THE CORE STORY OF EARLY CHILDHOOD DEVELOPMENT IN AUSTRALIA

Supplement on Research Methods and **Evidence**

May 2020

Authors

Emilie L'Hôte, PhD, Director of Research Nicky Hawkins, Director of Impact Nathaniel Kendall-Taylor, PhD, CEO Andrew Volmert, PhD, Vice President of Research



Commissioned by CoLab (the Telethon Kids Institute and the Minderoo Foundation)







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This document is a research supplement for *Moving Early Childhood Up the Agenda*, which lays out a Core Story of Early Childhood Development in Australia, and for three additional briefs on communicating about *Play*, *Child Mental Health*, and *Prenatal Development*. It describes the methods used throughout the research process and provides evidence behind the recommendations in all four briefs.

Research Methods

To arrive at all recommendations for the *Core Story of Early Childhood Development in Australia*, we applied Strategic Frame Analysis* – an approach to communications research and practice that yields strategies for shifting the discourse around social issues. This approach has been shown to increase understanding of, and engagement in, conversations about child development and other scientific and social issues.

This work builds on earlier research, which includes a literature review and cognitive interviews with members of the public. This earlier research explored and compared how experts and members of the public in Australia think about early childhood development. The full research report, which describes the gaps as well as overlaps in thinking between these two groups, is available on <code>FrameWorks'</code> website. A shorter brief summarising findings from this first phase of research is available on <code>FrameWorks'</code> website.

Below, we describe the research conducted as part of the second phase of the project, which involved the design and testing of frames to address the gaps identified in the first phase of work. These frames were tested in 2019 and refined using three methods: on-the-street interviews, survey experiments, and peer-discourse sessions. More than 7,350 people from across Australia were included in this research.

Frame Design

To identify effective ways of talking about early childhood development, play, child mental health and prenatal development, FrameWorks researchers specified a set of tasks the frames needed to perform and then brainstormed potential reframing strategies¹ that we thought might accomplish one or more of these tasks (for example, different *explanatory metaphors*, *values*, or *issue frames*). After generating a list of candidate framing ideas to test, researchers solicited feedback on these ideas from project partners to ensure that the frames were both apt and potentially usable for those working in the field. Based on this feedback, researchers refined a set of frames and brought them into empirical testing.

On-the-Street Interviews

Frame design was followed by a set of on-the-street interviews to explore potential framing tools with members of the public. In March 2019, we conducted 76 rapid, face-to-face, on-the-street interviews in Melbourne and Sydney. We first asked participants to respond to open-ended questions about play or child mental health. Participants were then presented with

a candidate frame and asked questions that paralleled the initial set to explore the frame's ability to restructure understanding, open up new ways of thinking and give people productive language to use in discussing the issue under scrutiny.

Sample questions and candidate frames, as well as a full list of the metaphors we tested, are available in Appendix A.

Experimental Surveys

Three online experimental surveys involving a total sample of 7,265 respondents were conducted between September and November 2019 to test the effectiveness of frames on public understanding, attitudes, and support for programs and policies. We used a nationally representative sample.

In surveys #1 and 2, we tested frames to talk about early childhood development in general. In survey #3, we tested frames to talk about play. In each survey, respondents were randomly assigned to a treatment or control condition. Those assigned to the control condition received descriptive information about a fictional legislative proposal (the "Early Development Bill" or the "Focus on Play Bill"), which included four specific policies intended to promote early childhood development or play. Those assigned to treatment conditions received identical information about the same proposal but framed with a particular frame element, such as issue frames or values-based arguments. The name of the initiative for these respondents was also changed to enhance or strengthen the frame being tested. See Appendix B for the text used in the experiment to describe the fictional bills, a list of the treatments we tested in all three survey experiments, as well as sample treatments for each type of frame.

After reading the message, all respondents were asked an identical series of questions designed to measure knowledge, attitudes and policy preferences relating to child development. Each battery consisted of multiple questions. Questions were Likert-type items with seven- or five-point scales, yes/no questions, or open-ended questions requiring free-text answers. Sample survey questions are provided in Appendix B.

Multiple-regression analysis was used to determine whether there were significant differences in responses to questions between the treatment groups and the control group. To help ensure that any observed effects were driven by the frames rather than demographic variations in the sample, all regressions controlled for the demographics mentioned above. A threshold of p.<0.05 was used to determine whether treatments had any significant effects. Significant differences were understood as evidence of a frame effect – an effect of the frame on the particular outcome (e.g., policy support, attitudes around the issue, understandings about the issue).

Peer-Discourse Sessions

In October 2019, six peer-discourse sessions (a form of focus groups) were conducted in Perth and Melbourne with a total of 54 participants. We used a sample designed to approximate the demographics of the country.

We used peer-discourse sessions to refine findings from the three survey experiments (issue frames for early childhood development, example-based frames for play), and to explore the effectiveness of additional frames to talk about child mental health and prenatal development. Sessions were video recorded with written consent from all participants. Sessions included a variety of discussion prompts and role-playing activities designed to evaluate which frames were most easily understood by the public, allowed them to most productively use new information, and were most easily used during conversations with peers. See Appendix C below for a sample activity from a peer-discourse session.

Research Evidence Supporting Recommendations

1. MOVING EARLY CHILDHOOD UP THE AGENDA

Recommendations #1 and 3:

- Make early development and learning about improving children's health and wellbeing.
- Define the problem: Lack of support is leading to poor health for some children.

Issue frames establish what a topic is actually "about". For example, one could say that early childhood development is, at its core, about health. Alternatively, early childhood development could be considered to be first and foremost about learning, or economic prosperity for the country. Framing research shows that foregrounding particular issue frames can dramatically affect public thinking and policy support.

In survey experiment #1, we tested six different "issue frames" for early childhood development.

- The *Health* frame explained that "good development in the early years is critical for good physical and mental health throughout life", and took a universal perspective: all children have needs and all children need support.
- The *Health and Disparities* frame also focused on health as the overall goal of early development, but explicitly acknowledged that, in Australia, some children do not have what they need to develop well, and therefore to be healthy. It proposed to help all children according to their needs and the needs of their communities (versus help all children with no qualifications).
- The *Economy* frame argued that "good development in the early years is critical for our 21st-century economy", and took a universal perspective: it is important to help all children.

- The *Economy and Disparities* frame also focused on economic success as the overall goal of early development, but explicitly acknowledged that, in Australia, some children do not have what they need to develop well, and therefore to be economically prosperous in the future. It proposed to help all children according to their needs and the needs of their communities (versus help all children with no qualifications).
- The *Democracy* frame said that "good development in the early years for all children is critical for a vibrant democracy", and took a universal perspective: it is important to help all children.
- The *Democracy and Disparities* frame also focused on a vibrant democracy as the overall goal of early development, but explicitly acknowledged that, in Australia, some children do not have what they need to develop well, and therefore to participate in democratic politics and advocate for the needs of their communities in the future. It proposed to help all children according to their needs and the needs of their communities (versus help all children with no qualifications).

We found that the *Health and Disparities* frame was most effective, resulting in increased support for the Early Childhood Development Bill and greater willingness to pay more in taxes to support the Bill, increased salience of this policy proposal compared to other current policy proposals in Australia, increased understanding of the effects this kind of policy change would have on different aspects of Australian society, and an increased sense of collective efficacy around early childhood development – that is, the sense that government can take steps that would better support children's early development.

The *Health* frame was effective at moving some, but not all, of these outcomes (salience and support for the Bill). The other four frames (*Economy, Economy and Disparities*, *Democracy, Democracy and Disparities*) did not lead to any significant differences in thinking compared to the control group.

From this, we concluded that the best way to move early childhood development up the public agenda in Australia is by combining: 1) a focus on health as the goal of early childhood development; and 2) explicit acknowledgment of disparities in the country.

Figure 1: Effect of issue frames on support for the Early Childhood Development Bill (survey experiment #1)

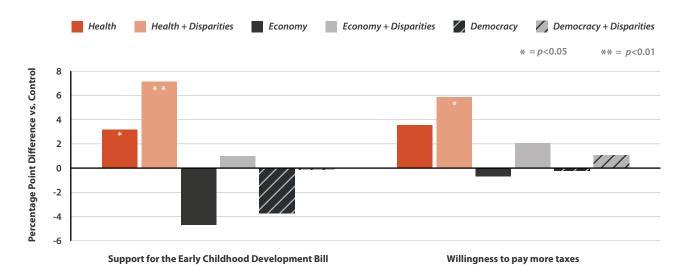
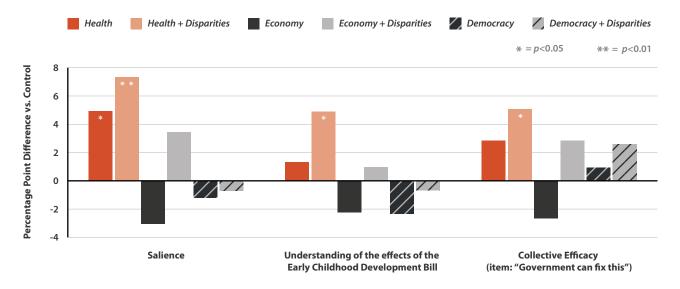


Figure 2: Effect of issue frames on salience, understanding of the effects of the Early Childhood Development Bill, and collective efficacy (survey experiment #1)



Recommendation #2. Talk about effects on health and wellbeing in the present and the future.

One key difference between the two *Health* frames and the *Economy* and *Democracy* frames tested in survey experiment #1 was that the *Health* frames mentioned benefits of supporting early childhood development both *now and later*, while economic and democratic benefits were, by definition, future benefits only.

In survey experiment #2, we tested three issue frames to explore further whether emphasising current benefits in addition to future ones strengthens a message's effects. The *Benefits Now and Later + Focus on Disparities* frame emphasised both present and future benefits of supporting early childhood development (but did not focus on health benefits only). The *Benefits Later Only + Focus on Disparities* frame only emphasised the future benefits of supporting early childhood development (this treatment did not focus on health benefits only either). The *Health and Disparities + Later Benefits Only* frame emphasised only future health benefits of supporting early childhood development (versus the *Health and Disparities* frame from survey experiment #1 that focused on benefits now and later).

None of these three frames had significant positive effects on people's willingness to pay more taxes for the Bill, salience, understanding of the effects of the Bill, or collective efficacy. The *Benefits Later + Focus on Disparities* frame led to more support for the Bill but, given that it did not move people's thinking in any other batteries, it was not retained as a promising strategy for this project.

From this, we concluded that emphasising benefits now and later is necessary for a health issue frame to be effective.

Figure 3: Effect of issue frames on support for the Early Childhood Development Bill (survey experiment #2)

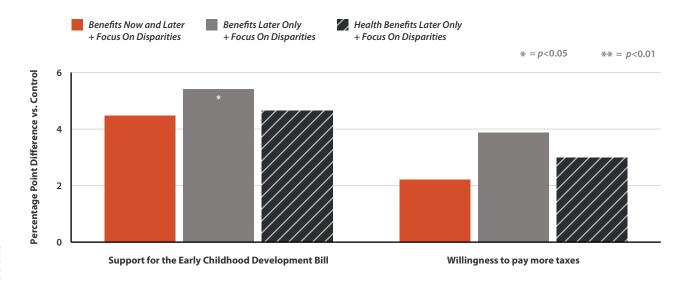
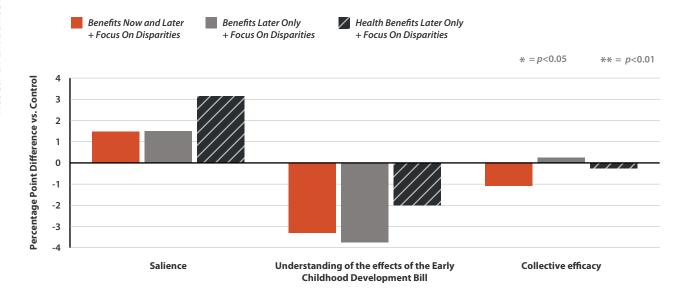


Figure 4: Effect of issue frames on salience, understanding of the effects of the Early Childhood Development Bill, and collective efficacy (survey experiment #2)

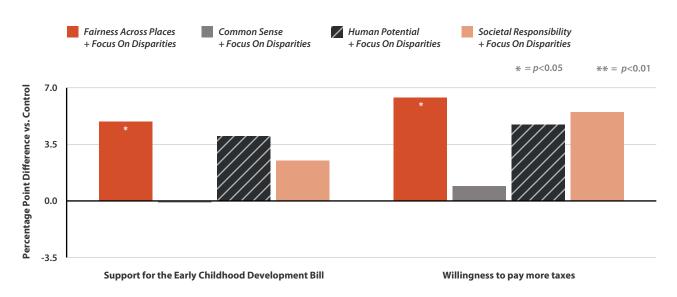


Recommendation #4. Frame the call to action with an explicit appeal to fairness: we need to ensure that children can thrive, no matter where they live.

Values tap into people's shared commitments and priorities to make a case for why people should care about a particular issue and work to address it.

In survey experiment #2, *Fairness Across Places* was more effective than any of the values tested. As shown below, it led to significant positive effects on support for the policy initiative as well as willingness to pay more taxes for the Bill.

Figure 5: Effect of values-based frames on support for the Early Childhood Development Bill and willingness to pay more taxes (survey experiment #2)



Recommendation #5. Talk about supporting every child and community according to their needs.

The Early Childhood Development Bill all survey participants received in surveys #1 and #2 included two policies that would benefit all children and two policies that would benefit specific groups and communities only. When frames tested in combination with the Early Childhood Development Bill took a universal perspective, we framed the goal of the Early Childhood Development Bill as "helping all children". When frames acknowledged the existence of disparities across the country, we framed the goal of the same Early Childhood Development Bill as "helping all children and families according to their needs and the needs of their communities."

In survey experiment #1, the *Health and Disparities* issue frame was the most effective across a wide range of batteries (see **pages 6–9**). This led us to conclude that presenting policies as a targeted universal approach to health and wellbeing (help everyone according to their needs) is more effective than presenting policies as a universal approach (help everyone).

In peer-discourse sessions, we decided to further explore the best ways of talking about disparities and policies aimed at reducing them.

We tested three different messages that provided participants with three different ways of communicating about policies to support early childhood development in Australia and asked them to discuss which pitch they found the most compelling and why: one *Universal* frame (help everyone), one *Targeted Universal* frame (help everyone according to their needs), and one *Targeted* frame (help only those who are in need).

Qualitative data confirmed our initial finding from the survey experiment that talking about helping every child according to their needs and the needs of their communities led to the most productive thinking.

The *Universal* frame led people to think that the proposed policy approach was unreasonably broad and sounded like a "politician's empty promise".

In comparison, the *Targeted Universal* frame was perceived as accurate and realistic because it explicitly acknowledged that people have different needs in Australia.

The *Targeted* frame consistently activated "us vs. them" thinking. It led to discussions of how "disadvantage" should or shouldn't be defined (and of who should be included or left out), which in turn raised concerns that giving more to some would necessarily mean taking away from others. Additionally, the *Targeted* frame didn't help them see that inequalities in money and power lead to systemic disadvantage in early childhood development. People pushed back against the idea that social disadvantage makes certain parents more likely to struggle than others because public thinking about disadvantage happens mainly at the level of individuals.

On the other hand, the *Targeted Universal* frame provided participants with a helpful way to talk about disparities. Because it retained a universal dimension (it talked about everyone's needs and not just the needs of some), it led to less stigmatising and divisive discussions of needs and disadvantages than the *Targeted* frame.

The mention of "the needs of communities" in the *Targeted Universal* frame foregrounded for people the role of environments in shaping early childhood development. It also helped participants think about environments in terms of resources and structures rather than only in terms of people. The idea of the community brought up discussions of playgrounds, libraries, schools; some participants even talked about creating a "map of needs" as part of the project they were discussing.

"How to connect the early years with Australia's future prosperity."

The two economic issue frames (*Economy* and *Economy* and *Disparities*) we tested in the survey experiment did not perform significantly better than our control condition.

In our qualitative analysis of participants' answers to open-ended questions from survey experiment #1, we found that making early childhood development and learning only about the economy and money violated people's views about children and childhood. Participants held on to the vision of childhood as a time that is inherently important and wondrous. As a result, purely economic arguments like the ones iterated in our *Economy* and *Economy* and *Disparities* issue frames in survey #1 were often perceived as too utilitarian and too remote from the ideas of love and care that people associate with children and parenting.

We concluded that, to prevent this type of pushback, advocates who need to rely on a "future prosperity" frame to make a case to government officials, for instance, should define "prosperity" in a broad sense and emphasise ideas like social wellbeing, creativity, and healthy and vibrant communities, rather than focus only on economic success and cost-efficiency. They should also make clear that prosperity is something collective, not individual, and that the goal is a prosperous society rather than financially successful individuals.

2. ADDING PLAY TO THE CORE STORY OF EARLY CHILDHOOD DEVELOPMENT

Recommendations #2 and 3:

- Pivot to play: Make it clear that supporting play supports early development.
- Explain that some children don't have access to the play opportunities they need to thrive.
- + "Why talking about play as an end in itself backfires."

In survey experiment #3, we focused on different ways of framing play to build public support for the policies around play recommended by experts, and create a sense that play is an important social issue in Australia.

We tested three different issue frames to talk about play, which were, in effect, three different ways of framing play as a means to an end, rather than an end in itself:

- Play is "about" Early Development and Learning ("To develop and learn well in the early years, children need to have many different opportunities to play at home, at school and in public spaces").
- Play is "about" Early Development and Learning + Disparities ("To develop and learn well in the early years, children need to have many different opportunities to play at home, at school and in public spaces. But right now, some children in our country do not have enough opportunities to play, and this affects their learning and development").
- *Play is "about" Health* + *Disparities* ("To have strong physical and mental health, children need to have many different opportunities to play at home, at school and in public spaces. But right now, some children in our country do not have enough opportunities to play, and this affects their physical and mental health").

We also tested two values-based messages to talk about play, which talked about play as an end in itself:

- *Play as a Human Right* ("Play is a fundamental right of all children. Every child in Australia should have the right to play at home, at school and in public spaces").
- Societal Responsibility ("Play is what early childhood is all about.
 As Australians, we have a shared obligation to make sure that all children can be kids and play at home, at school and in public spaces").

Both values-based messages explicitly acknowledged that some children do not have what they need to play.

The frames that talked about play as a means to an end were all effective (to varying degrees), while neither of these values-based messages was effective at moving public thinking in the right direction. Among the "play as a means" messages, the *Play is "about" Early Development and Learning + Disparities* issue frame was most effective, producing positive effects across the largest number of outcomes. This treatment built support for the Play Bill, increased people's willingness to pay taxes to support the Bill, increased the salience of this policy proposal, increased people's understanding of the effects the proposal would have on different aspects of Australian society, and built a sense of collective efficacy and collective responsibility to take on the issue of play.

Figure 6: Effect of frames on support for Play Bill and willingness to pay more taxes (survey experiment #3)

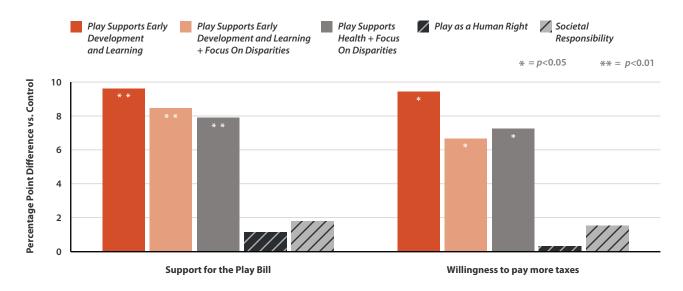


Figure 7: Effect of frames on salience and understanding of the effects of the Play Bill (survey experiment #3)

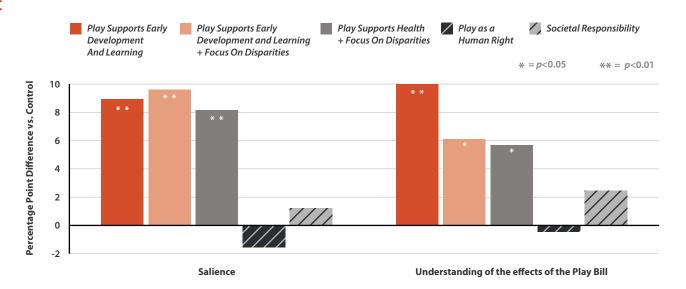
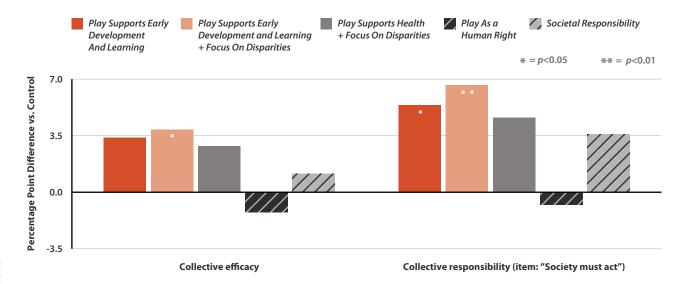


Figure 8: Effect of frames on collective efficacy and collective responsibility (survey experiment #3)



Recommendation #4. Show how concrete solutions solve the problem of lack of fair access to play.

In on-the-street interviews, we tested a series of metaphors to explain why play needs structural support in Australia (*Play as Energy, Play as Fertile Soil, Play as Water, Play as Goldmine, Play as Ingredient*).

In peer-discourse sessions, we tested three examples of different types of play that explained the benefits of play for early childhood development: *Structured Play, Imaginative Play,* and *Free Play.*

While all of these messages – in OTS and in PDS – hinted at the need for solutions to be carried out at the structural level, they did not provide a clear, concrete list of what these solutions could look like and how they would work.

Across these methods, we found that people generally struggled to think of concrete, structural solutions to better support play in Australia. They either focused on dialing up the "fun" for children generally or offered vague suggestions (for example, give children a bag of dress-ups and let them have fun in the backyard; give money to community centres). In the absence of concrete, easily recognisable solutions to increase access to play, participants filled in the blanks with their assumptions that play is natural and child-led and reasoned that it's not necessary to invest in play or to take systemic steps to support it.

From these findings, we concluded that there is a clear need for future communications to be explicit about what effective solutions would look like and explain how they would work.

Recommendation #5. When talking about different types of play, use concrete, everyday language.

In the Play activity from peer-discourse sessions, we found that participants gravitated towards the examples that resonated with their existing beliefs and assumptions about play (as natural and child-led). They interpreted all three messages through the lens of their default cultural models of play. As a result, these messages did not shift thinking in productive ways.

It became apparent in these sessions that the scientific taxonomy of play these three examples were drawing on was too abstract and therefore not useful in shifting people's thinking. People couldn't quite picture what was meant by "structured", "free" or "imaginative" and, as a consequence, they relied on their existing models of play and childhood to interpret the messages (free = useless; imaginative = fun; structured = lecture). Given these findings, it is clear that, to avoid misinterpretation, communicators need to use concrete and accessible language to explain what different types of play involve.

Recommendation #6. Show that adults can be active participants in play.

In on-the-street interviews and peer-discourse sessions, we found that people struggled to see how adults could have an active role in children's play (beyond simply keeping kids safe) without "taking the fun out of it".

In discussions of the *Structured Play* example from peer-discourse sessions, for instance, participants were unclear and ambivalent about the role of adults. On the one hand, the example helped participants see the role that teachers and other caregivers outside the home could have. On the other hand, they were unclear as to what that role would entail besides supervision or provision of toys. The message also ran counter to people's default model of play as child-led and led to significant pushback. People thought that, if adults played an active role in play, then what was described wasn't play, but rather traditional school learning. Discussions focused more on the content that could be learnt rather than the skills a child could develop.

Throughout our data, it became apparent that future communications need to create an understanding of how adults can be actively involved in play through the use of clear, concrete examples.

3. ADDING CHILD MENTAL HEALTH TO THE CORE STORY OF EARLY DEVELOPMENT

Recommendation #3. Frame child mental health as a means to healthy development, not an end in itself.

In peer-discourse sessions, we tested the hypothesis that the strategies that proved most efficient for early childhood development in general and for Play in the survey experiments could also foster productive thinking about child mental health. To that end, we tested two ways of framing child mental health: (1) *Child Mental Health is Important* (that is, it is an end in itself); (2) *Child Mental Health is "About" Early Development* (that is, it is a means to support early development, not an end in itself).

We found that framing child mental health as a way to support good early development made the issue more salient for participants. People were able to see and discuss why it would make sense to focus on child mental health as early as possible. People agreed that stress can get in the way of early development and saw coping mechanisms associated with mental health as ways to ensure that "they can develop well because nothing stands in the way". A few participants also expanded on the initial message and talked about child mental health as a way to build good overall health throughout life. This message also read as positive and proactive, and pre-empted discussions of mental health "issues" and the assumption that there might be something "wrong" with children if they need support for mental health.

By contrast, we found that, because people do not have a strong sense of what child mental health is, focusing on its intrinsic value is not an effective way to shift thinking. On the contrary, the *Child Mental Health is Important* frame strengthened unproductive ways of thinking about child mental health. It led to the most pushback from participants, who responded to the message by suggesting that: (1) young kids don't have mental health; (2) a focus on mental health will lead to an overmedicalisation of childhood.

Recommendations #4, 5 and 6:

- Define child mental health in terms of functioning and resilience.
- Explain how environments, experiences, genetics and skills all shape mental health in the early years.
- Emphasise positive child mental health don't just focus on "issues".
- + "Why scientific and expert language about child mental health backfires."

On-the-street interviews and peer-discourse sessions confirmed our findings from **the first phase of research for this project**. We found that participants approached all messages through a series of unproductive assumptions:

- They equated mental health with mental health "issues". In peer-discourse sessions, it was one of the most obvious reasons why people rejected the association between "mental health" and infants and young children, who were considered not "developed enough" to have such issues, and not able to remember trauma in the way that older children could.
- They reasoned that mental health was primarily a "medical" issue. This led to pushback against the overmedicalization of childhood.
- They primarily focused on the role of parents in shaping young children's mental health. As a result, participants tended to reason in terms of an "us vs. them" dichotomy ("those kids who are severely abused" versus "kids growing up in 'good' families"), instead of thinking in terms of a spectrum that includes all children.

In short, we found that people needed clearer, more positive definitions of what child mental health is and how it can best be supported. The *Levelness* and the *Outcomes Scales* explanatory metaphors, which were tested and recommended as part of a 2014 project on early childhood development in Australia, are two effective tools to move the dial in more helpful directions. For more evidence on why and how these two metaphors are effective to better define child mental health and the factors that shape it, see our 2014 **Message Memo**.

"Why only talking about 'emotions' backfires."

The first set of messages on child mental health we tested in on-the-street interviews aimed at countering the widespread assumption that infants and very young babies are not fully human yet, and therefore only have a very basic emotional life. To that end, we developed a series of metaphors that focused primarily on infants and their emotions, without mentioning the concept of

mental health. We found that messages that are narrowly focused on children's "emotions" in the early years keep people stuck in these inaccurate and partial understandings of this issue. This led us to the conclusion that only focusing on emotions in communications about child mental health was a strategy to avoid.

Recommendation #7. Show how back-and-forth interactions build skills and positive mental health from birth.

In peer-discourse sessions, to counter the unhelpful assumption that infants and very young babies do not and cannot have mental health, we tested a message that relied on the *Serve-and-Return* metaphor as one concrete example of how mental health starts being built from birth.

This message led to productive discussions of child mental health and how it could be supported. The *Serve-and-Return* metaphor, by giving people a concrete example of how infants can start building good mental health from birth, inoculated against the idea that infants and young children don't have mental health. It led to productive discussions on the role of maternal health nurses in supporting new parents, and the need for counselling for younger children as well, especially in situations of adversity. Because the example of back-and-forth interactions gave a clear, active role to caregivers in the process of building good mental health, it also helped people think concretely about the need to support parents so they can support their children's mental health.

Recommendation #8. Talk about a range of public policies and programs to prevent people from falling back on very limited ideas about what to do.

In peer-discourse sessions, we found that messages about child mental health still led people to primarily focus on parents' responsibility for building good mental health for their children. As one participant put it: "If a parent chooses to look at a child every time they goo and gah, then they do". As a result, even once they could see the need to better support child mental health in the early years, they thought that awareness and education campaigns targeting parents were the only effective way of achieving that.

We also found that a focus on back-and-forth interactions with infants sometimes fails to convey a sense of urgency about the issue. Some participants took it as something every parent should know already, which reinforced individualistic thinking about parental responsibility for child mental health. If every parent is already doing this, the thinking went, why should we care?

We concluded that one effective way to prevent these messages from backfiring was to place them within a broader context and explain how parents and children can be supported at a structural level. Providing people with specific examples of policies and programs gives them an alternative to their default focus on parents.

4. ADDING PRENATAL DEVELOPMENT TO THE CORE STORY OF EARLY DEVELOPMENT

Recommendation #2. Pivot to prenatal development: make it clear that prenatal development sets kids up to thrive

In peer-discourse sessions, we found that people see prenatal development and early childhood development as two distinct phenomena. They associate the early years after birth with learning, and prenatal development almost exclusively with physical growth and biological development. We also confirmed findings from the first phase of research for this project about the beliefs and assumptions people make about what happens before birth – notably, people focus on the threat posed by harmful substances like tobacco and alcohol, and place responsibility for prenatal development almost exclusively on women who are pregnant.

From this, we concluded that there is a need to create understanding of prenatal development as the foundation of early development. The way to do this is through health and wellbeing – an idea that is more easily relatable to people's biological view of prenatal development than the ideas of learning and skills building they currently associate with development in the early years.

Recommendation #3. Emphasise society's responsibility for prenatal development to broaden thinking.

+ "Why an over-reliance on medical language backfires."

Our main task regarding the issue of prenatal development was to prevent people from assuming that pregnant women bear all the responsibility and all the blame for what happens to their foetus and expand public thinking about the factors that influence prenatal development.

To do this, we tested four different messages:

- (1) *Circles of Influence*: "We all know that what happens in the womb shapes a foetus's development during pregnancy. But we need to recognise that the things that can affect pregnant women's lives like health problems, financial difficulty and lack of community support also shape the development of the foetus in important ways".
- (2) *Navigating Waters*: "Expecting a child is like sailing. Things like health problems, financial difficulty and lack of community support are rough seas that are difficult for future mothers and parents to navigate, and that stress can affect children's development and lifelong health even before they are born".
- (3) *Societal Responsibility for Unborn Children*: "Children come from society as much as they come from their mother's womb. The decisions we make as a society about access to health care, financial support for families, and

- community building can make pregnancy more difficult for future mothers and parents, and generate stress that will affect children's development and lifelong health even before they are born".
- (4) It's Wrong to Blame Women + Responsibility for Pregnant Women: "It is wrong to put all the responsibility of what happens during pregnancy on the women themselves. Our whole society actually plays an important role in it as well, as the decisions we make as a society about access to health care, financial support for families, and community building can make pregnancy a more challenging time and generate a lot of stress for expecting mothers and parents".

We found that message #3, which was the most explicit about society's responsibility in prenatal development, was the most effective. It helped participants think more expansively about what "society" means in the context of prenatal development. As one participant put it: "It is incumbent on everybody to make the right decisions, be informed. Things count at the ballot box or whatever. It's putting responsibility directly on society". When articulated clearly, the idea became "sticky" for the rest of the group, who found it easier to visualise and understand than the other three messages.

Messages that focused on explaining influences only (1 and 2) were not as effective as the messages that focused on explicitly identifying responsibility for prenatal development (3 and 4). We found that participants struggled to connect influences on prenatal development to responsibility for prenatal development, even when they were not opposed to the idea that responsibility could be shared between different actors. As a result, when people received these messages explaining influences, they toggled back to their default assumptions and either put all the responsibility on the pregnant woman or took a medicalised approach to pregnancy and defined "society" as doctors, nurses, midwives and doulas. Some participants resorted to the "it takes a village" trope as a polite but largely empty gesture towards extended responsibility without identifying any actors or solutions.

Messages that led with an unproductive belief (1 and 4) reinforced that belief. This made it hard for people to move away from default, unproductive ways of thinking. For instance, message #4 (*It's Wrong to Blame Women + Responsibility for Pregnant Women*) reinforced default beliefs about a woman's responsibility for good prenatal development. Vague acknowledgments of shared responsibility (for example, "it takes a village") were immediately followed by more detailed arguments about a woman's responsibility (for example, "if you can't support a child, then I'd say you shouldn't get pregnant").

We also found that the *Navigating Waters* metaphor (message #2) did not lead to productive thinking about pregnancy (nine months only) the way it does for parenting more generally (the job of a lifetime).²

Recommendation #4. Offer concrete solutions that reinforce society's role.

In peer-discourse sessions, we found that participants struggled to see what concrete effects structural factors could have on a foetus. This was true even when they weren't opposed to the idea that the woman is not the only one responsible for prenatal development. As a result, they had a hard time thinking about concrete measures that could better support prenatal development. Some people explicitly recognised that it was the absence of clear solutions that made them reluctant to get involved in the issue – rather than the issue itself (for example, "if it's too vague, nobody wants to help because nobody knows what to do").

We concluded from this that future communications needed to *create* a better sense of the role society could play and how it would work with concrete explanations of specific solutions.

"Why talking about 'the first thousand days of life' backfires."

As part of the peer-discourse sessions, we also asked participants about the phrase "the first thousand days of life" – whether they were familiar with it, and what they thought it meant.

We found that people were not familiar with the phrase, and often didn't think it included prenatal development. We also found that whether or not people understood that this period is meant to start at conception, a focus on the first thousand days triggered fatalistic thinking about children's wellbeing later in childhood. The message led people to think that, once those thousand days are over, there is not much more that can be done to change course.

Appendix A: On-the-Street Interviews

SAMPLE QUESTIONS AND FRAMES

We tested 13 metaphors in total.

- For play, we tested the following five metaphors: *Play as Energy*; *Play as Fertile Soil*; *Play as Water*; *Play as Goldmine*; *Play as Ingredient*.
- For child mental health, we tested the following eight metaphors:
 Emotions as Light, Language as Window; Emotions as Light, Language as
 Prism; Emotions as Music, Language as Amplifier; Language as Tool; Language
 as Milestone; Emotional and Mental Health as a Journey; Emotional and
 Mental Health as a Construction; Emotional and Mental Health as a Story.

Sample Questions and Candidate Frames Used In On-the-Street Interviews

Sample default questions (before exposure to candidate frame)

Play

What comes to mind when you think about children and play?

What sorts of things influence whether and how children play?

Who's typically involved in play?

Child mental health

What comes to mind when you think about young children and emotions?

How about for infants and babies? Are emotions the same, or different?

What sorts of things would you say influence babies' and young children's emotional development and mental health?

Sample questions about candidate frames

Play / Child mental health

How did you understand this message? What is the main idea it's trying to get across?

Play

If you think about play in this way, what comes to mind about the sorts of things that influence whether and how children play?

What does this metaphor suggest about the role of adults in play?

Child mental health

What does this metaphor say about really young children's emotional and mental health?

When you think about this image, what kinds of emotions come to mind?

Sample candidate frames

Plav

Water. Play is like water that can flow into young children's lives. By building a system of water distribution, we make sure that every family in Australia can tap into the water they need every day. In the same way, we need to make sure that all children can tap into play by building more parks and libraries, by training educators and child health professionals to use play in their work, and by making room for different types of play in daycare and the classroom. With the right supports, play can flow into learning in school and at home, and help children's wellbeing and development rise now and in the future. We need to help all children tap into play in this country so that it can flow into their lives and sustain their development.

Child mental health

Language as Milestone. Children's emotional development is a journey that starts from birth, and language is one of many milestones on that journey. Travellers have to cover a lot of distance, take in many landscapes, and meet many people before they reach the first stop on their itinerary. In the same way, children can feel and express deep emotions before they start using words. This is why we need to help guide their inner journey from birth, by making sure children and families have the resources and services they need to build positive relationships and emotional wellbeing.

Journey. Children's emotional and mental health is a journey that starts from birth. On a journey, travellers rely on the support of many people to guide them and help them interpret new experiences along the way. In the same way, from the moment they are born, young children rely on many positive relationships in their lives to get the tools and guidance they need to manage intense emotions and interpret the world around them. To help all Australian children get on the path of good emotional and mental health from birth, we need to ensure that the adults in their lives have the time, the resources and the supports they need to be reliable guides and interpreters on this journey, at home, but also at daycare and school, at the doctor's, and in the community.

Appendix B: Survey Experiments

SAMPLE COMPOSITION, OUTCOME MEASURES, CANDIDATE FRAMES, AND SAMPLE TREATMENTS

Demographic breakdown of participant sample across all three survey experiments

Demographic	% of sample (n = 7265)
Age	
18–29	14.5%
30-44	27%
45-59	31%
60 and above	27.5%
Sex	
Male	43%
Female	57%
Income	
Less than \$33,800	20.1%
\$33,801–\$64,999	25.5%
\$65,000-\$103,999	25.4%
\$104,000-\$181,999	21.7%
\$104,000-\$181,999 \$182,000 or more	
	21.7%
\$182,000 or more	21.7%
\$182,000 or more Education	21.7% 7.3%

Race and ethnicity	
Identifies as being of Aboriginal or Torres Strait Islander origins	2.6%
Doesn't identify as being of Aboriginal or Torres Strait Islander origins	97.4%
Party identification	
Australian Labor Party	35.4%
Liberal Party of Australia	32.6%
Liberal National Party of Queensland	3.2%
National Party of Australia	2.8%
Australia Greens	10.8%
Other parties	15.2%

Survey Experiments #1, 2 and 3

Scales	Sample questions
Attitudes towards the Bill	How much do you favour or oppose the Bill? ['Strongly oppose'; 'Oppose'; 'Somewhat oppose'; 'Neither favour nor oppose'; 'Somewhat favour'; 'Favour'; 'Strongly favour']
Understanding of the effects of the Bill	How big an effect do you think the Bill would have on children's health and development in Australia? [No effect'; 'A small effect'; 'A moderate effect'; 'A large effect'; 'A very large effect']
Specific policy support	How much do you favour or oppose each of the different parts of the [pipe in name from assigned treatment] Bill? ['Strongly oppose'; 'Oppose'; 'Somewhat oppose'; 'Neither favour nor oppose'; 'Somewhat favour'; 'Favour'; 'Strongly favour']
Salience of the Bill	We are interested in how you would rank the [pipe in name used in treatments] Bill compared to other things the government could do with \$50 billion. Please rank the [pipe in name used in treatments] initiative relative to the following priorities. Order them from best use of government funds at the top, to worst use of funds at the bottom. [randomise order of issues]
	a. Invest in the [pipe in name used in treatments] Bill
	b. Invest in better infrastructure (roads, public transport)
	c. Invest in green and sustainable energies
	d. Fund national security and prevention of terrorism
	e. Cut taxes for low- and middle-income people
	f. Invest more in immigration control
	g. Invest more in higher education
Understanding of influences on play	In Australia, when young children from 0 to 5 years old don't regularly engage in play, why do you think that is? For each of the following possible explanations, please indicate how big of a role you think it plays.
	When young children from 0 to 5 years old don't engage in play, it is [5-point Likert scale: 'No role at all; 'A very small role'; 'A moderate role'; 'A large role'; 'A very large role']
	[*Randomise the order of statements]
	1. Because their parents care too much about money or their careers and don't take the time
	2. Because they are just lazy
	3. Because their parents don't realise how important play is
	4. Because they and their parents spend too much time in front of phones and tablets
	5. Because their families don't have enough financial resources
	6. Because educators and child health professionals often don't use play in their work
	Because there aren't enough safe, dedicated spaces for them to play with other children in their community
Collective efficacy ("We can fix this")	How optimistic or pessimistic do you feel that we, as a society, can take steps to better support children's early development (from 0 to 5 years old)? [7-point Likert scale: 'Extremely pessimistic'; 'Pessimistic'; 'Somewhat pessimistic'; 'Neither optimistic nor pessimistic'; 'Somewhat optimistic'; 'Optimistic'; 'Extremely optimistic']
Collective responsibility to act	In your view, how much of an obligation does our society have to better support children's early development (from 0 to 5 years old) in this country? [7-point Likert scale: 'No obligation at all'; 'A very small obligation; 'A small obligation'; 'A moderate obligation'; 'A large obligation'; 'A very large obligation'; 'An extremely large obligation']

Text of Fictional Legislation Discussed in Survey Experiments #1, 2 and 3

Name of the Bill	Text of the Bill
Early Childhood Development Bill	The Early Childhood Development Bill would invest \$50 billion over 10 years to support children's development from ages 0 to 5. If passed, the government would: cover 85 percent of child care costs for all parents; train every child care and early education professional to provide care that supports cognitive, social and emotional development from birth; build an additional playground and library in every disadvantaged neighbourhood in the country; and provide culturally-sensitive, high-quality child health and early education services to all disadvantaged families, including Aboriginal Australians and Torres Strait Islanders.
Focus on Play Bill	The Focus on Play Bill would invest \$50 billion over 10 years to support play for children from ages 0 to 5. The Bill would reduce class sizes in child care and preschool. It would require all educators and child health practitioners to be trained to use play in their work. In addition, the Bill would fund the construction of an additional playground and library in every disadvantaged neighbourhood in the country. Finally, it would require all social housing to include safe, shared spaces for families to play.

List of Candidate Frames Tested In Survey Experiments #1, 2 and 3

Survey experiment #1 tested 11 message treatments:

- **Six issue frames or "this issue is about..." frames** (Health; Health and Disparities; Economy; Economy and Disparities; Democracy; Democracy and Disparities)
- Two metonymic or "entry point" frames (Play as entry point for early childhood development; Early Education and Care as entry point for early childhood development)
- Three temporal frames (Focus on Innovations; Focus on Recent Wins; Focus on Past Mistakes).

Survey experiment #2 tested nine message treatments:

- **Five issue frames or "this issue is about..." frames** (Benefits Now and Later + Focus on Disparities; Benefits Later Only + Focus on Disparities; Health and Disparities Later Only; Adaptability + Focus on Disparities; Resilience + Focus on Disparities)
- **Four values-based messages** (Fairness Across Places + Focus on Disparities; Human Potential/Equality of Opportunity + Focus on Disparities; Common Sense + Focus on Disparities; Social Responsibility + Focus on Disparities).

Survey experiment #3 tested eight message treatments:

- Four issue frames, or "this issue is about..." frames (Play Supports Early Development and Learning; Play Supports Early Development and Learning + Focus on Disparities; Play Supports Early Development and Learning + Focus on Disparities + Explanation; Play Supports Health + Focus on Disparities)
- **Two values-based messages** (*Play as a Human Right + Focus on Disparities*; *Social Responsibility + Focus on Disparities*)
- **Two example-based messages** (Examples; Examples + Focus on Disparities).

Sample Candidate Frames Tested in Survey Experiments

Type of candidate frame	Sample candidate frame
Issue frame	Health and Disparities
	New Bill Addresses Health Inequalities through Support for Early Development
	Good development in the early years is critical for the physical and mental health of children. But right now, some children in our country do not get the support they need to develop well, and this has lifelong effects on their health and wellbeing. This is why people working in the field of health have developed a new proposal to make sure all children can be healthy and well by supporting early development – the Health through Early Development Bill.
	In the first five years of life, children develop key skills like the ability to manage their emotions, social skills and language. These skills enable children to build healthy relationships and adopt healthy behaviours, which makes it less likely that they will become addicted to drugs or alcohol or develop chronic diseases like diabetes or depression. Supporting children's early development in our more disadvantaged communities is essential to reduce inequalities in long-term health and wellbeing.
	The Health through Early Development Bill would invest \$50 billion over 10 years to support children's development from ages 0 to 5. If passed, the government would: cover 85 percent of child care costs for all parents; train every child care and early education professional to provide care that supports cognitive, social and emotional development from birth; build an additional playground and library in every disadvantaged neighbourhood in the country; and provide culturally-sensitive, high-quality child health and early education services to all disadvantaged families, including Aboriginal Australians and Torres Strait Islanders.
	Good health depends on good early development. By supporting early development for children according to their needs and the needs of their communities, we can ensure the health of all children now and the health of all communities in the future.

Type of candidate frame	Sample candidate frame
Values-based frame	Early childhood development
	Fairness Across Places
	We Need to Give All Children a Fair Go, No Matter Where They Live
	All children deserve to be treated fairly and have the same chances to thrive and be healthy, no matter where they live. Right now, there are many neighbourhoods in Australia that do not have the resources to provide children with what they need to develop well in the early years, and this has lifelong effects on their ability to learn and thrive, and on their health and wellbeing. This is why we need to pass a new proposal to support early development – the Fair Go for All Children Bill. Passing the Bill would make sure all children are given a fair chance to thrive and be healthy no matter what neighbourhood they live in.
	The Fair Go for All Children Bill would invest \$50 billion over 10 years to support children's development from ages 0 to 5. If passed, the government would: cover 85 percent of child care costs for all parents; train every child care and early education professional to provide care that supports cognitive, social and emotional development from birth; build an additional playground and library in every disadvantaged neighbourhood in the country; and provide culturally-sensitive, high-quality child health and early education services to all disadvantaged families, including Aboriginal Australians and Torres Strait Islanders.
	By making sure all neighbourhoods in Australia have what they need to support children's early development, we can give all children a fair go to thrive and be healthy, no matter where they live.
	Play
	Play as a Human Right
	New Bill Addresses Inequalities in Support for Children's Right to Play
	Play is a fundamental right of all children. Every child in Australia should have the right to play at home, at school and in public spaces. But right now, some children in our country do not have enough opportunities to play, and this is a violation of their fundamental rights as children. This is why people working in the field of children's rights have developed a proposal to make sure that Australia respects and promotes all children's right to play – the Right to Play Bill.
	The Right to Play Bill would invest \$50 billion over 10 years to support play for children from ages 0 to 5. The Bill would reduce class sizes in child care and preschool. It would require all educators and child health practitioners to be trained to use play in their work. In addition, the Bill would fund the construction of an additional playground and library in every disadvantaged neighbourhood in the country. Finally, it would require all social housing to include safe, shared spaces for families to play.
	All children have a right to play. By giving children what they need to engage in play according to their needs and the needs of their communities, we can make sure that Australia honours and supports this fundamental right to play.

Type of candidate frame	Sample candidate frame
Metonymic frame	Early childhood development
	Play as Entry Point for Early Childhood Development
	New Bill Centres on Opportunities to Play
	Opportunities to play are critical to good early development. This is why play stands at the centre of a new Bill to support child development – the Early Development Through Play Bill.
	Play is essential to all children's development, starting from birth. Through play, children develop important skills such as the ability to manage their emotions, social skills and language. By playing, children also build their bodies and physical health and gain knowledge about the world. This is why the Bill would create and invest in environments that provide rich opportunities to play.
	The Early Development Through Play Bill would invest \$50 billion over 10 years to support children's development from ages 0 to 5. If passed, the government would: cover 85 percent of child care costs for all parents; train every child care and early education professional to provide care that supports cognitive, social and emotional development from birth; build an additional playground and library in every disadvantaged neighbourhood in the country; and provide culturally-sensitive, high-quality child health and early education services to all disadvantaged families, including Aboriginal Australians and Torres Strait Islanders.
	Good early development depends on the opportunities to play children have in the first five years of life. That's why we should support the Early Development Through Play Bill.
Temporal frame	Early childhood development
	Focus on Recent Wins
	New Bill Builds on Recent Achievements in Supporting Early Development
	In the past 15 years, we've greatly improved how we support children's early development, and we should build on that momentum. A new Bill – the Next Steps for Early Development Bill – proposes to take our efforts to support children's early development to the next level.
	We've recently achieved great things for early development. More children are enrolled in preschool today than in the past. In early care and preschool, we have reduced how many children educators are in charge of at a time. And we have established high-quality standards for early education and care at the national level. The Bill proposes to build on those recent successes to make sure that in the first five years of life, all children have the support they need to develop key skills like the ability to manage their emotions, social skills and language.
	The Next Steps for Early Development Bill would invest \$50 billion over 10 years to support children's development from ages 0 to 5. If passed, the government would: cover 85 percent of child care costs for all parents; train every child care and early education professional to provide care that supports cognitive, social and emotional development from birth; build an additional playground and library in every disadvantaged neighbourhood in the country; and provide culturally-sensitive, high-quality child health and early education services to all disadvantaged families, including Aboriginal Australians and Torres Strait Islanders.
	Australia has done great work on early development, and we need to continue moving in the right direction. We need to take the next steps to support early development so that all children have what they need to develop well.

Type of candidate frame	Sample candidate frame
Example-based frame	Play
	Play Examples
	New Bill Promotes Early Development, Learning and Health by Supporting Different Types of Play
	Play can take many shapes and forms, and these different types of play support different parts of a child's development, learning and health. This is why people working in the field of early childhood have designed a new proposal to promote play in all its forms – the Focus on Play Bill.
	Rough and tumble play not only helps children build physical health by using their bodies, but also helps them develop the ability to regulate emotions and be mindful of others. Because structured play with adults is fun, it helps young children learn more effectively at daycare, preschool and at home. As for imaginative play, it helps young children develop their creativity and gives them opportunities to make sense of difficult experiences by re-playing them in a safe space.
	The Focus on Play Bill would invest \$50 billion over 10 years to support play for children from ages 0 to 5. The Bill would reduce class sizes in child care and preschool. It would require all educators and child health practitioners to be trained to use play in their work. In addition, the Bill would fund the construction of an additional playground and library in every disadvantaged neighbourhood in the country. Finally, it would require all social housing to include safe, shared spaces for families to play.
	By promoting play in its many shapes and forms, we can help all children in Australia develop well, learn, and be healthy.

Appendix C: Peer-Discourse Sessions

CANDIDATE FRAMES AND SAMPLE ACTIVITY

In peer-discourse sessions, we tested: three issue frames focused on early childhood development (*Universal Approach*; *Targeted universal Approach*; *Targeted Approach*); three play examples (*Structured play*; *Imaginative Play*; *Free Play*); three messages on child mental health (*Child Mental Health Is an End In Itself*; *Child Mental Health Is a Means To Support Early Development*; *Child Mental Health Starts From Birth* + *Serve-and-Return Interactions*); and four messages on prenatal development (*Circles of Influence*; *Society is Responsible*; *It's Wrong To Blame Pregnant Women*; *Being Pregnant Is Like Navigating Waters*).

Sample Activity From Peer-Discourse Session Guide

Frames in Action: Framing policies as Universal, Targeted Universal or Targeted (25 minutes)

Moderator: I'm going to divide you up into 3 groups. I will also be giving each group a pad of paper and I will ask you to choose one person who is going to take notes.

Imagine that the city of Perth/Melbourne is planning a local initiative to better support children's development from the ages of 0 to 5 years old called the Early Development initiative.

You are members of an organisation that works on early childhood development and you want to apply for a \$200,000 grant as part of this initiative. You have evidence to show that your project is feasible and likely to achieve its goals.

Your job is to give a one- to two-minute presentation on your project at a community meeting, explain what its main goal is, why you think you should get money from the Early Development Initiative. I'm going to

share three possible rationales you could use as part of your presentation. They're all accurate descriptions of your project – they just put a different aspect of it in the foreground.

I'd like you to pick the one you think is the most compelling and centre your presentation around it. I'll give you five minutes to plan together as a small group and then each group will share the takeaways from their discussion with the rest of us.

Moderator hands out a list of three rationales.

Option A: To really make a difference in how well children develop in the early years, we need to make sure that every child and their family get support, no matter where they live.

Option B: To really make a difference in how well children develop in the early years, we need to make sure that each child and their family get support according to their needs and the needs of their communities.

Option C: To really make a difference in how well children develop in the early years, we need to make sure that disadvantaged children and their families get the support they need.

Give groups five minutes. Then have the groups come back together and have each group give a one- to two-minute presentation.

If all three groups pick the same rationale, ask:

- Which of the groups did you think made the most compelling case?Why is that?
- (*Ask about each of the two rationales that were not selected:*) What made options A/B/C less compelling than the one you picked?

If the groups pick different issue frames, ask:

- As a group, we now have to come to a consensus on which rationale
 to use in our presentation about our project. Remember, you are now
 free to change your mind about the idea you chose after listening
 to what other people had to say.
- Which of the rationales do you think should be used in your presentation?

Endnotes

- 1. Framing refers to the subtle selection of certain aspects of an issue to cue a specific response. FrameWorks tests a set of frame elements that convey meaning and affect the way that people respond to an issue. These include values, metaphors, narratives, messengers, and more.
- For more information on how the Navigating Waters metaphor can be used to talk about parenting more generally, see L'Hôte, E., Kendall-Taylor, N., O'Neil, M., Busso, D., Volmert, A., & Nichols, J. (2018). Talking About the Science of Parenting. Washington, DC: FrameWorks Institute.

ABOUT FRAMEWORKS

The FrameWorks Institute is a nonprofit think tank that advances the mission-driven sector's capacity to frame the public discourse about social and scientific issues. The organisation's signature approach, Strategic Frame Analysis®, offers empirical guidance on what to say, how to say it, and what to leave unsaid. FrameWorks designs, conducts and publishes multi-method, multi-disciplinary framing research to prepare experts and advocates to expand their constituencies, to build public will and to further public understanding. To make sure this research drives social change, FrameWorks supports partners in reframing, through strategic consultation, campaign design, FrameChecks®, toolkits, online courses, and in-depth learning engagements known as FrameLabs. In 2015, FrameWorks was named one of nine organisations worldwide to receive the MacArthur Award for Creative and Effective Institutions.

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Supplement on Research Methods and Evidence by the FrameWorks Institute

May 2020

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L'Hôte, E., Hawkins, N., Kendall-Taylor, N. & Volmert, A. (2020). *The core story of early childhood development in Australia: Supplement on research methods and evidence*. Washingon, DC: FrameWorks Institute.

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