



**Finding a Place for Early Child Development in the
Hierarchy of Needs**

A FrameWorks Research Report

Prepared for The FrameWorks Institute

by

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INTRODUCTION

The research presented here was conducted by the FrameWorks Institute and sponsored by the Center on the Developing Child at Harvard University. This report is part of a larger project that aims to translate the science of early child development (ECD) into the field of international development. The guiding question of this larger project is: How can the science of early child development be communicated to increase science-understanding and create better alignment between scientific research and international development programs and policy?

The following report presents results from the first phase of this larger effort. In the report, FrameWorks analyzes data from a series of cognitive interviews in order to identify and describe the implicit assumptions, norms and patterns of understanding that leaders in the field of international development employ in thinking about their own work, children's issues generally and ECD more specifically. These assumptions can be seen as the cognitive "filters" through which key science messages will be interpreted. The analysis of these "filters," along with other empirical research, will inform recommendations designed to increase the accessibility of this science to these international development leaders, as they make programmatic decisions for their respective organizations and shape the field more generally.

FrameWorks approached this work through a series of in-depth interviews conducted with a sample of organizational leaders in the field of international development. The focus on leaders was motivated by the project's guiding question: how to create better alignment between the work of international development organizations and the science of ECD. We believed that focusing on leaders of the field would be critical to creating the significant changes required to increase access and understanding of key science messages of ECD.¹ An important subsequent phase of research will explore the similarities and differences between the patterns of thinking documented in this report and those employed more broadly by members of this field.

Recruiting leaders from international aid organizations poses specific challenges to the way that FrameWorks typically analyzes cultural norms and understandings. FrameWorks adopts a position that many of the norms and assumptions that guide understanding are implicit — that they operate at a cognitive level somewhere below that of the explicit and volitional.²

FrameWorks documents these shared implicit constructs as they are brought to bear in reasoning among members of a common culture. FrameWorks has typically studied how *Americans'* or *Canadians'* understandings are informed by such shared sets of implicit assumptions — assumptions that can be bundled into patterned collections of propositions and implicit understandings referred to in the literature as "cultural models."³

The basic notion is that individuals, irrespective of demographic or ideological variations, share and employ a *common* set of *underlying* mental models about the world that stem from the experiences they share as members of a common cultural group. It is this larger national sense of culture — as the beliefs, norms and understandings that are shared across and shaped by individuals exposed to a common national media and public discourse — that typically constitutes the focus of our research.

The research described here uses the concept and theory of cultural models slightly differently —

probing a different level of “culture” for shared implicit understandings. In the analysis discussed here, the sample is based on a shared membership in a professional field.⁴ We analyze the data to determine how individuals across this sample make common assumptions as they talk and think. We contend to have found a set of cognitive constructs that function *in the same way* as “cultural” models, but that are shared by a group of people based on professional expertise rather than a common national culture. In short, we still focus on documenting cultural models, but the “culture” is of a different sort than that which normally constitutes our focus.

FrameWorks’ approach is grounded in the notion that, in order to translate the set of ECD science messages effectively, communicators must understand the default patterns of reasoning used to make sense of the issue. Only when they understand “what they are up against” can they be prescriptively strategic and effective. Knowing how the leaders of this field employ a common set of meaning-making devices allows us to figure out the most effective and efficient ways of fitting the science of early child development into the norms of the field. It also allows us, in some cases, to strategically build on features of this understanding in order to make space for the science of ECD and related policy recommendations. The end goal is to infuse this field with a scientifically faithful understanding of ECD that helps set the agenda and allocate resources towards policies and programs that are in line with the implications of the science of ECD. In this way, laying out the common features of the way these international development organization leaders understand children’s issues and early child development creates a map that can be used to craft strategic translations of the science of ECD.

In this report, we first present a summary of the findings. This is followed by a brief review of the research methods used to gather and analyze the data, and a discussion of the findings in greater detail — outlining the various assumptions, norms and shared understandings that were unearthed by our cognitive analysis. We conclude with a set of key messaging implications and directions for future research.

EXECUTIVE SUMMARY

Leaders of the field of international development share critical understandings and assumptions that guide the way they think about their own field of work, children’s issues in general and early child development.

1. **A widely shared *hierarchy of needs* model poses a major obstacle to communicating the science of ECD, and of shifting resources in the direction of those policies and programs that the science suggests are effective.** According to this model, the field’s work on children’s issues is cognitively represented as a hierarchy of sequential tiers. The key to the model is that the concerns comprising foundational levels of the hierarchy must be satisfied *before* issues on subsequent levels may be addressed. Issues pertaining to child survival constitute the base of the hierarchy and issues of child development represent some level above this foundation. Putting these spatial and content assumptions together, informants assumed that issues of child survival must be satisfactorily dealt with before work on development can be prioritized. Communicators must be aware that

the *hierarchy of needs* model allows ECD to be acknowledged as “important,” but only prudent to address after, as one informant put it, “we’ve taken care of child survival.”

2. **Leaders applied a zero-sum model of discrete and competing sectors comprised of health, education and justice/rights** in conceptualizing the field of international child advocacy. As ECD does not comprise a sector, this assumption suggests that communications that talk directly about the importance of ECD will be difficult to fit into the existing structure of the field. The sectors are perceived to be *discrete* and *siloed*. This model offers both opportunities and challenges for communicating ECD as a process which underlies *all* aspects of child well-being, without being perceived as competing with any established sector.
3. **Leaders of the field think of their work as investments.** This metaphorical model was comprised of a set of more specific assumptions: that resources are limited, that the goal is to realize the largest return possible, that returns must be visible and measurable, that they must occur in relatively close temporal proximity to the investment, and that returns must be significant. The *investment* model presents a particular challenge for translating the science of ECD, which emphasizes the long-term trajectory of effects that begin in childhood.
4. **A developmental perspective may run counter to a commonly held *children are people too* model, closely associated with a rights orientation.** This perspective may make some of the science messages — about critical developmental periods, for instance, or the importance of developmentally appropriate interventions — difficult to incorporate into existing perspectives.
5. **A tendency to focus on the *nuclear family* model limits broader definitions of responsibility and recruitment of additional adult actors in child rearing.** The representation of “family” as “nuclear family” ran across the majority of our interviews. Even when informants knew that there were other actors and factors engaged, there was a tendency to focus in on the child in the context of a two-parent household and to evaluate that child’s risk in light of threats to that model. This common mental model of “family” may be problematic in light of the fact that many of the contexts in which the science of development will likely be applied are not characterized by familial structures that approximate this mental model. In short, communicating about different structures and ideas of “family” will require expanding, modifying or perhaps building a new working model of “family.”
6. **A set of core systemic factors — including education, the economy and the health infrastructure — were perceived as having consistent wide-ranging and diverse effects on child outcomes.** This *branching-effect* model of causality structured an understanding that differentiated between symptoms and root causes, with the best investments in child outcomes addressing the latter. Core issues were, therefore, systemic by definition. This model offers great potential for linking ECD into the causal chains that link interventions to outcomes.

7. **Leaders in the field of child survival evinced a surprisingly thin understanding of the *process of development*.** While generally conversational with the idea of ECD, they quickly drew a blank about key science tenets. Once the conversation went beyond “early matters,” “supportive relationships are key” and “having a big payoff down the line,” the science of ECD was largely not accessible. Relatedly, many informants also thought about ECD as a “natural” process that “just happens.” This assumption supported views that development occurs optimally when interventions secure the basic safety of a child, and then stand back to let development run its course. In addition, the assumed “naturalness” of the process allowed informants to disengage from thinking actively about how development *happens*. This suggests not only that attempts to translate the science into this field have yet to be successful in structuring understandings of ECD, but also that there is relatively unfettered cognitive space on this issue for strategic communications to *build* such process understandings.
8. **ECD was understood as part of everything, but nothing on its own.** In other words, ECD was seen as being part of all the field’s sectors but, at the same time, not being its own stand-alone concept. The acknowledgement of its shared centrality may facilitate the embedding of ECD in other topical areas — a tactical strategy that avoids running up against the *zero-sum* model mentioned above.
9. **Leaders tended to take a deterministic approach to development.** Once the process of development has been perturbed in some way, they said, there is nothing that can be done. A well-documented assumption in past FrameWorks research, this *damage done is damage done* model offers communicators an opportunity to introduce the science of neuroplasticity and to demonstrate how interventions that are grounded in developmental science can change the developmental trajectory.
10. **Assuring positive development was understood to rely most centrally on protecting and finding ways to insulate children from their surrounding environments.** This assumption creates an understanding of the relationship between children and contexts that makes it hard to see attempts to encourage *positive* interactions between children and their environments as effective interventions. This, in turn, sets up the nuclear family as protector in opposition to everyone/everything else as the locus of the threats. From a developmental perspective, it limits the range of supportive experiences and contexts that come to mind, and solidifies the *hierarchy of needs* model described above.
11. **Physical growth and health are the “what” that develops during development.** This explains the dominant focus among our informants on nutritional programs as the silver bullet intervention. It also demonstrates the importance of developing appreciation for ECD as a process separate and apart from either health or education, but one that influences both.
12. **The *family bubble* model of development predominated.** ECD was also seen as the narrow provenance of the family. At times, this assumption crowded out other factors of importance and led to relatively narrow views, especially in comparison with some of the

more general models employed by our informants, of the determinants of child development.

The mental models documented here show that, in many ways, FrameWorks' existing research on how Americans and Canadians think about ECD is consonant with the way that international development leaders think about the concept. However, this analysis also shows a unique set of mental models that these leaders employ. The documentation of these unique models, primarily the *hierarchy of needs* model, as well as understandings about how the field of international development is organized, suggest specific strategies for communicating the science of ECD and its policy implications. In general, we suggest avoiding the *hierarchy of needs* and *zero-sum* models, all the while embedding ECD into the existing troika of appreciated issues — health, education and, to a lesser degree, rights — and into the already acknowledged systemic forces — economy, education and health infrastructure — that are seen to shape child outcomes.

METHODS

In fall 2010, the Center on the Developing Child at Harvard University conducted a survey with individuals from the field of international development that elicited the names of organizations that participants felt were key in driving the policies, programs and practices around children's issues in the field. Results from the survey were compiled and, based on a basic frequency analysis, a list of approximately 20 organizations was compiled.

The list was then corroborated using “issue crawler” software.⁵ This software tool constructs a map of the most linked-to organizations on a subject — in this case, international children's issues. We used this software to triangulate the results of the survey, using the number of links as an imperfect, but valuable, proxy for an organization's influence in the field. This helped us create a more robust list of organizations on which to focus our interviews. In May 2011, FrameWorks contacted, through a letter of invitation, leaders of the organizations identified. Subsequently, during the spring and fall of 2011, three FrameWorks anthropologists interviewed 14 leaders of the identified organizations. We do not provide a list of organizations here in order to maintain the anonymity of the study's informants.

The interviews were conducted as semi-structured, one-on-one “cognitive elicitations” that lasted one to two hours. Consistent with interview methods employed in psychological anthropology,⁶ the interviews were designed to elicit ways of thinking and talking about children's issues and child well-being, as well as early child development more specifically. With each informant's permission, interviews were recorded and transcribed.

Quotes are provided as exemplars of the themes and assumptions that emerged from analysis. In this way, findings are representative *of* and characterize the data set, but are represented *by* a relatively small number of quotes. This way of presenting findings through “exemplary quotes” is standard practice in thematic and cognitive analysis, where the inclusion of a theme or model is based on its ability to represent a phenomenon evident across the data set.⁷ Any information that could be used to identify the informant quoted has been excluded in an effort to maintain anonymity.

Elements of grounded theory and cultural models analysis were applied to identify mental models.⁸ Two researchers first independently analyzed the data to identify *social discourses*, or common, standardized ways of talking, across the sample using a basic grounded theory approach to thematic analysis that emphasized constant comparison between emerging patterns and transcripts.⁹ These social discourse themes were then independently analyzed by the same two researchers for tacit organizational assumptions, relationships, propositions and connections that were commonly made, but taken for granted, throughout an individual's transcript and across the sample. In this way, the analysis looked at patterns both in what *was* said (how things were related, explained and understood) as well as what was *not* said (shared, but taken-for-granted, assumptions).¹⁰

FINDINGS

Below we lay out the shared mental models that leaders of international development organizations bring to bear in thinking about children's issues generally, and ECD specifically. In keeping with the literature on theories expertise and mental modeling¹¹, we use the term "mental models" in the sections that follow to refer to the discrete bundles of understandings and assumptions that guided cognition.

The models we lay out below are organized into three broad content groupings: (1) models of the field; (2) models of children and child outcomes; and (3) models of ECD. Within each of these sections we discuss implications with respect to the translational goals of the project. Yet before we lay out models from these three domains, we describe a foundational mental model that structured thinking across all three of the more specific domains. We call this the *hierarchy of needs* model. We have situated this model at the top of our discussion not only because of its dominance across all interviews, but also because of its critical importance to structuring informant thinking about the field of international development, children's issues and early child development. We suggest that understanding this model is the key to creating effective science translations for the field of international development.

I. Foundational Model: The *hierarchy of needs* model

The kernel of this model is the proposition that *before any work on ECD can be done, child survival and other more immediate needs must be fully addressed*. This assumption was evident in informants' focus on child survival as the field's driving goal, as well as in more specific discussions of children's issues and early child development.

According to this mental model, issues affecting a child's well-being can be organized into a sequential linear hierarchy — there are things that must come first and be "fully dealt with," as one informant said, before it is appropriate to address what are seen as subsequent needs. In this model, survival constitutes the base tier of the hierarchy, while ECD is assumed to occupy a subsequent, and less important, position. Other needs, such as adequate nutrition and safety from

violence, exist at less critical levels *above* survival but still *below* ECD in the vertical hierarchy of needs.

It is also important to note the sequential dimension to the hierarchy. That is, the lower, and more foundational, tiers must be satisfied before moving on to subsequent tiers. The basic propositional structure of the model is that you can't do B until you finish with A.

There are three important constituent dimensions to this understanding.

1. Tiers are separate and incompatible. You can't do B *while* doing A.
2. Tiers have a temporal dimension. A must be done *before* attending to B.
3. Tiers must be sequentially completed. *All* of A must be done before *any* of B.

We found these dominant assumptions to structure informant talk in many different areas: discussions about which countries are doing ECD work (those that “have gotten a handle on issues of child survival”); discussions about the future of the field (ECD will “always be in the future until more children are surviving”); discussions of the relationship between ECD and other children’s issues (e.g., “health” and *then* ECD); and discussions specifically about ECD (as what you do with whatever resources you have left once you’ve secured child survival and “basic health”). The quotes below further illustrate the form and importance of this mental model.

Interviewer: *Are any of those factors [factors that affect child outcomes and well-being] more important than others?*

Informant: *Well, I guess if you're dead none of the rest of it matters.*

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How would I define well-being? I think I'd strip it down to the basics — “survival” and “not dying,” which clearly is not straightforward if you grow up in a developing country. Then it's about being able to access a minimum standard of living and services, and being able to claim what we might reasonably be interpreted as “your rights,” such as the right to go to school.

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The most important thing is surviving through the first five years of life. And then you navigate from there to various traps, be they pneumonia, diarrhea, malaria ... the big killers.

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The way I see it is, there are a couple different levels of the work. One level has been to improve child survival to reduce the number of childhood deaths. It was previously 10 million; perhaps it's closer to eight million now. So programming on the ground is largely focused on newborn and child survival. The other component, I guess, is global advocacy, and trying to increase the “visibility” and the priority of child survival for

donors.

Early childhood development is seen as a luxury; it would be nice to have it but only after you get everything else.

It is important to note that this *hierarchy of needs* model does not operate *only* at the level of implicit assumption. Several of our informants were explicitly aware of the ways that this hierarchy structures the field. Some of our informants explained how this model, in fact, gets in the way of their efforts to prioritize ECD work. However, even those who were explicitly aware of the model occasionally lapsed into its more problematic assumptions at other points in the interview. This shows the power of the model and how it likely drives the continued programmatic focus on survival, while at the same time being shored up by this continued programmatic focus.¹²

Implications of the hierarchy of needs model:

1. The *hierarchy of needs* model makes ECD the perpetual “next step.” This mental model sets up a powerful logic in which *all* children must survive before *any* resources are devoted to programs that focus on ECD. The implication of this logic did not go unnoticed by several of our informants, who recognized the paradox apparent in the fact that, if all resources are devoted to survival, there will be a lot of children surviving who experience negative outcomes in life from a lack of attention to ECD. One informant in particular, despite employing the *hierarchy of needs* model at other points in the interview, was conscious of this irony:

I think there is a lot of merit in the vertical approach that centers around technologies. When you have vaccines, you're making sure that every child gets immunized and that we prevent polio or measles, which is clearly something good. They're very targeted, they're goal oriented, so for the donor community, it's very easy to justify that ... But the criticism is that it is a reductionist approach. It doesn't deal with the consequences of success — one of which is that, once you have the child survive, then you've got to start worrying about their development, right? And that's the link that hasn't been made. I don't think we have made that connection that survival is a necessary, but not a sufficient, condition because it's not just an issue of children surviving to then grow to be people who do not fulfill their whole potential.

If ECD can only garner programmatic attention and resources once issues of survival have been satisfactorily dealt with, it becomes difficult to make a case for the importance of ECD as a focus requiring current programmatic attention and resources. The *hierarchy of needs* model is therefore a major obstacle to communicating the science of ECD, and of shifting resources in the direction of those policies and programs that the science suggests are effective.

2. Translational strategies must find ways of working with or around the *hierarchy of needs* model. There are several potential strategies to employ in mitigating the negative effects of the *hierarchy of needs* model. First, reframing strategies may be able to inoculate against this assumption. FrameWorks' upcoming research will experiment with strategies for pushing this

thinking to the background while either (a) *foregrounding* some of the more promising ways of thinking detailed in this report or (b) *building a new way* of conceptualizing the importance of ECD issues in the international development domain.

Secondly, and, as we later suggest, more promisingly, communications that find a way to position child development as a key piece of well-being may be able to motivate programmatic attention on ways to combine survival and developmental focuses. Programs that work to assure more children survive could ostensibly incorporate measures to improve the developmental processes of those children to whom resources are being devoted. Emphasizing the potential to accomplish both goals, and addressing the mutually exclusive component of the *hierarchy of needs* model, appears promising. This would involve getting the brain and its development into a “survive *and* thrive” concept.

II. Models of the Field

Analysis revealed that informants shared a fundamental set of understandings and assumptions about *the field* of international organizations that work on children’s issues. We describe each of these mental models and then discuss their implications for science translation.

1. The *zero-sum* model of discrete and competing sectors. Part of this model was the understanding that international development organizations working on children’s issues are concerned with three content areas or, as they were sometimes called, sectors: health, education and rights/justice. We refer to these issues subsequently as “the big three.” More implicitly, this understanding structured discussions of child well-being and strategies for improving child outcomes.

There are some things, which are universal, and that’s why we’ve tried to forward these issues in the international community — to establish those universalities — such as basic health, education, freedom of association, freedom from oppression, and so forth. I think some things universalize, and that it’s politically important that we do so. That’s why we have a rights framework and a health framework and an education framework.

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I think that when it comes to children, [the field] is focused on “education,” “health,” and “advocacy” or “children’s rights.”

As another part of this model, informants saw these sectors as discrete and relatively unconnected — as three silos, each working towards respective and competing goals. Discussion revealed an understanding that the relationships among the sectors turned on a *zero-sum* model, in which the sectors engage in constant competition for a common pot of resources. These assumptions help explain the difficulty that informants had in talking about how the field might work towards more general child well-being (i.e., of integrating goals across the sectors).

I’m quite happy ranking them, actually! I think the “health” related stuff is the primary concern, because without that your child’s gonna die. And then the rest of it becomes irrelevant. So I think the “health” related stuff is the primary area.

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I think there's still a divide between the survival, the growth, the development and the protection. They tend to be treated separately. I think maybe more cohesion across would be helpful because the child protection people talk about child protection. Survival talks about survival and really, getting a more comprehensive approach is important.

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Interviewer: *So thinking about the earthquake in Haiti, for example, or in Chile — how do ECD issues intersect with those kinds of events?*

Informant: *I put them in separate boxes ...*

There were some informants who recognized and criticized the assumptions of this model. Take, for example, the following excerpt:

It's a really stupid and self-destructive way of looking at the same people. We need to find the commonalities between the established priorities and the emerging priorities. Rather than saying, "We focus on development; we're gonna take money away from survival," we need to find commonalities. It is the same children. But then you're gonna have to invest more? Yes, but it's not at the expense of what you were already doing ... That's why it's not a zero-sum game. And we don't see that very often, because we have siloed these programs, and the people doing child survival don't see the people doing child development because it's bureaucratically siloed.

It is important to note that the *zero-sum* model most likely plays into the *hierarchy of needs* model. If the sectors are separate, and competing for resources, then it logically follows that the focus must be trained on the issue defined as most immediate or foundational before moving to the next.

2. The *return on investment* model. Informants talked in ways that revealed, at both implicit and explicit levels, the notion that the field's work on children's issues is an "investment." The fundamental assumption of this metaphorical model was the idea that, like investments, work on children's issues needs to be guided by the fact that resources are limited and need to be allocated where they will result in the largest returns.

A closer analysis of the *investment* mental model revealed three constituent assumptions.

A. Returns must be measurable. According to this proposition, in order for an outcome to be important, it must be amenable to direct measurement. As several informants stated, "Seeing is believing." The proposition is clearly embedded in the more general *investment* metaphor, where an investment is "good" if it generates direct and measurable positive returns. The only way you can know if an investment, or, in this case, a piece of international children's work, is/was good, is if you can see and clearly interpret the results as being positive in relation to the investment made. And that investment is narrowly applied to child survival, not to other benefits (mother's status, family upward mobility, etc.).

[ECD] is not as dramatic or as measurable as child survival. It's easier to measure the number of children who die or who don't die than it is to look at issues of development. The tools to measure development certainly are not as good, and one also needs long-term follow-up to look at the consequences of development. So for someone who immunizes, it's easy to say whether that child lives or dies of pneumococcal disease or rotavirus, but it's much more difficult to look at the impact and the cost-effectiveness of a program where the outcomes accrue over an entire lifetime, rather than something that's immediately measurable.

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It's the bang for your buck — value for money. Why do you invest in things? Well, it's to get this outcome. If the child survives, we all seem to have the functioning, happy and useful member of a society at the end of the day.

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Informant: *Education is one of the best investments you can make with foreign aid development.*

Interviewer: *And why is that?*

Informant: *A higher education, higher incomes, potential for growth. There's a lot of proof that educating mothers lowers child mortality.*

B. Returns must be (relatively) immediate. As part of the more general *investment* model, not only do “returns” have to be measurable, they must accrue in relatively close temporal proximity to the investment. A good investment is one that pays back more than the amount that was invested and where this return occurs in a timely manner. In this way, an important/successful intervention yields immediate (and measurable) results.

We really wouldn't see very much [if programs were more focused on ECD]. With some immunization, you really don't see anything immediately because the most important health consequences from hepatitis B are psoriasis and cancer, which occur, 20 to 40 years later. And so you vaccinate people and you don't see a lot compared with meningococcal vaccine. I guess I would say that with the ECD it might be the same thing, and that's another one of the things that limits the magnitude of the work and the funding available. You may see more kids being cared for in early childhood development settings. You may see more kids who are in preschools, and more nutritional support. And so you may see programming, but the consequences of the programming are not obvious.

C. Returns must be significant. In addition, according to this model, dollars invested in interventions must yield significant results and provide a good “return,” either in the form of economic dividends or increases in well-being.

I guess in my head, [early childhood] is a time when care in the home is what gets the child through. And that's about healthy diet; that's about physical activity; it's about

protection from disease and other things. And those are things that are harder, or less amenable, to intervention than vaccinating a kid or building a bridge.

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We have the evidence that shows that the returns on those investments are like 14 to 1. So, it's an economic argument, and an economic development argument that we use with governments.

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Well, I think I'd be proving to donors, particularly to countries, that it's a better investment than all the other things that people are banging on their door about, like blindness or accessing a village to a road, and all those sort of things. All of them will have benefits to individuals — the ability to actually travel to a health center, for instance. How do you tally that up against more resources going into stimulating environments at the preschool level? That, at the end of the day, is a challenge to governments and donors; it's a matter of a business case.

Implications of the models of the field:

1. The zero-sum model of discrete and competing sectors suggests embedding ECD into “the big three.” Because the field is structured in mind, if not in practice, as a set of discrete, competing sectors, and because ECD does not comprise its own sector, effective science translations will likely require an indirect rather than a direct approach. Funding goes to sectors, and what is not a sector will be difficult to fund *directly*. Therefore, embedding ECD communications and programming into “the big three” sectors, rather than seeking direct attention for ECD as its own issue, will likely be the most effective strategy for communications. The effectiveness of such an approach in improving understanding of the science, and increasing support for the programs that science shows are beneficial, is an empirical question for future research.

2. Aspects of the investment model suggest developmental programs will be relatively less attractive to fund. The importance placed on measurable and immediate outcomes is problematic in relation to the science of ECD, where proximate measurability of outcomes is a subject of considerable difficulty. For this reason, programs that work on ECD, as opposed to vaccinations, for example, are at a cognitive disadvantage. However, if the temporal aspects of this mental model can be broadened and expanded, communicators may be able to take advantage of a number of more distal outcomes that have shown to be positively correlated with and, in some cases, causally precipitated by, developmental interventions. One way to do this would be to create “causal sequences” that unite aspects of existing investments (vaccinations, etc.) with early child development to yield better overall outcomes. That is, if the child is healthy AND buffered from toxic stress, the platform for learning is greatly enhanced and the child is more likely to master early skills.

III. Models of Children and Child Outcomes.

1. The *children are people too* model. Informant discussions were characterized by a strong focus on the importance of “securing better rights for children.” Running just beneath these discussions was the implicit assumption that, as informants occasionally evidenced more explicitly, “children are people too.” FrameWorks’ research has uncovered a similar assumption in the ways that Americans and Canadians think about children.¹³ The basis of this mental model is this: Since adults, in the words of our informants in past studies, deserve “a say in the things that concern and matter to them,” then children, because they are “people too,” “deserve” the same rights. This forms a tight line of logic in which two constituent propositions — that adults deserve rights and justice, and that there is no difference between a child and an adult — synthesize to support “improved rights and justice for all children.” In the quotes below, we provide some examples of the ways that this rights discourse is supported by, and connected to, the *children are people too* model.

How we think about it is more and more by what I would call “child rights” — the Convention on the Rights of the Child and the activities that are designed to take those legal commitments and turn them into practical results. So, specifically, the Convention on the Rights of the Child is framed around the rights to survival, development, protection and participation. And very broadly, those four domains are the four areas that we work on.

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The states and civil society, and so on, have obligations to, through law, eliminate sex trafficking, child labor, exploitation, misapplied youth criminal justice activities, abuse of children by peacekeeping or other military forces, child soldiers, and so on.

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First of all, children are being born on the basis of the choice of their parents, and then there is that very tricky period from conception in the womb through to birth, and early childhood, where they are particularly vulnerable. And then having basic services, like health and education services; having economic and other opportunities so that they can lead lives whereby their rights are fulfilled.

While this model may align child development goals with a legal framework, it also poses a specific scientific problem in that it inadvertently reinforces an anti-development model in which the child, in order to acquire rights, is equated with a fully developed adult.

2. The *nuclear family* model. Informants frequently focused explicitly on the importance of family dynamics and resources in discussing child outcomes. Cognitive analysis of these discussions revealed a deeper assumption that some informants made about “family.” When these informants spoke of the importance of family, they employed a highly shared mental model in which “family” was assumed to mean “nuclear family” — a mother and father co-residing with their children. Informants were critical of situations which may be extremely common in international contexts — single parents raising children, or situations where adults other than

parents are the primary caregivers. From an anthropological standpoint, there is reason to be suspect of *a priori* valuing certain family structures over others.

Some kids are not happy, not healthy, and sometimes they come from either a broken family or sometimes the condition of the family's not very good. For example, I think there's a lot of research in China now that if they come from a broken family or what you call a single parent family, they feel they are not as happy as those children from a complete family. So, when they grow up, their personality may be a little bit inward-looking or not very open to others. Or sometimes they worry about small things rather than just being more open, more happy, more friendly so that [family structure] will have some impact on their future.

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I think both in terms of survival and development, the presence of the mother — the survival of the mother — is a key issue in the well-being of the child. I think then fathers are important, of course.

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I guess that the mention of violence itself might provide for very uncertain households which are not conducive to a nurturing environment. I'm not thinking about food only but emotions and emotional support for children. Surely a household in which the father is missing is not conducive to that.

It is important to note how these informants overlapped with ECD science in their insistence that a supportive, stimulating home environment is critical for children. However, the *a priori* assumptions about *which* adults should be providing that environment may preclude certain cultural contexts from entering productively into the discourse.

3. The *branching effect model of causality*. There was a shared model of causality that structured informant discussions of child outcomes. Informants assumed that a set of core systemic factors had wide-ranging and diverse effects on outcomes. The most consistently referenced systems were education, the economy and health infrastructure. All three of these systems were attributed causal responsibility for important outcomes, despite the fact that they were quite removed, in terms of space and time, from the outcomes they shape. These core issues were recognized as having far reaching “domino effects.”

At a more implicit level, these discussions often invoked visual imagery that included a “core” or “root” set of issues which branch or “cascade,” causing a plethora of outcomes. Working from the *branching* model of causation, informants explained that addressing an outcome by focusing on one of the core issues was the most effective way of using intervention resources (also harkening back to the *return on investment* model).

A further part of this model was the assumption that the core issues are *systemic* — that systems and institutions are key factors in understanding and explaining outcomes. All of our informants linked individual outcomes to the strength of social, economic, and infrastructural systems and institutions. This focus on systems is not entirely surprising, given that the informants in these interviews think about systems for a living. Nonetheless, it is critical to note the ways in which

the assumptions of *branching effect* and *systems* affect thinking about causality, outcomes and interventions, as seen in the following quotes.

A child having positive outcomes is partly to do with structural underlying conditions, such as, whether their country is in conflict or not, whether it's low income, middle income or high income. I think there's a set of things kicking around, which are related to the structural drivers, which are related to, what can you access in terms of health care? Are you gonna get immunized or not? If you're in northern Nigeria, the chances are slim. If you're in the U.K., the chances are high. And then there's a set of answers I would give based on the literature and evidence around what the determinants are of "child well-being." So if your mother is educated, it's the principal predictor of whether you will go to school or not.

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I think it's important to understand the underlying factors that contribute to poverty. Some of them are macro and have to do with inequality. Differences in power between men and women are some of the critical factors that contribute to poverty. I think there are certainly factors like poor infrastructure, lack of economic opportunity, limited access to markets, inequality in markets, and lack of education. So, I think certainly these things [child well-being and outcomes] are complex and multi-factorial. One of the things we try to do is analyze what are the underlying causes of poverty, and then, what are the consequences, or perhaps, the intermediate causes, and then, what are the proximal issues.

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I think the structural conditions within a country — whether it's in conflict or not, the gross national income of the country, and factors relating to the physical environment — I think those things are very important.

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I think those structural conditions are the principal determinants [of wellbeing]. I think the determinants would be underlying drivers of poverty and suffering.

Implications of the models used to think about children and child outcomes:

1. The *children are people too* model may work for child rights, but threatens to obscure developmental perspective. If the field approaches children's issues from the perspective that children are just like adults, they may be well positioned to communicate effectively about children's rights within an international, legal framework. However, messaging about the nuances of developmental periods and concepts like mental health may be less advantaged by the evocation of this assumption. Many points of the ECD science are based on differences between children and adults, and between children at different developmental windows of opportunity. These fundamental concepts may challenge the dominant model discussed here. As tempting and compassionate as the *children are people too* model may be, when it migrates beyond the narrow application to the legal frameworks of nations, communications must be aware, and wary, of the potential for entailments of this model to obscure key messages about the science of ECD.

2. The *nuclear family* assumption narrows views of cultural contexts of development. Our findings suggest that ECD science translations will have to clarify how various familial, residential and care-giving patterns affect developmental processes. In light of the existing mental model of “family” shared by our informants, discussions of ecocultural developmental pathways¹⁴ will require careful work in redefinition and concept expansion. At the very least, this finding suggests the need for laying out a clear concept of culture and cultural variability of residential and familial patterns and practices, and connecting these larger patterns to developmental processes and child outcomes. Without providing this clarity, our research suggests that members of the field are likely to fall back on “little picture” models that may be less than productive in realizing the “big picture” role of culture and cross-cultural variation in understanding this process and its outcomes.

3. The *branching* model of causation is promising for communicating the science of ECD. The *branching*, or *cascading*, model of causation represents a potentially productive opening in which to embed scientific discussions of child outcomes, developmental processes and causal factors. The strength of this mental model as a way to understand causation suggests a communications strategy whereby ECD might be positioned, to use another metaphor frequently employed by our informants, “upstream” from the issues that currently constitute the source of the cascade: health, education and economic factors. This would also help deal with the largely missing process of *how* outcomes are determined by these core issues. In short, ECD may be fit into this model as the process that shapes core issues and connects them to outcomes that cascade and branch over time and space.

4. The assumed importance of *systems* is an important perspective, but not the whole picture. The deep and pervasive recognition that systems matter suggests another point that can be used in translating the science of ECD — specifically, those messages which focus on systems-level resources and institutions as the levers for improving outcomes. Our interviews suggest that communicating about the relationship between systems and developmental outcomes in the professional field of international development will require only mild cuing of existing assumptions (rather than bottom-up perceptual building). Although felicitous in communicating many aspects of the science-for-policy-change message, the presence of this underlying assumption does carry a potentially problematic entailment. Our informants’ focus on national systems, and their corresponding lack of attention at the community and cultural levels, may be problematic, given the fact that much of the science of early child development focuses on these latter two levels. This suggests that considerable work is needed in order to connect the larger systems levels at which these leaders tend to think with levels of community and cultural functioning.

IV. Models of Child Development

Analysis revealed that informants shared a set of mental models of early child development that positioned them somewhere in between ECD experts and members of the American or Canadian publics with whom FrameWorks has conducted extensive research on this topic. In this way, our informants occupy a somewhat liminal position on the issue of ECD — they are occasionally explicitly proficient in some of the discourses of the science of ECD. Yet, at the more implicit level of understanding, they are often reliant on the “folk” understandings of this domain that

FrameWorks has documented in past research. Below, we first discuss the explicit science messages that our informants espoused, and follow this with a discussion of the implicit mental models that surfaced when informants engaged in deeper reasoning about early child development. Finally we discuss the implications of these discourses and models for translating the science of ECD.

A. Explicit science messages

In answering questions about ECD, informants deployed a limited but highly patterned set of messages corresponding to the science of ECD. We classify these messages as “social discourses” rather than mental models because they were highly standardized and emerged as largely “empty” when informants were asked to explain or use them in detail. That is, they were not useful tools for deeper reasoning about child development. These discourses tended to be provided in response to the first open-ended question about early child development, and then faded out when informants were asked specific questions that required reasoning and explanation. In response to these latter questions, the *implicit* mental models took over as operative structures of meaning making.

The explicit science discourses that cropped up across our interviews included the following:

- *Early matters.* Informants frequently spoke to the idea that early events in a child’s life determine outcomes later in life. They frequently used an architectural metaphor in making this point, explaining that what happens early influences whether a child’s “foundation” is “shaky” or “solid.” However, discussions did not evidence a working understanding of the *process* by which early experiences affect later outcomes. Put another way, informants could, and did, speak to the importance of early childhood, but when pushed to explain why and how this period shapes later outcomes, there was little evidence that this surface discourse was supported by any deeper mental models. FrameWorks has found that such underlying process understandings are strongly tied to people’s support for policy solutions — to truly support a solution and see a program or policy as necessary and effective, people have to understand the way it works. Our interviews suggest that leaders of the international development field have come to believe that early childhood is important for later outcomes; but at a deeper level, they have a limited understanding of how this connection works. Science translations should see filling this gap as an important task.
- *The importance of supportive relationships.* Informants also repeated a common trope about the importance of “supportive and caring relationships.” This is very much in line with the science of ECD. However, in a way similar to that described immediately above, informants lacked an understanding about the *process* by which such relationships shape developmental outcomes.
- *Pay now or pay later.* Our analysis found that informants frequently talked about ECD programing as investments and how investing resources early could be seen as a way to save programmatic dollars “down the line.” Informants explained that investing resources early in a child’s life was economically more efficient than waiting to redress negative outcomes later. This point was made in highly rhetorical ways and with very patterned

language across informants, again suggesting that it was operating primarily at the surface level as a social discourse.

B. Implicit mental models

1. Cognitive hole: A missing process model of development. The first finding is most aptly described as the *absence* of a model. FrameWorks’ research in the U.S. and Canada has revealed a powerful and conspicuous “black box” surrounding the process of early child development.¹⁵ In this black box, the process through which inputs and outcomes are connected is invisible, poorly understood and generally taken for granted. At most, this process is modeled as some “natural” or inevitable process, as described in greater detail below.¹⁶ While certainly more proficient in using some of the language of developmental science than informants in our previous U.S./Canada study, data gathered for the current project displayed this same black-box, “process-lite” understanding.¹⁷

2. The *part of everything and nothing* model of development. Informants explained that ECD is an important part of health or education discussions, but that it is not its own discussion in the field of international development. The assumptions that underlie this explicit theme are that ECD is, first of all, not as important as the “big three” issues of health, education and rights. Analysis also revealed a general assumption in which there was a difference in scale between big concepts like health or education on the one hand and ECD on the other. In this way, informants modeled ECD as being subsumed by these larger issues — as a component of other concepts, but not as a stand-alone concept in its own right.

[In response to a question about how the informant’s organization works on ECD] Part of what we do is investing in social sectors broadly construed, like health and education. It’s hard to explain what we do in terms of supporting children because it’s more really to explain how we organize ourselves by sector — what we do in education, what we do in health, what we do in justice, etc. But there are certain areas where we specifically talk to children — like for example, immunization or education, and then there are other areas where children would be beneficiaries of more broad-based intervention.

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Interviewer: *Do you think early child development is an issue that gets an appropriate amount of attention in the field?*

Informant: *I think it’s probably under-invested in by international development agencies — in part because it’s hard to invest in, and it’s hard to understand what you are investing in. Are you investing in health? Are you investing in education? Where does it take place? Does it take place in the household? In the community? In clinics? School buildings? What are the interventions that make a difference? So, I think there’s a bunch of stuff that makes it hard to invest in.*

3. The *damage done is damage done* model of development. In the course of our work in North America, FrameWorks has frequently come across what we refer to as the *damage done is damage done* cultural model. When employing this cognitive construct, individuals assume that once something bad has happened in the course of development, there is little, if anything, that can be done by way of remediation. Individuals may discuss “management” or “dealing with it,”

but even these strategies reveal the underlying assumption that once development is disrupted, the damage has been done. Our interviews with leaders of international development organizations revealed this same mental model. Informants frequently adopted deterministic language and spoke about how programs that come after trauma are “too late.” In some cases, as can be seen below, informants talked in ways that more explicitly demonstrated this assumption.

Hilary Clinton has been really pushing at the Gates Foundation, because if you are not properly nourished and supported in the womb, you're lost.

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I think about [child development] in terms of a nine-months to 24-months window around nutrition. If you get that right, and the fetus, and then the early child is developing the right way, that gives a set of opportunities. And if you get it wrong, then you've got irreversible damage.

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In working out our policies and investments in nutrition, we and others have been persuaded by evidence. There's a window of opportunity there that will result in irreversible damage if you get it wrong.

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So much happens in the first few years that is almost impossible to repair later. We can always make it better, but you can't repair it. The potential is lost.

4. The protection model of development. Informants also assumed that ensuring positive development primarily involves *protecting* children from outside influences. Two more-specific propositions comprise this model: 1) contexts outside the home *are dangerous* and threaten the *safety* and development of children; and 2) children can and should be *protected from* these influences. The result of this logic is a commonsensical conclusion that improving developmental outcomes requires insulating children from outside influences. This model was evidenced by the pervasive focus on child “safety,” and the fact that outside environments were almost always described as dangers from which children needed to be separated and protected. In these discussions, there was a clear representation of children ideally being separated, apart and protected from the broader contexts in which they live.

Well-being is being well nourished, and protected in the home, and with a safe and secure home environment. And then protection against whatever illnesses you can protect for with vaccines and so on and so forth. But also in an environment where there is, as far as possible, protection from other illness or treatment when the child is ill ... So a holistic type approach — that the child is protected in a safe, secure environment.

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I think the U.N. convention of the child's rights, which talks about the child's rights to protection from danger and from threats to their health ... I'd love to think that protecting that relationship with others would be my first thing to mention. That the child

is in a relationship with others where the child is loved, and is able to love, and show respect and dignity, and would show respect and dignity, by being protected. I would point out, that in addition to the physical through access to enough good food, safe places to be, learning opportunities, protection from harm from the environment, and violence from all those things.

5. The physical health and growth model of development. Informant discussion also evidenced the assumption that development is most essentially a process of *physical* growth and health. This assumption was evident in the way that responses to open-ended questions about ECD were dominated by discussions of nutrition and the “nutrients” required to build children’s bodies. In such cases, “development” was typically used as a synonym for “growth,” and in some cases “health.” The pervasiveness of nutrition in discussions of development, and the way that nutrition was discussed as physical “ingredients,” suggests a mental model in which development is assumed primarily to be “about” physical growth and health. It is interesting to note that these discussions were almost completely void of mention of the brain, suggesting that the brain and *its* development are not a part of this physical model of development.

You want to have a baby with no nutrition problems and no hunger. So then he or she should have sufficient food — that, to me, is the first priority. You need to have basic food and then you have physical well-being. She or he really should have plenty of good food and good environment and good health and have all this medical care. To me that’s the definite first important things.

If you look at most development agencies now, there’s a kind of convergence around “nutrition,” and a critical period, and why we should invest in pregnant moms, and then the child for the first thousand days from conception of the child’s life.

When the child is alive, which is, as I said before, not a given in a low-income country. Then as the child needs to be protected from a range of stuff that will impede his or her physical development, whether that’s vaccinating the child against a bunch of stuff so that they have immunity; protecting the child against a bunch of stuff like malaria, or tropical diseases, etc. So, I think those “health-related hurdles” are probably the single most important factor.

So nine months in utero, and 24 months of early childhood development. As you know, all the data now says 75 percent or 80 percent of everything is formed during that period. Feeding, physical biological capacity, stature, musculature, and so on.

[In response to a question about how you would know development is going well] We have good impact measures, whether it’s height or weight — physical attributes like that.

6. The *family bubble* model of development. Another part of the mental landscape on the issue of ECD in North America is what FrameWorks has come to call the “family bubble” model. Our interviews with leaders in international development revealed this same model. The *family bubble* model refers to the assumption that child outcomes are the narrow, and often the exclusive, result of parents and the home environment. Furthermore, this assumption posits that such influences are ultimate and insulated. This is especially interesting in light of the *branching* and *systems* models discussed above, from which informants *were* able to see the influence of more distal factors. The fact that the *family bubble* model was relatively restricted to discussions of “child development,” and figured less prominently in more general discussions of child well-being, suggests that it is likely a model which is used specifically by informants in thinking about the concept of ECD.

Well-being is really about “can somebody behave themselves.” Somebody can become a little wild and not listen too much to the parents. To me this is a big difference between these two kinds [positive and negative well-being]. To me that’s the fundamental difference.

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[Development] is related to individual factors related to their own family.

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There’s only the wishes of the children and the parent. I think, for education, our task is to tell those parents, “Okay, you need to provide early childcare and education but in a way that does not destroy the happiness of children’s childhood.” A lot of them are forcing them to start studying as they become two years old. They should not really start that early.

7. The *naturalism* model of development. Informants also made the highly implicit assumption that development “just happens” — that it is a “natural” process that unfolds through some semi-mysterious process that has come to be through millions of years of evolution. While true to an extent, this model has several important implications. This developmental perspective requires “standing back and letting nature run its course.” Furthermore, this mental model, together with the protection model described above, structures a solutions strategy in which interventions should insulate the child from perturbations to this natural process. This model has also emerged in FrameWorks’ research in North America, where it takes various metaphorical presentations — (a) development as a clock that just needs to be wound up and let go, (b) development as a plant that just needs to be watered and left to grow, and (c) the child as a sponge that, by its natural properties, just absorbs the influences that surround it. These same representations were evident in the interviews discussed here, where informants talked about the process of development in a way that, again, highlights the “process-lite” understanding enumerated above.

Informant: *Presumably, they learn, in the household or “at the apron strings” or in some form what they need to know in order to be able to function in first, second, third grade, etc. And I think those are just the assumptions that society and decision makers have had ...*

Interviewer: *So that it’s just something that quote/unquote “naturally happens”?*

Informant: *Right.*

—
Conceptually, development occurs. A child just develops within the context that it grows up in.

Implications of models of early child development:

1. Presence of science, even at the level of explicit discourse, is promising. The fact that informants appeared to have a handle on many of the points of the science of ECD is promising. The presence of such frequently repeated phrases as “what happens early matters” and “we should invest in early childhood” suggests that the science *is* seeping into the field of international development. However, despite being able to repeat these lines, informants appear to lack the type of process-understanding necessary for shifting to thinking about policy, a fact which should give translators pause for concern. This suggests that attempts to translate the science of ECD for this field have, thus far, been only marginally effective. Our research suggests that communications attempts have thus far changed the way that leaders of the field *talk*, but not how they *think*. Affecting patterns of talk is important, but translational attempts should not be seen as effective until they have led to deeper changes in the way people *think* about the issue.

2. The *black box* understanding of process makes thinking about how programs can improve outcomes difficult, but presents an opportunity to build on relatively unfettered cognitive ground. The lack of dominant and well-practiced ways to think about developmental processes is both concerning and felicitous. Without a mental model of how development “works,” it is difficult to understand the effectiveness of many of the programs that scientists propose as solutions. However, the relative shallowness of understanding on this issue may also constitute an opportunity. FrameWorks frequently faces the task of trying to push or unseat highly dominant models that inhibit understanding of a particular body of expertise. The durability of mental models makes such cognitive supplantations difficult. The lack of process understanding on the issue of ECD suggests that what communicators have ahead of them is a “building” rather than “shifting” task. The similarity of this building task to past FrameWorks research suggests tools that may be effective in filling the black box with science understandings of how development happens.¹⁸

3. That development gets subsumed into other domains suggests a specific communications tact. The understanding that ECD is *everywhere but nowhere* suggests that development is, as one informant explained, “difficult to grab and fund.” The fundamental nature of this assumption in both the minds of the leaders interviewed and in the structures of the field’s institutions suggests that attempting to build ECD as its own silo alongside those of the “big three” is not likely to be an effective strategy. This approach would require not only extensive communications work in changing patterns of thinking, but also considerable institutional realignment in overhauling the structures that make up the field of international development. The latter task is certainly beyond the purview of even the most ambitious communications project. A more pragmatic approach is to find the places within the big three issues where development can be “lodged,” and leverage these locations to build more and better ECD policy into the programs and practice of the field. This presents a functionalist approach to translating

the science, in which communications would try to get ECD programming in the door on the back of health, education or rights issues.

4. *Damage done* model carries a disadvantage. FrameWorks has seen the *damage done* assumption depress support for policies aimed toward at-risk populations. The logic is powerfully simple; if *damage done* cannot be remediated, programs aimed at those who have already experienced negative determinants are seen as ineffective and unwise expenditures of what are modeled as limited resources. We expect this same effect to be associated with the *damage done* model as it is applied in the field of international development. The scientific concept of neuroplasticity provides a counterbalance to this determinism. The science has found that brains have tremendous capacity, through compensatory and other processes, to improve functioning following adversity, while simultaneously acknowledging that, in terms of programmatic resources, costs of remediation increase as children age.

5. The *protection* model makes addressing contextual quality as a solution “hard to think.” When individuals assume that children require protection from, rather than integration with, their environments, policies that focus on improving contextual quality are hard to see as effective in improving developmental outcomes. This raises a larger point regarding the approach to science translation taken here — a point that we refer to as the difference between social and communications analysis. We do not deny or question that there *are* factors in contexts which pose dangers to developing children — and that this is potentially more relevant in the relatively unstable contexts of developing countries. We do not dispute the *truth* of such statements, but rather their *effect on thinking*. In this regard, the activation of this assumption has a narrowing effect — it reifies and cements one particular way of representing the relationship between a child and her environment — a relationship based on the exclusionary assumption of protection. Once in place, this assumption cannot support statements about other ways in which environments and children are related — that environments can be the source of positive experiences and exposures which can *improve* development, for example, or that a key lever in improving developmental outcomes is community. If individuals assume an exclusionary spatial distinction as ideal, the positive effects of improving contexts become hard to think and policies that devote resources to such improvements are seen, at best, as having secondary effectiveness in relation to those that protect and seclude children from what are modeled as inherently negative influences of context.

6. Dominant focus on physical development leads to a specific view of effective policy. The assumption that development = physical growth suggests that certain parts of the science will be highly accessible, while others, specifically those that involve the brain and socio-emotional development, will be more difficult to communicate. Furthermore, the application of this understanding leads to a certain type of programmatic focus — making nutritional programs seem to be the best way of improving developmental outcomes. On the other hand, programs that focus on providing positive experiences and emotional supports will be seen as decidedly less concrete. In short, from the assumption that development refers to physical growth of the body, nutritional programs make neat cognitive sense, while those programs that focus on the experiences as material are more difficult to see as effective in improving outcomes. One solution lies in “building” out the metaphorical language around physical growth to include brain development as a part of the notion of *what* is being physically built during the process of development. This is precisely what the Brain Architecture simplifying model accomplishes.¹⁹

Future research should explore the effect of this existing tool in communicating the science to the field of international development.

7. Thinking about development through the *family bubble* is limiting. Viewing development through the narrow lens of the family bubble limits the ability to call attention to the host of factors beyond parents and families that affect development. However, models associated more generally with children and child well-being described above (the *branching effect* model, for example) suggest that there are ready-made antidotes to the *family bubble*. If the models that informants use to think about children and child outcomes more generally can be invigorated and applied as ways to think about child *development*, the *family bubble* might be unseated as the dominant lens through which to understand the process of development. Future communications work should explore strategies for invigorating these more productive models and recruiting them into the realm of thinking about early child development.

8. The assumed naturalness of development structures a *lassiez-faire* view on intervention. The *naturalness* assumption has two problematic implications for communicating about the science of ECD. First, from the vantage point of this assumption, it is easy to see the best intervention as no intervention. This works in concert with the *protection* model described above to promote a solution where society simply makes sure children are physically safe and then stands back. Second, the “naturalness” allows people to disengage from thinking actively about process — as if the fact that the process is natural is sufficient understanding of how it works. In this way, *naturalness* stands in for process and brings active thinking about “how it works” to a cognitive halt.

CONCLUSION

This report begins to chart a map of the cognitive landscape of early child development held by leaders of the field of international development. This map serves as the starting point in a larger process of designing and testing communications tools that target, realign and concretize specific areas of issue understanding. This strategic work is an important precursor to changing policy and practice in this field to elevate and integrate attention to early child development. Despite its precursory role as establishing the contours of current understandings, the research does bring a set of key signposts into relief that can guide prescriptive reframing efforts. These are broad strategies rather than specific coordinates.

In general, our findings point to the liminal position of the leaders of international development organizations. Our research suggests that they are exposed to messages about ECD and have adopted some of the science as ways of talking about the issue. However, at more implicit levels of thinking and reasoning, most of these leaders also display many of what can be called “folk” models of ECD. That a steady stream of messages to which our informants had clearly been exposed has not changed fundamental ways of understanding ECD speaks to the lack of success of current communications attempts, and the need for translational strategies that prioritize issue understanding over the delivery of more facts. We hypothesize that it is reasonable to extend this

finding from the leaders we interviewed to others working at organizations of international development, and we aim to empirically test this hypothesis through subsequent research.

The more general models of causality (branching and systems models) are highly promising attributes of the cognitive landscape documented here; they are likely to be effective in translating specific elements of the science story of ECD. In fact, the activation of these models may go far in supplanting some of the other mental models applied more specifically in thinking about ECD (e.g., the *family bubble* model). In short, elements of strategy for reframing ECD may already exist as structures of meaning brought to bear in understanding children's issues more generally, but not in thinking specifically about ECD. Future research should explore ways — and effects — of connecting these more general models to the specific issue of ECD.

The generally thin and under-modeled understanding of the process of development suggests a pressing need for communications to build such understandings, and provide the field and its leaders with practice in thinking “how development happens.” The research described here, in its general consonance with other FrameWorks research, suggests that tools FrameWorks has developed in the past to deal with this very same “process-lite” problem will likely be effective if deployed in the context of international development. However, these suspicions should not negate, or replace the need for, empirical investigation as to whether these tools — such as the Brain Architecture simplifying model — are, in fact, effective in this international domain and can seep easily into this expert discourse.

In addition to similarities between the current work and existing FrameWorks research in North America on ECD, this research has highlighted a set of challenges which are unique to the field of international development. The most important of these challenges derives from the *zero-sum model of discrete and competing sectors* and the *hierarchy of needs* mental models. The *zero-sum sector* model suggests a strategic difficulty in messaging about the importance of ECD and of framing the need to devote more of the field's resources to this issue. How can a case be made for ECD in the context of a field that is currently structured as discrete and competing issue silos, none of which are ECD? The *hierarchy of needs* model compounds this problem by creating a powerful logic whose end is the conclusion that we should not devote more resources to ECD until we have satisfied a set of precursive and more fundamental criteria around child survival. How can we devote resources to ECD when there are still so many children who are not surviving? Fortunately, this research also begins to suggest a strategic approach to addressing these questions.

The *zero-sum model of discrete and competing sectors* and the *hierarchy of needs* models suggest a specific approach for strategic communications — find ways of embedding ECD into the big three issues. This is a proliferation strategy that seeks not to construct a new sector, but to pragmatically get more and better ECD programs and policies into each of the field's current silos. The sectoral-ness of the field, at both cognitive and structural levels, suggests that it will be difficult to communicate about ECD as a stand-alone issue. However, our research shows that, within sectors, there are multiple openings to present ECD as an education, health or rights issue, and ample fodder for the strategy of infusing existing programming in these sectors with developmental approaches.

The *hierarchy of needs* model suggests a similar approach. The obstinacy and depth of this understanding among our informants suggests that supplanting a programmatic focus on child

survival with one that focuses on all the things that come after surviving is a less-than-realistic goal. We think a more promising strategy is to fundamentally unseat the current sequential, “A then B,” part of the *hierarchy* model. This would require communicating about ECD as an issue directly related to, and temporally indistinguishable from, child survival. This would be a survival message that does not deny the importance of programs designed to reduce child mortality, but that builds components into such programs that are designed to forecast and take advantage of the success of the survival goals. Such messaging could take advantage of the fact that opportunities to work on child survival are also opportunities to work on development, and that there is no reason why these two concepts must exist in a *zero-sum* relationship. The questions should not be now *or* later, proximal *or* distal, immediate *or* eventual, or urgent *or* trivial — but, rather, the acknowledgment that a developmental focus enhances programs that focus on survival by providing narrow survival programs a way out of their inherent paradox — that when such programs do not focus on development, they create the next big problem. It is this embedding — into the big three issues and survival — that this research suggests most strongly as a strategy for communicating the science of early child development.

About FrameWorks Institute:

The FrameWorks Institute is an independent nonprofit organization founded in 1999 to advance science-based communications research and practice. The Institute conducts original, multi-method research to identify the communications strategies that will advance public understanding of social problems and improve public support for remedial policies. The Institute’s work also includes teaching the nonprofit sector how to apply these science-based communications strategies in their work for social change. The Institute publishes its research and recommendations, as well as toolkits and other products for the nonprofit sector, at www.frameworksinstitute.org.

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- ¹⁷ There is a potential temporal interpretation of this finding — that the science of ECD is relatively new in the field of international development. As such, perhaps it has begun to proliferate at the explicit level but has not yet made it “down” to the level of implicit cognitive modeling. Our lack of data over time limits our ability to comment on this longitudinal hypothesis.

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