brain building"; "We first lay the foundation of a house"; "If the foundation is strong, a five- or 10-storied building can be developed. Children's brains are like this"; "We work serially to build a house; [...] a child's brain also builds following a step-by-step process."

Early experiences are the key: Informants showed a notable shift in thinking—from focusing mainly on school education to recognizing the critical role of early experiences and upbringing in brain development, particularly during the first three years of life. Their reflections can be summarized in several themes:

- An infant's brain: Many emphasized that brain development is "a process that starts from the mother's womb" and that newborns' brains are already prepared for certain types of experiences, such as being tuned to language. As one explained, "A relationship exists between family talk and newborns' brain development."
- Supportive relationships and enriching interactions: Informants highlighted the importance of
 positive early interactions—stimulation, scaffolding, and responsive caregiving—as key to brain
 development.
- Early stimulation and back-and-forth interaction: They described the role of reciprocal exchanges, such as emotional responsiveness, where children are active agents shaping their experiences and learning. For example, "Being happy in response to a song may elicit more songs from caregivers," which in turn supports language and brain development.
- Scaffolding in adult–child interactions: Informants described practices such as "interaction with infants using eyes and gesture"; "singing songs"; "saying rhymes or poetry"; "telling stories"; "reading fairytales"; "showing picture books"; "playing with toys"; and "drawing or creating something through play." These activities, they explained, help build the brain step-by-step.
- Adult roles in creating supportive environments: Informants emphasized the need for loving, safe, and engaging environments. They stressed practices such as "introducing toys"; "encouraging learning through play"; "encouraging learning by doing"; "spending time to understand a child's mind"; "keeping them spontaneous"; "talking with a smiley face"; "listening to them"; and "keeping an eye on the child's brain development." These adult supports, they believed, ensure that "the experiences of the child at the beginning of the child's life would be good."

- Consequences of deprivation: Informants recognized that deprivation of early experiences harms later development. They noted the importance of reducing children's stress and supporting women's emotional wellbeing during pregnancy to foster healthy brain growth without "errors" or delays.
- The brain's organization: Some explained that brain development involves multiple domains—cognitive, emotional, and social—all shaped by early experience. They stressed the need to "encourage children to learn by interacting with human beings" and "understand a child's inner feelings and fears."
- Timing and sensitivity to experience: Informants frequently stated, "The first three years are crucial ..." acknowledging that the brain is most sensitive to experience in early life. Their views align with scientific findings that over a million new neural connections form every second during this period.
- The brain as central to development: While some references to older children and family persisted, informants increasingly viewed the brain as the foundation for learning, wellbeing, and even national progress.
- A spike of new ideas and communicability: Informants generated new ways of explaining the metaphor, using sayings like "It has to be strong at the base. If the foundation is strong, everything else will be strong" and "We can get a well-shaped bamboo basket (*Basher Khachi*) when it is shaped well from the beginning." Their reflections show that the metaphor not only reshaped individual understanding but also spread across groups, demonstrating its *stickiness* and cultural transmissibility.
- Implications for programs and advocacy: In PDS, informants strongly advocated for model programs, caregiver capacity building, and institutional support. They cited roles for parents, childcare centers, schools, nongovernmental organizations like BRAC, researchers, and the government in advancing brain-building initiatives.

In sum, informants' discourse revealed a pragmatic shift from an aging-up cultural model to an *early is key* perspective. Their reflections showed deeper insight into how the brain builds from the bottom up, why strong foundations matter, and how supportive early experiences shape lifelong learning and wellbeing. The recurrence and spread of the metaphor across discussions confirmed its power as a tool for communicating these core ideas.

How Communicators Can Use the Metaphor

The research proposes that communicators can use the metaphor to emphasize the early months and years of children's lives for neurological development and to draw attention to the importance of both the home and the broader environment that surround a child.

Weaving Skills Rope (দড়ি বুনন দক্ষতা)

Contextualizing the Metaphor

The *Weaving Skills Rope* metaphor was an easy concept to grasp for most participants who have taken part in the OTS interviews and PDS. The concept of braiding or weaving multiple strands together to create a strong, sturdy length of rope was one familiar to all participants. Consequently, because the metaphor was already contextualized for Bangladesh, it was easy to apply during OTS interviews and PDS.

How the Metaphor Worked

Communicability of skills developing together: In OTS interviews, some participants quickly grasped the metaphor and identified its core idea—that early developmental skills grow together. Several linked the interwoven nature of these skills to the strands of a rope. Participants emphasized that all three skills are equally important for children's development and learning, often using the rope image to illustrate their point. For example, one participant explained: "If one strand is weak or small, then the others will also unravel and won't be strong. It is the same here; all three have the same level of importance." In PDS, participants expanded on this understanding, describing how developmental skills are interconnected and equally necessary. Building on the metaphor, they explained that each skill or *strand* must be strong to form a well-rounded individual.

Expanding the metaphor and connecting participants' experiences regarding developmental skills: In PDS, it was observed the participants had a strong understanding of the interwoven metaphor and were able to describe the concept in a well thought out and concise manner. When describing the metaphor to the other team, some of the discussants brought their personal experiences to describe how a child's developmental core is strengthened by making each developmental strand durable, just like the individual fibers of a rope.

Linking child development to *National Progress* through the use of the metaphor was also highlighted in PDS. According to one participant, much like how individual jute fibers have to be soaked and dried first to create a strong rope, different factors that affect children's developmental skills also need to be nurtured (provide proper support and care, etc.). It was interesting to note that some participants mentioned that while parents are undoubtedly integral to children's development, they are not the only ones responsible, thus shifting the responsibility on communities, early learning centers, and so on.

Prompting discussions centering on early developmental skills: In a few cases of the OTS interviews, participants did discuss issues of socialization, language, manners, etiquette, cognition, the education level of families, the environment of the child, etc., and how children should be provided with opportunities for growth, development, and support when needed. For instance, one participant expressed, "When children have that capacity to learn and absorb quickly, we should provide learning opportunities to them. Just like a rope, when we weave a rope, at the end we have to join the strands. Similarly, when a child is struggling, we have to

mend and support that area so that they have the capacity to learn." Therefore, it may be stated that the metaphor did have some effect in helping participants think about the activities that constitute the three developmental skills, even if they were unable to state the names of the skills or connect the nature of early developmental skills with that of a rope.

Limitations and opportunities regarding the metaphor: In some cases, particularly in OTS interviews, there was not much success in getting most people to step out of their existing thinking pattern, and a few of them found the concept of the metaphor difficult to explain. These circumstances led to the metaphor being hijacked at times, where participants reverted back to talking about older children (aging up); the role of families, particularly mothers, in regard to child care; how real learning begins at school for children; and the environmental factors a child is brought up in. These unproductive understandings were noticed in both PDS and OTS interviews.

Although most participants in both OTS interviews and PDS did not mention the usefulness of the rope directly, many of them mentioned how important it is to make a rope strong and durable (mentioned above); this was used as a comparison to how everyone should also ensure that children's development is made strong and durable. The *object* of the rope was less sticky than the *action* of weaving. People used the weaving concept to describe different issues such as philosophies, family, morality, developing a child's environment, etc. In the OTS interviews, in particular, it was noticed that the concept of weaving was stickier than the object of the rope. For instance, one participant used weaving strands and fibers together to discuss different concepts such as the cycle of life, child care, literacy, etc. The process of making a rope and its application toward durability and strength allowed participants to articulate the importance of children's development not working separately but being *woven* together.

During PDS, it was highlighted by one of the participants that while the metaphor was a good one, it focused on only three areas of child development, overlooking physical development as such, which is also a key developmental domain that cannot be ignored. However, the metaphor is durable and multipurpose; it can be expanded to include *weaving* a diverse group of developmental skills for children and not just three.

Additionally, concepts around children's developmental domains and skills are not so easily identifiable for non-ECD professionals, so providing them with examples as well as time to form their thoughts will prove to be helpful. When participants were provided with a few examples, they were better able to identify and explain the concept with greater clarity.

How Communicators Can Use the Metaphor

The metaphor holds a lot of potential for application in Bangladesh in the following ways-

Training and capacity building: Using the familiar concept of weaving a rope to describe different components of child development, the metaphor can be incorporated in training manuals and curricula to describe the process of developmental skills building in sync for facilitators, trainers, etc. When working with parents and caregivers, an actual rope can also be used to showcase the importance of early developmental skills. This will help parents and caregivers understand the concept more easily.

ECD communications materials for non-government and government organizations: There is diversity in the application of the metaphor, and it communicates the synchronization of skills easily. Consequently, it is recommended to use the metaphor as a communications tool for different organizations when they are describing early developmental skills, the different activities that help build the skills, and how together they create the holistic child. Further, the metaphor can also be used by different organizations to highlight the important role families, communities, and early learning centers have on children's early skills development, thus moving beyond parents and focusing on a more holistic approach.

Advocacy for change on social and policy levels: The metaphor is communicable and relatively easy and can help draw from real-life experiences of people for communications and discussion. The metaphor provided opportunities for discussion in both OTS interviews and PDS, where participants discussed how, alongside parents, the responsibility of nurturing children's early developmental skills also lies with the community, early learning centers, government, etc. Therefore, in alignment with the national Early Childhood Care and Development (ECCD) policy of Bangladesh, the metaphor can be used to advocate for the need to ensure that children's developmental skills across all tiers are equally nurtured.

The Weaving Skills Rope metaphor is advantageous because it connects children's skills development to the weaving of a rope, and both the object as well as the concept are familiar to most people in Bangladesh. Therefore, it can be used with relative ease when working on a grassroots level with implementers, trainers, and parents, as well as when building a scope to use the metaphor further as communications materials for other organizations. The metaphor can further advocate the importance of nurturing children's developmental skills and the importance of supporting not just parents but also families, early learning centers, and the community—the web that surrounds a child—at a national policy level. However, care must be taken to ensure that the different skills are well framed and conceptualized for participants to understand. Additionally, in Bangladesh, application of the metaphor in PDS or group discussions offers a more nuanced perspective in the understanding and application of the metaphor in different contexts, when compared to the OTS interviews.

Playing Catch (বল ছোড়াছুড়ি খেলা)

Contextualizing the Metaphor

The metaphor was first developed in the United States around the idea of *Serve and Return*, inspired by the back-and-forth of tennis. It describes how, when children babble, laugh, or play (*serve*), adults ideally respond by interacting playfully in return. In Bangladesh, however, tennis is not widely known, especially in rural and low-income communities. To adapt the concept, alternatives in Bangla, such as *Dewa Newa* (*Give and Take*) and *Adan Prodan* (*Give and Receive*) were considered. But during piloting, some participants interpreted these phrases literally, focusing on giving objects (toys, books, animal sets) rather than responding to children's expressions or gestures. After further exploration, the metaphor of *Playing Catch* (*Ball Chhorachhuri Khela*) was adopted. Playing catch with a ball is a familiar childhood

activity in Bangladesh, and it naturally illustrates the idea: A child's expression is like tossing a ball to an adult. The game continues only if the adult catches and throws it back—mirroring how responsive interactions sustain a child's expressiveness, skill development, and learning.

How the Metaphor Worked

The *Playing Catch* metaphor encouraged participants to think about children's expressions, desires, signals, and gestures, as well as how adults should respond to them. Like a game of catch, early brain development depends on this back-and-forth interaction. OTS findings showed that the metaphor became more powerful as participants talked about it, often linking it directly to child development in their conversations—something reflected in the coding and analysis of the footage. However, the OTS interviews also indicated that the Bangla version of *Serve and Return* needed clearer explanation to prevent overly broad interpretations. Recommendations from the OTS interviews called for refinement. In the PDS, the refined *Playing Catch* metaphor conveyed a stronger understanding: If one side *gives*, the other must *return*, reinforcing the essence of responsive interaction.

In PDS, participants used the metaphor and expanded it with the give-and-take game, while most of them understood the metaphor and linked this to the interaction (*Bhaber Binimay*) that they do with their children. Their description of the alignment of children's holistic development and interaction indicated a clear understanding of the idea that the exchange of thoughts starts taking place at the very beginning, when a child is born. After the discussion and presentation of the metaphor in PDS, participants connected this concept with a game, many of them having stated that a child will play as long as the parents will play with the child. It's all about an exchange. They simplified this as an interaction and response from the parents and caregivers to the children's expression. It means that the participants have effectively related the metaphor to child development.

How Communicators Can Use the Metaphor

The metaphor can be used to clearly connect everyday interaction to child development. Communicators can draw on it to highlight the importance of environments that support back-and-forth exchanges between children and adults from the earliest stages of life. By emphasizing reciprocal interactions, the metaphor helps explain how a child's brain, developmental skills, and secure attachments are built. It also has strong implications for policy—guiding the design of quality ECD programs, age-appropriate curricula, and broader understanding of the value of responsive interactions.

Resilience Scale (সহনশীলতার দাঁড়িপালা)

Contextualizing the Metaphor

The *Resilience Scale* metaphor, conceptualized and visually presented as a *daripalla* (traditional weighing scale in Bangladesh), offers a highly effective and culturally resonant way to communicate the concept of child resilience in Bangladesh, where resilience remains a topic

usually unexplored. This metaphor works by illustrating how positive factors can outweigh negative influences in a child's development, fostering their ability to thrive despite adverse conditions.

The *daripalla* is a familiar and tangible object in Bangladeshi culture, serving as an effective tool to explain the concept of balance of both negative and positive factors in a child's life. This pre-existing mental model is successful even without the physical tool, as we have learned from our PDS findings where just a written description served as prompt enough to influence participants' understanding.

This metaphor demonstrates significant promise as a communications tool for promoting understanding of child wellbeing, due to several key strengths:

How the Metaphor Worked

The metaphor works by leveraging the visual and conceptual simplicity of a traditional weighing scale to represent the dynamic interplay between adverse experiences and protective factors in a child's life.

Visual analogy: The *daripalla* serves as a direct visual demonstration, allowing participants to observe physically how factors placed on one side can outweigh those on the other. This visual representation makes the abstract concept of balancing influences easy to understand. Even without the physical tool, the idea of a *daripalla* proved to be an equally powerful method to help people conceptualize *negative* and *positive* and their comparative weight.

Shifts thinking about early development: Initially, participants' understanding of child development was often rooted in traditional views, with a strong focus on nutrition and family as the key factors in a young child's life. Post-exposure to the metaphor, discussions broadened to encompass the critical roles of factors like environmental and societal influences, moving toward a broader consideration of child development.

Empowers parents, caregivers, and communities: The metaphor illustrates the simple but influential role adults can play in shaping children's development. By showing how positive factors can outweigh negative ones, it empowers participants to become active problem-solvers rather than feeling helpless in shaping the way children in adverse conditions can foster development through resilience as well.

Uniting the child's ecosystem: The metaphor in its simplicity introduces a unified approach to child wellbeing, moving beyond individualistic responsibility in a *Family Bubble* to a more holistic understanding of interconnected factors among the child's family, community, and society, as well as the role they play in nurturing resilience in children.

Easy comprehension of positive and negative: The metaphor states that by increasing positive factors (e.g., nurturing environments, positive caregiver relationships, stimulating experiences) and outweighing negative ones (e.g., poverty, abuse, communal violence), adults can actively contribute to a child's development of resilience, despite the presence of negative factors.

Balance and adaptation: The *Resilience Scale* metaphor visually conveys this idea of balance and the ability to bounce back or adjust in any situation, despite adversities, with proper support.

How Communicators Can Use the Metaphor

To maximize the metaphor's use in fostering a better understanding of resilience for children, several refinements and strategies can be used:

Clarifying the meaning of resilience: The tool would require not just the definition of resilience but maybe a discursive peer method, such as group discussions, to explicitly differentiate *resilience* from commonly confused concepts like *patience* or *tolerance*. Further review could clarify participants' misinterpretation of *good* and *bad* as moral qualities. An additional statement that states this exclusively could ensure a clearer understanding that these refer instead to positive and negative influences impacting child development.

Reinforcing learning with active participation: Incorporating active learning techniques, such as having participants visually explain the concept using the *daripalla* themselves after exposure, would be a good way to reinforce the concept to participants as well as clarify any misconceptions they might have.

Contextualizing language rooted in cultural sensitivity: Refining the language to be more colloquial, conversational, and culturally accessible, especially for rural areas with diverse dialects, would help increase the participants' understanding. This might include using local proverbs in the explanation of both *resilience* and *negative and positive factors*.

Contextualizing for ECD: Refining the text to keep on iterating the application of resilience to children in their early years could address the tendency for aging up among participants, where they tend to talk about older children. This could be providing more specific developmental or adverse factors explicitly applicable for specific age groups (e.g., infants or maybe 3- to 5-year-old preschoolers) that would help draw participants attention to the earlier years.

Further community research required: Because the *Resilience Scale* metaphor requires a basic understanding of resilience—and resilience is still a relatively unfamiliar concept for many people in Bangladesh—focus groups, community workshops, and other participatory discussions are recommended to build deeper understanding. This seems a more effective method than individual, impromptu interviews that are not common occurrences both in the urban and rural areas of Bangladesh.

The *Resilience Scale* metaphor can serve as a powerful tool for advocacy or awareness campaigns, community interventions, or academia to foster a deeper understanding of developing resilience in children despite adverse conditions, therefore empowering adults to effectively support healthy development of the nation's future.

Toxic Stress (বিষাক্ত মানসিক চাপ)

Contextualizing the Metaphor

The *Toxic Stress* metaphor was introduced to see if it shifted understanding of stress. It highlighted three types—positive, tolerable, and toxic—showing that some stress can benefit children, while toxic stress is harmful and should be prevented. To ensure accessibility, the team consulted BRAC IED para-counselors with experience in marginalized communities, as well as a global psychologist to verify terminology. The closest Bengali adaptation was *bishakta manashik chap (toxic mental burden)*.

How the Metaphor Worked

Participants quickly connected *Toxic Stress* to real-life experiences, such as neglect by a stepmother or family conflict. The word *toxic* resonated strongly, evoking analogies like "the venom of a snake," which underscored its destructive and long-term effects. In PDS, one participant added the metaphor of a "stone on the back," vividly describing the invisible weight of stress.

The metaphor effectively communicated the lasting impact of toxic stress on child development, including brain growth—an insight new to many in OTS interviews. Participants identified key sources of toxic stress at home (parental conflict, financial crises, abuse) and school (harassment by teachers or peers). They also recognized adults' protective role: By being attentive, modeling positive behavior, and showing love and care, adults can help shield children from absorbing stress around them.

A central challenge: Introducing the three-part model of positive, tolerable, and toxic stress created confusion. The Bengali word for stress, *manashik chap*, translates more as *mental burden* or *pressure* and carries a negative connotation, making it hard for people to see stress as potentially beneficial. Many participants struggled to recall or differentiate between the three categories. Lengthy explanations further limited recall, with most defaulting to the familiar negative aspects of stress.

How Communicators Can Use the Metaphor

- Focus on *Toxic Stress*: Prioritize the concept of toxic stress, rather than introducing all three types at once. Since *stress* itself is not a common topic in Bangladeshi conversation and the word *chap* evokes burden, participants tended to focus on the harmful aspects. Shortened explanations of *Toxic Stress* proved just as effective in PDS.
- Separate metaphors for each type: If all three types must be introduced, each (especially positive and tolerable stress, which are unfamiliar concepts) should be explained using its own metaphor.
- Original Bangla tool in a colloquial tone: Instead of translating from English, tools should be developed directly in Bangla with an informal style. Initial hesitation with a formal tool improved once language was made more conversational.
- Peer discussions over interviews: The metaphor works best in group discussions, where confusion about *stress* and its categories can be clarified interactively.

More Research Is Needed

Findings suggest further work is needed to explore how to frame stress—particularly positive and tolerable stress—for Bangladeshi audiences. Because stress is rarely discussed and usually viewed as harmful, conveying its potential benefits was difficult. Participants often emphasized family as the main source of stress, pointing to a need for research on how to widen understanding to include broader community-level factors such as poverty, violence, and abuse. Even so, the metaphor shows promise in shifting perspectives toward recognizing the long-term harmful effects of stress on children.

Findings: The Phrase Learning Begins at Birth (জন্ম থেকেই শিখি)

Contextualizing the Phrase

The FrameWorks Institute developed and tested the phrase that children are *Born to Learn* during research in Kenya. This simple yet powerful phrase highlighted the innate capacity of children to learn and emphasized that learning starts from birth. Building on this concept, a similar phrase was tested in Bangla, জন্ম থেকেই শিখি, which is best translated as *Learning Begins at Birth*.

How the Phrase Worked

The responses from participants in both the OTS interviews and PDS highlight a dominant default cultural model of aging up in their perceptions of children's learning. When asked about when learning begins, participants provided a wide range of ages from birth to around 7 years old. They often linked the start of learning to milestones such as talking and walking. When discussing the key skills children develop in their early years, physical and language skills were frequently mentioned. Additionally, there was a notable emphasis on moral learning, with participants viewing the early years as a critical time for instilling values, such as honesty and respect, which they believed shapes future behavior. Most of the participants identified the school years as the most important period for learning. Many participants also expressed the belief that real or meaningful learning primarily happens in schools.

After being introduced to the phrase *Learning Begins at Birth*, participants across both OTS interviews and PDS demonstrated a general understanding of the concept, showing positive engagement with the idea. Their reflections revealed varying levels of comprehension, communicability, and some challenges in generativity and interpretation. Most of the participants in OTS interviews and PDS broadly agreed that children's learning process starts immediately after birth. Participants talked about what children learn at an early age, such as learning language or mastering motor skills (like sitting, crawling, walking). It can be said that the phrase *Learning Begins at Birth* helped them shift their focus to the skills that develop during the early months and years of a child's life. Some of the participants during PDS talked about brain development between ages 0 and 5. They also emphasized the importance of a child's immediate environment, noting that a child's brain begins functioning right after birth, actively receiving information from the surroundings. It reflects that though the phrase itself does not explicitly mention the environment, it implicitly triggers attention to context.

Only, the phrase *Learning Begins at Birth* is not enough to keep people's focus on children's learning in the earliest years of their life. Participants grasped the surface meaning but struggled to generate diverse examples rooted in the immediate postnatal stage. They were more comfortable linking learning with observable behaviors related to a slightly older-aged child. It would be helpful to include examples of skills that children begin to learn right after birth and how these skills gradually develop over time.

How Communicators Can Use the Phrase

Findings of this research indicate that the phrase *Learning Begins at Birth* can help communicators address/challenge the aging-up model of participants' thinking. It would be helpful if communicators include examples of skills that children begin to learn right after birth and how these skills gradually develop over time. This can redirect participants' thinking toward an aging down model, encouraging them to consider the importance of informal early learning. By communicating that children start learning from birth, communicators can emphasize the quality of caregiving and the environment surrounding the child in the early months and years. This phrase can also be used to position early learning centers, such as child care or daycare centers, as extensions and continuations of the important learning that take place since day one of a child's life.

Appendix B: Value Findings

This section presents the findings related to the six value frames, which were tested using two methods: peer discourse sessions (PDS) and a quantitative experiment. The aim was to see the potential for each value frame to enhance people's understanding of and support for early childhood development (ECD). In preparing this section, an attempt was made to identify the commonalities in findings across both methods. However, both common and parallel findings are presented. Tables containing the findings from the quantitative experiment are provided in Appendix C.

National Progress (জাতীয় উন্নয়ন)

National Progress is a common desire among citizens. The government sets goals, targets, and policies and launches programs to advance the country. However, not all nations achieve progress in accordance with their citizens' expectations. The concept of National Progress, as a value frame, was used in PDS and tested in the quantitative experiment to examine how the participants perceive the link between ECD and National Progress—in other words, how they view ECD as a means for national development and prosperity. In PDS, participants emphasized that National Progress naturally includes other values as well. This promotes human potential, fosters shared responsibility, guarantees equal opportunities, and nurtures empathy and adaptability. These would all, in turn, help children contribute to their families, communities, and ultimately the progress of the nation.

Participants in the quantitative experiment who received the *National Progress* frame intervention were significantly more likely to agree with the government efficacy measure (p < 0.05; Table 1) compared to those in the control group. They also expressed stronger disagreement with the idea that healthy child development is solely a parental responsibility, affirming the appropriateness of government involvement (p < 0.01; Table 2). In relation to collective efficacy, participants showed high confidence in society's ability to invest in ECD (p < 0.001; Table 3) and strongly rejected the notion that society cannot help all young children in Bangladesh develop well (p < 0.01; Table 5). Finally, they expressed strong agreement that child development should be treated as an urgent national priority (p < 0.05; Table 7).

In line with the above, in PDS, *National Progress*, as a value frame, evoked the use of new metaphors to express support for the country's development. For instance, in some discussions, the metaphor *education is the backbone of the nation* was effectively extended to government interventions for early childhood opportunities, positioning it as the starting point of national progress. The phrase *today's children are the future of the nation* was cited by the PDS participants, reinforcing the urgency of investing in early years. Additionally, participants linked this positive early years' experience to broader educational and national outcomes, suggesting that children who get early learning experiences are more likely to succeed in later stages of education and become capable contributors to national progress.

In summary, the findings from PDS and the experiment indicate that research participants embrace the *National Progress* frame element and can connect the concept with ECD and the nation's prosperity. They believe in collective action for ECD, with a significant role for the government of Bangladesh in fostering the country's progress. They trust the government's past contributions and anticipate further investments to ensure essential services for children at their earliest ages.

Human Potential (মানুষের সম্ভাবনা)

Although the PDS participants discussed this value frame in relation to ECD, they also brought education as an essential component for the realization of human potential. To fulfill *Human Potential*, they also emphasized ensuring *Shared Responsibility*. In their words, "*Human Potential* is a kind of value which needs to be reinforced/supported by the *Shared Responsibility* value." Some of their conversations also revolved around *Equal Opportunities for All*—another value frame.

Their emphasis on "If we can involve children in education from a very early age, that would help them" directly links pre-primary education to the nurturing and development of children's inherent capabilities, thus unlocking their potential. The PDS participants emphasized the need for education, also adding the need for maternal literacy.

Participants who received the *Human Potential* frame intervention in the experiment demonstrated a strong understanding of *society's capacity to help all children in Bangladesh develop well* (*p* < 0.01; Table 5). The research participants who received the *Human Potential* frame

intervention voted overwhelmingly for *healthy child development as Bangladesh's most important issue*, rather than believing that Bangladesh has more pressing matters to address (p < 0.05; Table 9).

Shared Responsibility (সম্মিলিত দায়িত্ব)

There are specific *Shared Responsibilities* in every society that members must work to uphold. Ensuring children's healthy development is one such shared responsibility. However, there are circumstances where members do not do enough to uphold this value. In this study, we examined how Bangladeshi people can connect this particular value to the healthy development of all children at their earliest ages.

The PDS participants were found to be aware of the need for all members of society to recognize their duties toward *Shared Responsibilities*, especially when issues concerning children arise. They also stated that the onus of *National Progress* is the collective responsibility of all members of society. The following example was given in one discussion session: "*Say, there are 10 children in a community. If nine of them grow healthy, but the remaining one isn't, then it is not a healthy community. This is not only one's responsibility, but it is our collective responsibility." This indicates that it is the duty of all to ensure that every child grows and develops well.*

Participants who received the *Shared Responsibility* frame intervention in the quantitative experiment showed a stronger belief in collective efficacy for ECD than those who did not receive the intervention. They firmly rejected statements suggesting that society lacks the capacity or commitment to support ECD and strongly agreed that Bangladeshi society can do much to ensure the development of all young children (p < 0.05; Tables 3–5). These participants also expressed confidence in society's ability to make the necessary investments in ECD and personally reported caring about the issue (p < 0.05; Table 6). Finally, they agreed that healthy child development should be treated as an urgent national priority (p < 0.05; Table 7) and ranked ECD as the most important issue compared to other challenges facing Bangladesh (p < 0.01; Table 8).

Finally, the research participants who received the *Shared Responsibility* frame intervention considered both society and the government together, distinguished their roles, and expressed hope for a collective effort toward early years development in Bangladesh. This value highlights the combined responsibility of all Bangladeshis in regard to fostering children's early years and thus works toward developing equal opportunities and making national progress.

Equal Opportunities for All (সবার জন্য সমান সুযোগ)

Children in Bangladesh grow up in different circumstances, and a large majority of them lack opportunities for healthy development. However, it is enshrined in the national constitution that every child should have equal opportunities for healthy development for a better future. The concept of *Equal Opportunities for All*, as a value frame, was used in PDS and the quantitative experiment to explore how the Bangladeshi people can connect the specific value with all children's healthy and nondiscriminatory development.

The PDS participants identified Equal Opportunities for All as an all-encompassing value, which

touches upon other values as well. They specifically mentioned *National Progress, Human Potential,* and *Shared Responsibility*. In one instance in PDS, discussions were centered on how to establish equal opportunities for all children, who will grow up and contribute to their families and the society at large in a positive way and, ultimately, lead their community and the country.

Participants who received the frame intervention in the quantitative experiment demonstrated significantly greater trust in government efficacy (p < 0.05; Table 1) and were more likely to reject the notion that *only parents are responsible for early childhood development* (p < 0.05; Table 2). Their trust in government was further reinforced by strong agreement that *government involvement in healthy child development is appropriate* (p < 0.05; Table 2). They also expressed stronger agreement that healthy child development *should be treated as an urgent national priority* (p < 0.05; Table 7).

The PDS participants also discussed how the value could be used to address all forms of inequalities that continue in different regions of the country. The following relevant issues arose in their discussions: class distinctions, social disparities, geographic barriers, various forms of marginalization, and improper resource allocation. They also talked about ensuring equal rights for all children at their earliest ages and as they grow up, regardless of their circumstances. Furthermore, if all children are given equal opportunities and a fair start in life, they will have the chance to learn and develop from a young age. Children will also acquire essential life skills that will enable them to thrive as individuals.

These findings collectively indicate that the research participants had an understanding that *Equal Opportunities for All* is a vital value frame, which can be used to expand ECD, irrespective of circumstances. However, the participants did not forget the importance of the role of parents and families in rearing children at their earliest ages. They also strongly conceded the vital role of the government, trusting the Bangladesh government's commitment to increased investment.

Adaptability (খাপ খাইয়ে নেওয়া)

Being adaptable in various circumstances is essential for both individuals and nations. Sometimes, not enough is done as a nation to build adaptability. This research examined how *Adaptability*, as a value frame, helps enhance childhood development at the earliest ages. This was tested in both the quantitative survey and PDS. In the PDS, this value was not selected by any group.

In the quantitative survey, participants who received the *Adaptability* frame intervention strongly believed in *society's ability to help all young children in Bangladesh develop well*, compared to those who did not receive such an intervention (p < 0.05; Table 5). They also overwhelmingly voted for *healthy child development as Bangladesh's most important issue*, rather than thinking that Bangladesh has more urgent matters to address (p < 0.05; Table 9).

Empathy (সহমর্মিতা)

Empathy is the ability to sense and feel another person's emotions. This is an essential human characteristic and important for nation-building. This research examined how *Empathy*, as a value frame, helps enhance childhood development at the earliest ages. This was tested in both the quantitative survey and PDS. In the PDS, this value was not selected by any group.

Participants receiving the *Empathy* frame intervention were more likely to disagree with a parent responsibility statement, which says that *healthy child development is a matter of parents and families; it is inappropriate for the government to get involved* (p < 0.05; Table 2). These participants showed an increased belief in *society's ability to help all young children in Bangladesh develop well* (p < 0.05; Table 5). They also overwhelmingly voted for the two most important issues related to ECD. First, the recipients of the *Empathy* intervention voted for *healthy child development as Bangladesh's most important issue*, rather than thinking that Bangladesh has more urgent matters to address (p < 0.05; Table 9). Second, they were more aligned with the idea that *children start learning from the moment they are born*, as opposed to the idea that they don't begin learning until they start school (p < 0.05; Table 10).

Conclusion

The experiment shows that all value frame elements have the potential to strengthen Bangladeshis' understanding of and support for ECD, though their impact varies. *National Progress* and *Equal Opportunities for All* were most strongly linked to the government efficacy measure—a connection no other values achieved. Item-level analysis revealed that *Shared Responsibility* was the strongest overall predictor, significantly associated with six items. *National Progress* and *Empathy* followed, each correlating strongly with four items, while *Human Potential* and *Adaptability* were significantly associated with two items each. Of the 22 significant predictors, 16 reached the 5 percent significance level, with the remainder above this threshold. While participants were able to link all frame elements to ECD, the strength of these connections differed, and the exclusion of *Adaptability* and *Empathy* by PDS participants may reflect a weaker or less clear understanding of their relevance to ECD.

Appendix C: Wave 2 Quantitative Experiment Tables

Factor analysis created a factor based solely on the five-point Likert scale items related to government efficacy. As a result, composite average scores were calculated using the responses to these five items for each participant. The reliability of this set is 0.7. No other subgroups formed any factors with an acceptable reliability coefficient. Consequently, those items were analyzed independently. Ordinary and logistic regression analyses were used for data analysis. Ordinary regression was performed with Likert scale or salient items, or the battery of Likert scale items. Logistic regression was performed with forced-choice (FC) items. Thus, one ordinary regression model with a battery (government efficacy), 14 ordinary regression models with 14 Likert scale and salient items, and six logistic regression models with six FC items were constructed. In all cases, the six interventions served as predictors. Out of 21 regression models, 10 are shown below, which indicate no signs of backfire (negative regression coefficients) and at least one intervention with a statistically significant predicting capability. The dependent variables consisted of one composite, four Likert scale items, three salience items, and two FC items. The remaining models show no significant intervention predictors and/or negative regression coefficients and, therefore, are not presented here.

Table 1. Ordinary regression analysis predicting the composite average score of all five items (numbers 1–5) concerning *government efficacy*, with the interventions as predictors

	Unstandardize	d Coefficients	Standardized Coefficients		
Model	В	Std. Error	Beta	t	Sig. (p)
(Constant)	4.179	.039		106.900	.001
National Progress	.110	.055	.067	1.997	.046
Human Potential	.089	.056	.053	1.597	.110
Shared Responsibility	.106	.055	.063	1.905	.057
Equal Opportunities for All	.130	.055	.079	2.366	.018
Adaptability	.078	.055	.047	1.422	.155
Empathy	.069	.055	.042	1.251	.211

Table 2. Ordinary regression analysis predicting the Likert scale item number 6 (Healthy child development is a matter for parents and families; it is inappropriate for the government to get involved), with the interventions as predictors

	Unstandardized Coefficient		Standardized Coefficients		
Model	B Std. Error		Beta	t	Sig. (p)
(Constant)	3.055	.092		33.128	.001
National Progress	.345	.130	.089	2.664	.008
Human Potential	.104	.131	.026	.790	.430
Shared Responsibility	.222	.131	.056	1.696	.090
Equal Opportunities for All	.296	.129	.076	2.293	.022
Adaptability	.204	.129	.053	1.580	.114
Empathy	.273	.130	.070	2.107	.035

Table 3. Ordinary regression analysis predicting the Likert scale item number 11 (*I am confident that our society will make necessary investments in early childhood development*), with the interventions as predictors

	Unstandardized Coefficients		Standardized Coefficients		
Model	B Std. Error		Beta	t	Sig. (p)
(Constant)	3.645	.075		48.794	.001
National Progress	.337	.105	.107	3.205	.001
Human Potential	.206	.106	.064	1.936	.053
Shared Responsibility	.244	.106	.076	2.301	.022
Equal Opportunities for All	.153	.105	.049	1.459	.145
Adaptability	.096	.105	.030	.915	.361
Empathy	.085	.105	.027	.806	.420

Table 4. Ordinary regression analysis predicting the Likert scale item number 13 (*There* is not much that we, as a society, can do to help all young children develop well), with the interventions as predictors

	Unstandardize	d Coefficients	Standardized Coefficients		
Model	В	Std. Error	Beta	t	Sig. (p)
(Constant)	3.845	.070		54.909	.001
National Progress	.150	.098	.051	1.524	.128
Human Potential	.131	.100	.044	1.318	.188
Shared Responsibility	.205	.099	.068	2.065	.039
Equal Opportunities for All	.150	.098	.051	1.530	.126
Adaptability	.111	.098	.038	1.128	.260
Empathy	.150	.098	.051	1.526	.127

Table 5. Ordinary regression analysis predicting the Likert scale item number 14 (As a society, we are not capable of helping all young children of Bangladesh develop well), with the interventions as predictors

	Unstandardized Coefficients		Standardized Coefficients		
Model	B Std. Error		Beta	t	Sig. (p)
(Constant)	3.205	.083		38.566	.001
National Progress	.315	.117	.090	2.700	.007
Human Potential	.349	.118	.097	2.952	.003
Shared Responsibility	.275	.118	.077	2.330	.020
Equal Opportunities for All	.212	.116	.061	1.821	.069
Adaptability	.265	.116	.076	2.273	.023
Empathy	.247	.117	.070	2.114	.035

Table 6. Ordinary regression analysis predicting the salience item number 1 (Compared to all the things you care about in your life, how much do you personally care about the issue of healthy child development?), with the interventions as predictors

	Unstandardize	d Coefficients	Standardized Coefficients		
Model	В	B Std. Error		t	Sig. (p)
(Constant)	4.577	.047		97.910	.000
National Progress	.041	.066	.021	.616	.538
Human Potential	.055	.066	.028	.831	.406
Shared Responsibility	.142	.066	.071	2.135	.033
Equal Opportunities for All	.046	.066	.023	.695	.487
Adaptability	.010	.066	.005	.159	.873
Empathy	.051	.066	.026	.777	.437

Table 7. Ordinary regression analysis predicting the salience item number 2 (*How much do you agree that healthy child development should be an urgent priority in Bangladesh?*), with the interventions as predictors

	Unstandardize	d Coefficients	Standardized Coefficients		
Model	В	B Std. Error		t	Sig. (p)
(Constant)	4.541	.041		110.207	.001
National Progress	.130	.058	.075	2.247	.025
Human Potential	.096	.059	.054	1.643	.101
Shared Responsibility	.164	.058	.093	2.808	.005
Equal Opportunities for All	.126	.058	.073	2.177	.030
Adaptability	.108	.058	.063	1.874	.061
Empathy	.065	.058	.038	1.128	.260

Table 8. Ordinary regression analysis predicting the salience item number 4 (Of all the issues facing us in Bangladesh right now, how important to is the issue of early childhood development?), with the interventions as predictors

	Unstandardized Coefficients		Standardized Coefficients		
Model	B Std. Error		Beta	t	Sig. (p)
(Constant)	4.445	.049		90.685	.000
National Progress	.106	.069	.051	1.533	.126
Human Potential	.034	.070	.016	.482	.630
Shared Responsibility	.177	.070	.084	2.540	.011
Equal Opportunities for All	.046	.069	.022	.666	.505
Adaptability	.002	.069	.001	.028	.978
Empathy	.041	.069	.020	.599	.549

Table 9. Logistic regression analysis predicting the FC item on *Salience* (number 3), with the interventions as predictors

	В	S.E.	Wald	df	Sig. (p)	Exp(B)
(Constant)	.540	.140	14.925	1	.001	1.716
Interventions			10.528	6	.104	
National Progress	.276	.201	1.880	1	.170	1.317
Human Potential	.456	.208	4.814	1	.028	1.577
Shared Responsibility	.288	.203	2.002	1	.157	1.333
Equal Opportunities for All	.056	.197	.081	1	.776	1.058
Adaptability	.467	.205	5.204	1	.023	1.595
Empathy	.433	.204	4.483	1	.034	1.541

Table 10. Logistic regression analysis predicting the FC item on *Start of Learning* (number 5), with the interventions as predictors

	В	S.E.	Wald	df	Sig. (p)	Exp(B)
(Constant)	.958	.151	40.463	1	.001	2.607
Interventions			7.693	6	.261	
National Progress	.123	.215	.327	1	.567	1.131
Human Potential	.399	.226	3.113	1	.078	1.491
Shared Responsibility	.122	.217	.318	1	.573	1.130
Equal Opportunities for All	.390	.222	3.079	1	.079	1.477
Adaptability	.188	.216	.757	1	.384	1.207
Empathy	.490	.227	4.676	1	.031	1.633

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Methods and Findings Supplement

Building Futures

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