Conflicting Models of Mind in Mind:

Mapping the Gaps Between the Expert and the Public Understandings of Child Mental Health as Part of Strategic Frame Analysis™

A FrameWorks Research Report

Prepared for the FrameWorks Institute

by

Nat Kendall-Taylor

July 2009

Table of Contents

INTRODUCTION

The research presented here was sponsored by The Endowment for Health and the Center on the Developing Child at Harvard University. The goal of the project is to conduct research that facilitates the design and advancement of more effective ways of communicating about child mental health. This report lays the groundwork for much of that research by examining how the general public understands the topic of child mental health and by comparing this understanding to the scientific discourse on this issue.

FrameWorks' research on both the expert discourse and the cultural models that the public employs to think about child mental health are analyzed here to reveal the knowledge and cognitive tools that these groups bring to bear on the subject. However, more importantly to the tasks of science translation and communication, the research identifies the specific places where gaps exist between these two understandings — a process that FrameWorks calls "mapping the gaps." With improved knowledge of where these gaps are located and the specific understandings between which they lay, we move toward the second stage of Strategic Frame Analysis™: identifying communications strategies that close these gaps and activate more productive ways of thinking the issue. In filling the most conspicuous and expansive of these expert/lay gaps, FrameWorks aims to reframe the public discussion of child mental health by clarifying the role that the public plays (and could play) in addressing issues emerging from the science of child mental health. As such, the combination of the expert and lay interviews presented in this report constitutes the foundation for a research process that culminates in a strategic approach to translating the science and communicating about the policy implications of the science of child mental health.

This "mapping the gaps" exercise is divided into three discrete research phases that also serve as the organizational structure of the report. First, we explored and synthesized the sometimes incongruent *scientific discourse* on child mental health. In a series of "expert interviews" we examined the substance of what scientists were discussing as well as the patterns in how they explained and talked about child mental health. More explicitly, we focused on the foundational themes and concepts as well as the useful metaphors and analogies that scientists use when they attempt to convey this concept to lay or policy-related audiences.[1]

This report details the second and third research phases. More specifically, the second part of this inquiry involved assessing the extent to which lay audiences understand the concepts underlying mental health and, more specifically, child mental health. That is, this part of the analysis examines how the public understands what mental health and illness are in adults and children, how these states arise, and how they are addressed. In this part of our analyses we uncovered the cultural models that members of the general public access when they think about mental health in general and child mental health more specifically. As such, in a series of "cultural models" interviews we conducted with ordinary (but civically engaged) members of the public, we were

[1] An analysis of the scientific discourse is presented in a previous FrameWorks research report: Kendall-Taylor, Nathaniel and Anna Mikulak (2009). *Child Mental Health: A Review of the Scientific Discourse.* Washington, D.C.: FrameWorks Institute.

interested in discovering *how* Americans understand these general concepts: the level of knowledge about mental health and illness, *how* people reason about the development of mental illness or poor mental health, and the existence and treatments of these states. In doing so, we focused on the *underlying patterns* that structured the way they expressed their understanding of these issues in everyday conversation.

As the third and final part of this phase of our research, we compared the two sets of interviews, "mapping" — or explaining the differences between — the ideas and principles that the experts discussed regarding the science of child mental health versus what the public understood about these issues. As a part of this process, we were especially interested in identifying particularly crucial gaps in understanding (or "cognitive holes") that, if filled with clarifying information, would greatly improve the public consciousness of the existence, causes and treatments of child mental health and their understanding of the science in this area of child development. We also tried to identify a range of key reframing strategies, taken from the science of communication, that could bridge the gaps between scientific knowledge and public perception.

Mapping expert knowledge against lay cultural models is an approach based on the analytic principles and data-gathering methods adapted over the last 15 years from the fields of cognitive anthropology and cognitive linguistics. At FrameWorks, we use this methodology to inform the work of advocates interested in raising the salience of, and public support for, public solutions to social problems. In subsequent phases of this research, FrameWorks will continue to examine how the gaps between the science "story" of child mental health and the cultural patterns applied by the public affect advocate efforts to gain support for policies that address early childhood development and well-being. FrameWorks' past research suggests that scientific concepts of child development are not well understood by or easy to convey to lay audiences. However, FrameWorks' research has shown that the use of strategically employed reframes and simplifying models for translating this science greatly improves the public's understanding of this science, and the extent to which they express support for important policy reforms in areas that matter greatly for children.

This report is therefore a foundation for subsequent research that will develop and test specific strategies to translate and reframe the concept of child mental health — from the complex understandings and explanations of scientific experts to a presentation that improves the accessibility of this information to the general public. The full scope of this project includes an array of methods associated with the Strategic Frame Analysis™ approach: cultural models interviews, focus groups, media content analysis, cognitive media content analysis, Simplifying Models development and empirical testing of our frames using experimental surveys.

SUMMARY OF FINDINGS

1. The most important finding from this research is that the public's understandings of, and approaches to, mental health and illness in general and child mental health more specifically are dramatically different from the scientific explanations of these same issues. For example, unlike the scientists, who defaulted to mental *illness* when asked about mental *health*, lay informants discussed mental health when asked about it and relied on a very different set of assumptions and understandings when asked more specifically about mental illness. Differences between expert and public understandings

have science translation and communication implications, as they "set up" very different ways of understanding appropriate approaches treatments. Communications must not only be cognizant that different assumptions structure different perceptions of appropriate and effective treatment, but also must try to shift these assumptions so that the public can think about the new types of treatments, policies and programs — for example those that focus on prevention rather than treatment or on the larger context into which children are embedded rather than just parents.

2. This analysis shows that Americans bring very different sets of assumptions to understanding mental *health* versus mental *illness*. During interviews, informants implicitly applied these concepts to adults, and when asked more specifically about *child* mental health and illness, there was a tendency to "age-up" the concept — informants tended to talk about older children and adolescents despite specific probing about these concepts in very young children. In addition, research suggests that, while Americans have conceptualizations of mental *illness* in children that are similar to their ways of understanding this concept in adults, thinking on child mental *health* is more complex than in adults; there are two seemingly contradictory sets of implicit assumptions used to understand the issue. Using the first set of assumptions, informants reasoned that children don't have mental health, because their minds work in such fundamentally differently ways than those of adults. Employing a second and distinct set of assumptions, informants explained that, because children are "really just little adults," they too *must* experience states of mental health.

3. The interviews revealed a cultural model of mental health in which mental health *is* emotional health *caused* by deeply embedded negative experiences *for which* the individual is responsible. A very different cultural model mental of illness emerged from these interviews. Informants' discussions and explanation of mental illness can be understood by applying the following assumptions: that mental illness is caused by chemicals, that chemicals are the result of genes and that genes are set in stone. Together, these assumptions constitute a cultural model of mental illness.

4. The interviews with the general public revealed two different and conflicting dominant cultural models through which informants reasoned and understood child mental health: 1) that children simply cannot experience mental health because of their limited emotional capacities, but at the same time, 2) that they *must* have states of mental health because they are "really just little grown-ups," but that because a child's reality has "fewer variables" than an adult's, states of mental health exist but are simpler.

5. Four less pervasive patterns of assumptions and understandings — what we call "recessive models" — also emerged from the cultural models interviews: 1) *environments are important determinants of child mental health;* 2) *prolonged stress affects mental health;* 3) *poor foundations cause poor child mental health;* and 4) *functioning is the key to child mental health.* These models represent more promising directions to explore in subsequent communications research.

6. Six gaps — or cognitive holes — emerged between expert and public understandings. These areas represent promising locations for the development of simplifying models: 1) concepts and causes; 2) connections and boundaries; 3) appropriate treatment; 4) the reality of child mental health; 5) contexts/environments of importance; and 6) the impact of genes.

The remainder of the report proceeds as follows: We present the methods, findings and implications of the cultural models interviews that were conducted with civically engaged members of the general public. We conclude with a discussion of the specific gaps between scientific experts and the general public on this issue and conclude with a set of recommendations both for communications approaches and future research on the topic of child mental health.

CULTURAL MODELS INTERVIEWS

RESEARCH METHOD

We now turn to the cultural models interviews conducted among lay audiences. The cultural models findings presented below are based on 20 in-depth interviews with Americans in Dallas, Texas, and Cleveland, Ohio. The interviews were conducted by two FrameWorks Institute researchers in May 2009.

Subjects
Informants were recruited by a professional marketing firm through a screening process developed and employed in past FrameWorks research. In both locations, informants were selected to represent variation along the domains of ethnicity, gender, age, educational background and political ideology (as self-reported during the screening process). Previous FrameWorks research findings, as well as the cultural models literature more generally, have found education to be an important source of variation in the way people talk and think about social issues such as education and child development. For this reason, we were particularly sensitive to capturing variation in educational attainment in our sample.

Cultural models interviews require gathering what one researcher has referred to as a "big scoop of language."[2] Thus, a large enough amount of talk, taken from each of our informants, allows us to capture these broad sets of assumptions that informants use to make sense and meaning of information. These sets of common assumptions and understandings are referred to as "cultural models." Recruiting a wide range of people allows us to ensure that the cultural models we identify truly represent shared patterns of thinking about a given topic. And, although we are not concerned with the particular nuances in the cultural models across different groups at this level of the analyses, we recognize and do take up this interest in subsequent parts of this research.

[2]Quinn, N. (2005). Finding Culture in Talk: A Collection of Methods (1st ed.). New York: Palgrave Macmillan. P. 16.

We were careful to recruit a sample of civically engaged persons. We did so because cultural model interviews rely on the ability to see patterns of thinking — the expression of models through talk — and it is therefore important to recruit informants whom we have reason to believe actually *do* talk about these issues. Moreover, to ensure that participants were likely to have ready opinions about these issues without having to be overly primed, the screening procedure was designed to select informants who reported a strong interest in news and current events, and maintain an active involvement in their communities through their participation in a wide range of community and civic engagements.

Efforts were made to recruit a broad range of informants. However, the sample is not meant to be nationally representative and the demographic categories that we use to identify the quotes of interviewees in the text below should not be mistaken as categorical reflections of the viewpoints of any particular groups.

Interviews

Informants participated in one-on-one, semi-structured "cultural models interviews" lasting 1½ to 2½ hours. Consistent with the interview methods employed in psychological anthropology, cultural models interviews are designed to elicit ways of *thinking* and *talking* about issues — in this case, ideas of good versus poor mental health, adult and child mental health, mental illness, and treatment. As the goal of these interviews was to examine the cultural models informants use to make sense of and understand these issues, a key to this methodology was giving informants the freedom to follow topics in the directions *they* deemed relevant and not in the direction the interviewer believed most germane. Therefore, the interviewers approached each interview with a set of areas to be covered but left the order in which these topics were covered largely to the informant. Put another way, researchers were able to follow the informant's train of thought, rather than interrupting to follow a pre-established course of questions.

The interviews were designed to begin broadly and in as open-ended a way as possible to uncover the organizational mental models that *informants* used to understand mental health — an inherently broad concept.

Informants were first asked to respond to a general issue ("What do you think about mental health?") and were then probed throughout to explain their responses ("You said X, why do you think X is this way?", or "You said X, tell me a little bit more about what you meant when you said X.", or "You were just talking about X, but before you were talking about Y, do you think X is connected to Y?"). This pattern of probing leads to long conversations that stray (as is the intention of the interview) from the original question. The purpose is to see where and what connections the informant draws from the original topic. Informants were than asked about various valences or instantiations of the issue ("What do you think about good versus poor mental health?") and were probed for explanations of these differences (You said that X is different than Y in this way, why do you think this is?"). The pattern of questioning begins very generally and moves gradually to differentiations and more specific topics.

Near the end of the interview, to avoid biasing subsequent data through the priming effects of these questions, informants were asked a series of more specific but still very open-ended questions about child mental health. One reason for first asking generally about "mental health"

was to see who (what groups and ages) informants naturally applied the concept to. In this way, we were interested in seeing whether informants' cultural models of mental health included children or were naturally restricted to adults, or even certain groups adults (e.g., minorities, poor). Later in the interview, we moved to more specific questioning about children to see if there were any differences in the ways that informants understood and reasoned about child versus more general conceptions of mental health and illness.

Therefore, as we were interested in understanding whether Americans understand mental health in *general* using different cultural models than those applied in making sense of *child* mental health, it was necessary to begin with questions about "mental health" that were designed to be as open-ended as possible and to then "back into" questions about the more specific, and possibly biasing, subjects like child mental health. This approach also allowed us to understand the *general* models that Americans use to understand mental health without respect to the age of individuals affected, rather than priming discussions by beginning with questions about any specific age group. Put another way, the open-ended nature of the guide we employed allowed informants to identify and introduce the information and entailments that *they* implicitly connected and thought most relevant to the subject of mental health, rather than gathering information about the connections that we *suspected* they would make, and thereby biasing our results. However, as previous FrameWorks research has suggested, children are not a population which Americans implicitly connect to conversations about mental health. Thus, it was necessary, after going through the more open-ended questions, to probe more specifically for the assumptions that individuals make and the understandings that they bring to thinking and talking about mental health and illness in children.

Another question of interest was whether individuals would implicitly default to discussions of mental illness when we brought up "mental health" more generally. Therefore, mental illness was another topic covered later in the interview to avoid possible priming effects of probing on this topic in the early very open ended section of the interview. In other words, if specific questions about mental illness preceded general questions about mental health, the interview tool would have lost its ability answer the question of whether or not individuals connect mental illness to the general topic of mental health, or whether these topics are cognitively distinct in the minds of Americans.

We should also note that the strength of the cultural models interview method and the data it produces rest in its power to reveal *general patterns* of thinking (cultural models) that Americans commonly, repeatedly and implicitly employ in talking and thinking. In short, these interviews allow us to see the general patterns that implicitly structure the way Americans, broadly construed, think about a topic. Based on the use of these patterns by this wide range of informants, we say these implicit patterns of assumptions and understandings constitute *American cultural models*.

All interviews were recorded and transcribed. Quotes are provided in the report to illustrate major points but identifying information has been excluded to ensure informant anonymity.

Analysis

Analytical techniques employed in cognitive and linguistic anthropology were adapted to examine how informants understand issues related to the scientific concepts of mental health in

general and child mental health and treatment more specifically. Elements of social discourse analysis were applied to identify larger, shared cultural models. First, patterns of *discourses*, or common, standardized ways of talking, were identified across the sample. These discourses, or patterns in talking, were analyzed to reveal tacit organizational assumptions, relationships, logical steps and connections that were commonly made but taken for granted throughout an individual's transcript and across the sample. In short, our analysis looked at patterns both in what *was* said (how things were related, explained and understood) as well as what was *not* said (assumptions). Anthropologists refer to these patterns of tacit understandings and assumptions that underlie patterns in talk as cultural models.

I. DOMINANT MODELS

Because informants relied on different sets of cultural models to understanding mental health, mental illness and child mental health, the cultural models pertaining to these three issues are presented and discussed in three separate subsections below.

Three assumptions that comprise a dominant cultural model of mental health

1. Mental health is the exclusive product of emotional states.

Informants overwhelmingly assumed that mental health *is* emotional health. In this way, good mental health results exclusively from experiencing positive emotions and dealing with the occurrence of negative emotions so that negative emotional states do not persist over time.

> [Poor mental health is when], your emotions … when you have emotional ups and downs, and things like that.
>
> *Liberal White Woman, 30-35, Ohio*

> Good mental health [is when] people are in touch with their feelings, their emotions, and know the difference, like if they're upset or depressed, they can like sense those issues, and get assistance. Bad mental health would be like people that aren't capable of voicing whatever is going on with them, whether it's depression, or post traumatic stress syndrome, or something like that.
>
> *Liberal African American Woman, 30-35, Texas*

> They're [people with good mental health] outgoing and they're very confident in the decisions that they make. They don't let people's opinions bother them. They're just easy going, laid back, and whatever, you know? You know, they're very just laid back, mellow. They're not always serious; they're not always mad; they're not always, you know, off the wall.
>
> *Conservative White Woman, 36-45, Ohio*

2. Negative experiences get embedded and cause negative emotions.

Informants continually employed a metaphor of *embedding* to connect experiences, emotions and mental health. Informants explained that negative experiences get planted deep in a person and that over time (if the person does not deal with these experiences) these experiences grow into

negative emotions and cause poor mental health. This assumption leads to a way of thinking about how you fix these problems: you dig up what is embedded, deal with it to keep it from growing, and move on, free from the negative emotions that result from deeply planted and ignored negative experiences.

> You don't realize what's going on until that point, and by that time, it's embedded. You know what I'm saying?
>
> *Conservative White Woman, 36-45, Ohio*

> Because I think if it's an issue I would assume that over time it progresses. I would assume that it was something that has built up, it gets worse over time …
>
> *Liberal White Woman, 30-35, Ohio*

> It's a feeling, and it's inside of them, like, and they keep feeling the anger. They keep feeling it, feeling it, feeling it, and then it gets embedded in them, and it's not released. It's like a bottle, holding it all in, and it just gets in there …
>
> *Conservative White Woman, 36-45, Ohio*

3. <u>Individuals are responsible for controlling their emotions.</u>

Another powerful cultural model that structured thinking about mental health was that individuals are responsible for controlling their positive and negative emotions. Because of the model described above — that mental health *is* emotional health, and the fact that individuals are assumed to be responsible for their own emotions — mental health was assumed to be an individual issue. In this way, good mental health is taking responsibility for your state of mind, *deliberately* fostering positive emotions and *choosing* to deal with negative emotions so that they do not persist over time. Assumptions regarding personal control and discipline are at the heart of how people understand mental health. Good choices are both a sign and a cause of good mental health in the same way that bad choices and irresponsibility are connected to poor mental health. Informants made sense of mental health by applying the assumption that every person has control over and responsibility for their emotions and mental health.

> The main thing [shaping mental health] is "choices." Making good choices versus bad choices. I believe that when people make a bad choice, however you want to label it we fall into uh … for lack of better term a rut. That wrong choice becomes the "easy" choice.
>
> *Liberal African American Man, 46-55, Ohio*

> In my opinion, I think that a lot of it [poor mental health] stems from the lack of holding yourself accountable. Instead of taking responsibility for yourself, for your actions, for your words, for whatever's going on in your life. Just because you're on the Titanic, and it's sinking, doesn't mean that you have to have a bad outlook on things. There were people on the Titanic who determined, no matter what, that they were gonna survive somehow. They didn't maybe know how it was gonna happen. That's an extreme situation, but I think that everyone has a choice.
>
> *Conservative White Man, 36-45, Ohio*

> I think probably the person that is capable of keeping control [has good mental health] — being able to not allow outside factors to determine what they truly are thinking or wanting to do, or something like that.
>
> *Independent White Man, 26-29, Texas*

> I'm not gonna *let* fear run my life, or control my thought process. I get to *choose* how I think. I get to *choose* what I believe, and I don't need anybody to help me with that. I'm the guy that's in control of those thoughts … of what I choose to think, when I choose to think, how I choose to think about a specific set of circumstances…
>
> *Independent White Man, 56-62, Ohio*

This underlying assumption of personal control, discipline and motivation as the determinant of outcomes is a pervasive feature of American culture and has been uncovered in past FrameWorks research on how Americans think about issues ranging from race to health care. More generally, we call this model "mentalist thinking." According to the mentalist model, Americans assume that outcomes and social problems are individual concerns that reflect a lack of motivation and personal discipline. As such, the use of mentalist models by the public on issues related to early childhood development has a narrowing effect — it boils complex interactions between individuals, contextual determinants, systems and physiologies down to either the presence or absence of individual motivation and internal fortitude.

Together the three assumptions described above structure a cultural model of mental health, in which emotions *are* mental health, and are caused by experiences that are either dealt with or embedded, and for which the individual "experiencer" is personally responsible.

Three assumptions that comprise a dominant cultural model of mental illness

One of the most significant results that emerged from this research is that informants relied on highly differentiated sets of models to understand mental health and mental illness. While the models laid out above account for the implicit assumptions that informants unconsciously brought to bear on making sense of and explaining mental health, the same informants drew on a dramatically different set of assumptions to understand mental *illness.* In short, our research shows that *messages about mental health are thought using different sets of assumptions than messages about mental illness*. This results in dramatically different understandings of these two issues.

Whereas the models informants used to understand mental health described above are highly reliant on the foundational *mentalist* American cultural model, the models of mental illness described below are highly dependent, or "nested" within (see appendix for a more detailed discussion of this nested feature) another foundational American cultural model: fatalism. The fatalism model hinges on a general assumption about the lack of personal agency in the face of incredible complexity and inevitable conclusions. Analysis of interview data revealed a strong reliance on *fatalism* as a particularly powerful model in organizing thinking and reasoning on the definition and causes of mental illness. Using this model, informants assumed that mental illness is "set from birth," "incurable" and intransigent — a sort of "things are the way that they are"

and "there is little that can be done in the way of change" perception. Individuals bring this tacit perception to bear in understanding a wide range of social issues on which FrameWorks has done extensive research, from education to race, and taxes to health. One result of the application of this model in making sense of social issues is a pervading sense of *fatalism*. In other words, if the public sees that the cause of the problem is *natural* or *determined*, their response is to become fatalistic about affecting the outcomes. Fatalism creates a strong feeling that things are beyond remedy and control, and therefore do not warrant attention or action. In this way, the application of the fatalist thinking creates disengagement from an issue and is highly problematic to communicators wishing to convey messages about policy formation and change.

1. Mental illness is a "chemical imbalance" — something wrong with the brain

Across the sample, informants relied on an implicit understanding that mental illness is caused by, as informants frequently said, "something wrong with the chemicals in the brain." While informants saw mental health (good and poor) as being an issue of *emotions,* they understood mental illness to be located in the brain and caused by the physical presence or absence of chemicals. As mental illness was conceptualized in terms of chemicals, not emotions, it was not seen as conditions over which a person had control. In other words, while emotions were assumed to be an individual's responsibility, chemicals were instead understood to function independently of personal control and self-discipline. That said, even when informants attributed mental states to chemicals and admitted that such conditions benefit from medication, it was still an *individual's responsibility* to seek out and adhere to treatments. In other words, personal responsibility and mentalist models are always in play — even when informants talked about outcomes that they admitted people have no control over. This is in line with FrameWorks' on-going investigation of how people think about genes and environments and see personal will-power as the trump card in determining outcomes.

> Mental illness is something that is based purely on chemicals. I think it's something that runs in your family — I would assume that's what it is.
>
> *Liberal White Woman, 30-35, Ohio*

> I think mental illness means somebody was born with chemical imbalance. I knew of one friend of mine — this sounds bizarre. He would smell the scent of a perfume from a woman in the past, and he would be in a trance, and he'd wake up in another city.
>
> *Liberal Asian Woman, 46-55, Texas*

> I think there's your brain — your wiring. Your chemicals and your brain are either working, or they're not. It's got to be up there.
>
> **Interviewer: Why does it have to be up there?**
>
> Well 'cause medicine makes me feel better. Medicine makes them better. So medicine to a point must fix something up there. It might not *cure* it ...
>
> *Conservative White Woman, 46-55, Ohio*

> Because I've known people that are adults — they were told they should be on Ritalin, and I don't — that's just one example, and for me it seems like it's just a way of masking

> what's really at the core … Unless there is a chemical deficiency in their brain, and something like that would be something I would be willing to do [get medication for].
>
> *Liberal White Woman, 30-35, Ohio*

2. Chemicals are the product of genes

There was a dominant cultural model that ran through interviews that the "chemical imbalances" believed to cause mental illness are products of an individual's genes. Informants reported that you don't "get" mental illness; you "have" it because of the genetic hand you are dealt at birth. The underlying assumption here is that there is a connection between chemicals in a person's body and that person's genes — that the chemicals that are in their body are the result of their genetic code.

> It just seems like something that you inherit … like chemically like it's in your family. It's an issue like that. To me it's something that you don't "get." Yeah, you may not have had it early on, but you were predisposed to have it because you have this gene or this whatever, that would eventually give it to you.
>
> *Liberal White Woman, 30-35, Ohio*

> I think of something that you were born with.
>
> **Interviewer: Why do you think that?**
>
> I don't know. Well, I guess I think of stuff like that which a lot of times, I mean, it goes back to that like chemical imbalances, and I just don't think that's something that you get.
>
> *Liberal Black Woman, 36-45, Ohio*

3. Genes are set in stone

In previous research, FrameWorks found that Americans rely on a highly dominant assumption that genes are "set in stone" to understand individual outcomes and differences.[3] Informants in this previous research and in the interviews described here overwhelmingly assumed that genes and the outcomes they determine *are set in stone*. Informants acknowledged that "innate," "inherent," "God-given," "inborn," "natural" or "genetic" traits are inflexible and impermeable parameters that shape the way a person is and account for differences — like mental illness — between individuals. Informants applied this model when reasoning about the causes for and treatment of mental illness. Many informants explained that, because the chemical imbalances that cause mental illness are caused by impermeable genes, there is little that can be done to

[3] Kendall-Taylor, Nathaniel and Chris McCollum (2009). Determinism Leavened by Will Power: The Challenge of Closing the Gaps Between the Public and Expert Explanations of Gene-Environment Interaction. Washington, D.C.: FrameWorks Institute.

"cure" mental illness and that the only effects of treatments are to temporarily rebalance the chemicals in a person's brain. The use and presence of this model in understanding mental illness underlay the frequent discussion of the permanence of mental illness.

Informants' discussions and explanation of mental illness can be understood by applying the three assumptions described above: that mental illness is caused by chemicals, that chemicals are the result of genes and that genes are set in stone. Together, these three assumptions constitute a cultural model of mental illness. The implications of both this model and the model of mental health discussed above and laid out below.

Implications of the cultural models of mental health and mental illness

1. The most significant implications of the models that informants used to understand mental health and mental illness are related to the perceptions of treatment that these assumptions structure.

    a. First, because individuals assume that the *causes* of mental health are rooted in emotions, the only effective *treatments* are those that focus on controlling emotions. Assumptions of the cause (emotions) and the location (embedded) of mental health, restrict the types of programs and policies that Americans will view as effective and relevant.

    b. Furthermore, the fact that emotions lie in the domain of individual responsibility, choice and control means that treatment is essentially the responsibility of the individual affected. Treatment consists of *taking responsibility*, of *having more discipline* over your emotions and of *choosing* to experience more positive emotions. This again makes many of the treatment models that scientists want to communicate, like those that include others besides the individual affected, very hard for the public to understand and support.

    c. The cultural model of mental health also makes individuals resistant to seeing the appropriateness of *any* type of medication for dealing with issues they define as within the realm of mental health. Appreciating this resistance requires an understanding of the fact that individuals assume that mental health problems are emotional, *not physical or physiological*. In this way, good or poor mental health is the result of a person's choices, responsibilities and outlooks. These assumptions structure an understanding of treatment in which any sort of drug or medication just masks the issue and lets the affected individual "off the hook" from having to take responsibility and deal with their emotions. In short, because of assumptions regarding responsibility, medication for mental *health* issues is seen to perpetuate and endorse irresponsible behaviors. According the model described above, individuals must get to the root causes of their problems, and medications actually prevent this from happening. Medications may be effective in reducing symptoms, but they do not address the underlying emotional causes of poor mental health. Any messages about medication and mental *health* will face

considerable resistance from implicit understandings that Americans bring to understanding mental health.

d. When informants were able to see treatment as something other than just increased individual responsibility over emotions, the solution still lay in the hands of the affected individual, as it is, as one informant said, "ultimately up to them" to *decide* that they need help and "their responsibility" to seek it out. The central role of individual responsibility in this conception of treatment makes communicating about the role and importance of *public* programs and policies in maintaining mental health and addressing mental health problems difficult. Further, using a consumerist model, there is reason to think that "if people want it, the market will adapt to provide it." In this way, a circuitous folk logic "explains" the lack of mental health services by assuming that people did not seek out these services.

e. Because of the assumptions that mental *illness* is caused by chemical imbalances in the brain (not emotions under an individual's control), informants were quick to explain that the *only* way to treat these problems is by rebalancing chemicals by adding other chemicals via medication. For this reason, informants explained that in cases of "legitimate" mental illness, drugs are not only OK, they are the only answer. Put another way, *the different assumption regarding the root cause of mental illness (chemicals) compared with mental health (emotions) corresponds to different ideas of what comprise appropriate and effective treatments.*

2. Assumptions that mental health is emotion-based present a challenge to communicating about the brain-based, physiological aspects of mental *health*. From the perspective that mental health is positive emotions and the control of negative emotions, it is hard to think about mental health being based in the brain. Put another way, since mental health is embodied emotions and located in and controlled by individuals, thinking about this concept being in the brain is decidedly difficult.

3. The model of mental health described above structures a highly individualistic understanding of responsibility and, if left unframed, will structure a powerful tendency to see the lack of good mental health purely as an individual problem, for which the individual is responsible, and in which *social* policies have no place.

4. The assumptions that mental illness is caused by chemical imbalances and that these imbalances are the product of genes is heavily fatalistic and will likely inhibit the public's ability to think about solutions to mental illness issues. Put another way, if mental illness lives in the world of genes, which are impermeable, the point of engaging in the issue becomes irrelevant. Solutions to problems that function at the genetic level are "hard to think" because of the powerful assumption that "genes are set in stone." In this equation, nature is at fault and nurture is largely irrelevant. Furthermore, the set-in-stone model threatens to crowd out the fact that genes and the chemicals they are assumed to produce *can* be affected — that mental illness is not permanent nor set in stone. When genes and their corresponding outcomes become impermeable, there is little chance of affecting these outcomes through treatment, and policy solutions become hard to think and support.

5. The fatalism and the resulting public disengagement that characterize the public's understanding of mental illnesses are significant in light of the scientific discourse. The fact that scientists default to explanations of mental *illness* in discussions of mental *health* means that the public is likely to interpret this information, which is supposedly about mental *health*, through its models of mental *illness*. In short, the scientific discussion of mental health as one of mental illness activates fatalistic models and limits the public's ability to see viable solutions. Unfortunately, even if scientific discourses on mental health actually focused on mental health, the model that Americans would apply is not much better as a means of generating public support for policies, as even these models make the issue one of personal rather than public responsibility. The inability of either model to structure productive thinking about how to publically address mental health/illness issues calls for the introduction of new frames around these concepts. These new frames or reframes must be able to: emphasize treatment solutions, make clear the role for public policies that focus on prevention, and redirect public attention to programs that promote good mental health rather than simply treating mental illness.

Models used to think child mental health

There was a similar compartmentalization in thinking about mental health and mental illness in the way that informants talked about children. Informants made a similar set of assumptions about defined and caused child mental illness as they did in thinking and talking about adult mental illness (that it is caused by chemical imbalances, that chemical imbalances are in the realm of genes and that genes are set in stone). However, thinking about mental health in children was more complicated and was shaped by two contradictory cultural models.

When the interview moved from mental health in general to more specific questions around whether or not children could have mental health, informants relied on different fundamental cultural models about children in explaining their answers to this question. They drew on one cultural model to support their conclusions that children cannot experience mental health, and another cultural model to explain why they felt children can experience mental health. What is also interesting to note here is that frequently the same informant vacillated or toggled over the course of an interview between answering the question in the affirmative and in the negative, employing one model to reason through an affirmative answer and another in explaining a negative answer. This apparent inconsistency is evidence of the fact that there are multiple, in this case dissonant, cultural models that Americans use in thinking and reasoning about child mental health.[4] Attempts to translate the science of child mental and to communicate about this

[4] It is critical to keep in mind that the existence of two seemingly contradictory models that informants applied in understanding child mental health is by no means exceptional — conflicting and contradictory assumptions applied in understanding the same issue are relatively normal in the "swamps" of cultural models. These apparent contradictions demonstrate a basic feature of how we make sense of information; we apply existing categories and mental structures to process and make sense of incoming information — what is referred to as the *top-down nature* of cognition (see appendix for more detailed discussion of features of cultural models and cognition). Because sets of assumptions and understandings come prepackaged and are not generated anew to best-fit new information, two different mental models may become active in thinking about and making sense of the same issue. These assumptions, because they are used to think about many other topics and issues, are not necessarily consonant and appear as illogical

issue must consider these dueling models in order to understand the expected effect of messages when they hit the public.

1. Children can't have mental health: Their minds work differently

During discussions about whether children could or did have mental health, many informants answered "no." FrameWorks researchers encouraged informants to explain, in this case, why children couldn't experience mental health. Underlying these explanations was a powerful assumption that the minds of children are fundamentally different from the minds of adults; that children are not sufficiently aware of, do not have the ability to remember, and do not have enough understanding of their emotions to experience either good or poor mental health. Put another way, when informants answered that children cannot experience mental health, their reasoning was based on an underlying assumption that there are fundamental differences in how the minds of children and adults work and that, therefore, children do not and can not experience mental health. Careful probing during these explanations attempted to pull apart this assumption to see the specific ways in which informants saw the minds of children as different from those of adults.[5] The basic finding was that children have limited ability to experience emotions (to understand and remember them), which creates a difference in the way that they experience emotions when compared to adults. Analysis revealed that this perceptual difference becomes more pronounced in public thinking as people compare younger and younger children to adults (e.g., the ability to understand experiences is even less developed in a 2-year-old than in a 5-year-old).

> But I don't think that they know that they do [have mental health]. It's before they *know* what it is … they're not aware of what it is. That's why I think that it's harder to understand [mental health] in children because they aren't really *aware* of what they want and are and aren't getting. So it's like they're incapable of understanding, although, I think parents want to provide those things, but if children aren't aware of what of those actions and reactions then …
>
> White Democrat Woman, 30-35, Ohio

> Well, when they're young, they don't understand what's going on. They just don't understand their feelings. So it all has something to do with like their circumstances.
>
> White Republican Woman, 36-45, Ohio

---

self-contradictions during data analysis. In short, it was not surprising to find contradictory models in the way that informants understood child mental health. Rather, it provides evidence to the theory of cultural models. While theoretically consonant, the application of contradictory models in how Americans understand child mental health does create complications for reframing the issue. In this case, neither model is in line with the science of child mental health, and therefore communications must seek to shift away from both of these dominant patterns of understanding.

[5] This line of probing drew from work by Roy D'Andrade on cultural theories of mind: D'Andrade, R. (1987). A Folk Model of the Mind. In D. Holland & N. Quinn (Eds.), Cultural Models in Language and Thought (pp. 112–150). Cambridge: Cambridge University Press.

> Yeah, I don't think you've even developed much of a personality, let alone a mental health profile, you know? I think it'd be very just very hard pressed to figure that out. I mean, those kids are so young, and so reactive. I mean, I don't know that you could diagnose something that young, you know?
>
> White Republican Man, 46-55, Texas

2. Children can have mental health: It's the same as adult mental health, only simpler

Research revealed that when informants answered "yes" to the question of whether children can have mental health, their reasoning was structured by two fundamental cultural models.

a. *Children are little adults.* Inherent across all informant accounts of why children can experience mental health was an assumption that children are just smaller versions of adults. Consequently, informants reasoned that children have all the same issues as adults. When this assumption was active in reasoning, informants explained that, if adults can have mental health, children must also experience this mental state. The following quote is an explicit example of the assumption that normally underlay informant explanations more implicitly.

> Good mental health, to me, would be like; I would see them [children] as little people. As happy-go-lucky playing, but poor mental health to me is like a child, you know, like a little person that has to deal with more adult things.
>
> White Republican Woman, 36-45, Ohio

b. *Children have simpler worlds with fewer variables.* A second assumption that ran through informant explanations of why children can experience mental health was that the worlds that children live in and experience are simplified versions of adult worlds — they consist of an incredibly small set of significant factors: parents and the home. According to this assumption, the factors that influence individuals become more and more numerous and complicated as the individual grows older. In short, the factors of significance in the life of a 5-year-old are fundamentally reducible to their parents and their home environment, whereas those factors that shape the mental states of adults are incredibly numerous and highly complex. Informants assumed that life gets more complicated as a person ages because there are more inputs that can have effects. Informants frequently drew on the metaphor of *variables in an equation* to express this idea. The assumption was that because there are not many things that can cause child mental health and the factors that could are quite simple, children can have mental health (there are some factors) but can't experience either very good or very poor states of mental health. Poor mental health problems are the result of negative emotions caused by negative *experiences*. The factors that shape children's experiences are relatively simple, and therefore children simply have less *opportunity* for poor mental health.

> I don't know? I just don't know that kids are *as* anxious. I just think adults have a whole lot *more* to worry about.

Black Democrat Woman, 36-45, Ohio

> I think it's [what can cause children to have mental health] just simpler. I mean, you look if mental health by age were an equation, the 2-year-old's equation would have two variables. Mine right now [LAUGHTER] is about 40 variables. So, the older you get, the more variables there are and you have some plusses and minuses …

Black Democrat Man, 36-45, Ohio

> I would assume when it's a child, it's more about, you know, just whether it's getting what it needs. When they're an adult, although that's there, there's also the other things, like the health issues, or there's like if it's able to provide for themselves, or these other issues that come in that, you know, influence that …
>
> **Interviewer: So it's different [child and adult mental health]**
>
> No, I think it's just more stuff. More complicated.

White Democrat Woman, 30-35, Ohio

Bringing these two assumptions together, informants reasoned that, since children are little adults, they have the same capacity to experience good or poor mental health, but because of the simplified realities in which they live, they have a reduced opportunity to experience extreme states of positive or negative mental health.

Implications of the models used to reason about child mental health

1. When individuals employ the assumption that children don't understand, realize or remember emotions, communicating the science regarding the importance and significance of child mental health becomes decidedly more difficult. If a child can't experience emotions, and emotions are the root of mental health, then, according to informant assumptions, children simply do not experience mental health. Once people have employed available models to reach this conclusion, they are cognitively disadvantaged to hearing messages about the existence and importance of child mental health. If people are employing an assumption which makes it difficult to think that children can in fact experience good and poor mental health, it becomes challenging to communicate the message that such states are not only possible but have significant impacts and warrant action. This is even more problematic in discussions of early child mental health where the capacity to have and experience emotions is significantly less developed.

2. The second implication of the cultural model that children, especially young children, don't have the capacity to remember experiences, is that the long-term effects of early experiences are difficult to realize. If a young child has limited ability to remember, their experiences have limited long-term impacts. This assumption, therefore, obscures messages about long-term impacts, or windows of developmental opportunity.

3. When individuals assume that, because children are little adults, child mental health and adult mental health are the same concept, they also draw conclusions that the ways of addressing mental health must also be the same. This line of thinking limits perceptions of appropriate treatments to those that encourage children to take responsibility for dealing with negative emotions. Not only do people see dealing with emotions as the only appropriate treatment, but their view of the people and places involved is similarly narrowed by the assumption that a child's world consists exclusively of parents and the home. The ability to communicate about the importance of out-of-home factors and treatments is severely restricted by the application of the simplified realities cultural model that was here found to be dominant in how individuals think about children.

II. RECESSIVE MODELS OF CHILD MENTAL HEALTH

Several other models emerged from the cultural models interviews and, although these models were not as frequently employed and were not used with the same degree of automaticity as the dominant models described above, they are nonetheless important. We call these "recessive" models and most emerged at the end of interviews in the course of more specific discussions of child mental health. Many of these models are in line with the expert story and therefore represent promising communications directions. These recessive models can therefore be thought of as ways that are *available* to the public to think about child mental health but assumptions that individuals don't *readily* or *automatically* employ in understanding the issue. Put another way, these recessive models require specific cuing to become active in the mind. We pursue these recessive models as promising avenues of thinking because they seem to help informants engage in an understanding of child mental health that, relative to the more dominant models, is more consonant with the scientific concept and understanding of child mental health.

1. *Environments are important determinants of child mental health.* Some of the informants who indicated that they thought children could in fact experience mental health explained that a child's environment is a central determinant of whether they experience good or poor mental health. These informants recognized that the environment a child is in influences their mental health. This model is promising as a way of opening the door for the public to realize the important role that policies and programs play in shaping environments. However, when probed further about more specific understandings and assumptions as to these environments of significance, a concerning trend emerged. Informants clearly had assumptions about contexts of significance that were restricted to *parents* and *homes*. Therefore, the recessive assumption that environments are key determinants in the equation of child mental health leads in both promising and problematic perceptual directions.

> When it [mental health] would be bad is if they've had a bad situation they've grown up in, and nobody's attended them, then that's bad because, you know, that's not normal. Normal to me is "Okay Johnny, you can't have that toy." Wha! [Crying sound] No, mom said no, and that's calm, but if you're in a bad situation all the way around where you gotta divorce, you got a father that beats the mother up, that abuses them, beats them, whatever, that's when it's bad.

Conservative White Woman, 36-45, Ohio

I just think being around them, and seeing how they live and act, and I think that someone with healthy parents, they would be perceived by me, as good mental health parents. Seeing them grow up that way because you kind of learn by watching, and they learn how to handle different situations, and are okay with stuff, and kind of grow up that way.

Independent White Woman, 26-29, Texas

The environment in which they're raised [determines mental health]. The parental source in which they emulate. You know, abuse, things like that. I mean, I'm sure those are factors.

Independent White Man, 26-29, Texas

2. *Prolonged stress affects mental health.* Some informants discussed the role of stress in shaping child mental health (and mental health more generally in the early more open ended questions). Probing on this issue revealed an underlying assumption made by some informants that stress has an impact on child mental health; more specifically that prolonged or repeated stress, and experiences that precipitate stress, can lead to poor mental health in children. When probed, informant responses revealed an assumption that stress can get into the body and affect not only the physical health of the child but also his or her mental health. It must be noted again, however, that this connection was not even made by all informants that indicated that children could experience mental health, which was already a subset of the total sample.

   Stress in children was seen to derive from two contexts, home and, once children enter elementary school, school. This suggests, as discussed above, that informants assume narrow contexts of influence for children, especially for young children who have not yet entered "real" school. For such children, individuals have considerable difficulty seeing how any context other than the home has any influence or effect on the mental (or even more general) health of a child.

   Well, because you find that that comes from early exposure to high stressed situations at home.

   Liberal Black Man, 36-45, Ohio

   Interviewer: Can kids experience stress?

   Um … yeah. Especially like school age. I know that I was always stressed before a test. I think that causes stress in kids. Just school, homework and projects, and I think that can be a little stressful. Things like that or back to the situation at home. Maybe something there is causing them a little stress.

   Liberal Black Woman, 36-45, Ohio

> Kids can have stress, but I think that for the most part stress is something that more often is gonna be handed to them. Yeah, well I think that comes more from the inputs that they're getting at school. You may have a kid that comes in wearing a pair of $20 sneakers, and it's fine with him until the kid with the $100 pair of sneakers says, "Hey you got on cheap sneakers." So, then they're like, these are cheap sneakers.
>
> *Liberal Black Man, 36-45, Ohio*

3. *Poor foundations cause poor child mental health.* Some informants focused on the idea of "foundations" during their discussions of child mental health. During these infrequent discussions, informants relied on an assumption that childhood is the time when foundations are built, and that a lot of what happens later for children and adults is both built on and determined by these the foundations that are constructed in early childhood. In respect to child mental health, informants assumed that the mental health of a child as they grow up is in part determined by the quality and strength of their "foundation." However, when probed further about what shapes children's foundations, informants defaulted back to the very dominant American cultural model that FrameWorks calls the Family Bubble. In short, when asked to explain the foundation to which informants referred, there was a tendency to assume that foundations are comprised of and constructed from a very narrow set of materials, restricted to the child's parents and their home environment. Put another way, some informants recognized the power of the development that occurred in early childhood to shape an individual's mental health, but much in the same way as environments were construed narrowly, foundations were seen as being built with two materials: parents and homes.

> It's like you're building a foundation right out of the gate. If you have a baby, and all you do is keep putting it in the bed, and you let it cry, and you go in the other room and watch your soap operas, and you don't really care, what are you telling that child? He's crying. That's his way of speaking out to you; I need you, mom. I need my diaper changed. I need a bottle. Just hold me, just love me, and if you don't, then you know, they become independent, and they think, well, nobody cares about me. There's no connection; no bonding. And it's important, and that can cause children to be a little bit crazy later because they never had a parental bond.
>
> *Conservative White Woman, 36-45, Ohio*

> You know what; I think there can be good or poor … but I really think a lot of it is due to situations because when you're a baby you have no clue, and I think it's just the surroundings bring out that side of a child. If it's a good healthy foundation, you're gonna see that. If it's a poor foundation; family troubles, family problems, you're gonna see that.
>
> *Independent White Woman, 36-45, Ohio*

4. *Functioning is the key to child mental health.* For some of the informants who recognized that children have mental health, the ability to function was a key element in identifying good versus poor mental health. When asked how they would tell whether a child had

good or poor mental health, these informants explained that you would have to look at what the child was and was not able to do; whether or not they functioned at "normal" or developmentally appropriate levels. These informants reasoned about child mental health based on the assumption that mental health is what enables a child to function. Those who have poor mental health lack the abilities that comprise age-appropriate functioning, where as those with good mental health are able to engage in and complete tasks that are typical for children at their age. In this way, informants held a developmentally appropriate understanding of child mental health — that child mental health is a different thing for children at different developmental stages because it is based upon functioning, which is also developmentally constructed. This pattern of understanding appears to be consonant with expert explanation of child mental health.

Broad implications of the recessive models used to understand child mental health

1. Results indicate that Americans appreciate the effect of environments on the mental states of children. However, the overwhelming assumption of parents and home as the only constituents of environments presents a communications challenge. Dramatic differences lay between this understanding of environments and the wider eco-socio-cultural conceptions of contexts of influence employed by scientists and advocates. The public assumption that parents and homes are the sole components of environments limits the scope of policies that are perceived as relevant to those that affect parents, parenting and homes. With a wider conception of environments as the entirety of experiences and exposures that a child and their parents have, a wider range of policies becomes relevant in thinking about developmental outcomes and mental health. The narrow assumptions about what the environments are that impact mental health point to the need to broaden the public's implicit assumptions about the environments that are significant in a child's development and open up the understanding that a wide range of social, cultural and ecological factors influence and impact the mental health and development of children.
2. The recessive model about the influence of and connection between stress and mental heath represents an opportunity to put the science of child mental health in line with the public perceptions on the issue and encourage more productive understanding of the science on this issue. Interviews suggest that there is an underlying assumption available to Americans through which they can understand the significance of stress as a cause of poor child mental health. Activating this latent but available pattern of thinking may allow scientists to talk about the effect of stress and negative experiences that create stress (part of the science story of child development more generally and mental health more specifically) on the functioning of children and the power of these experiences as determinants of child mental health. Even though less dominant than other patterns of thinking, Americans appear to make the connection between stress and its effects on the minds and bodies of children. Research suggests that activating these models in attempts to translate the science of child development (as has been done in the Core Story of child

development) also holds promise in communicating more specifically about child mental health. [6]

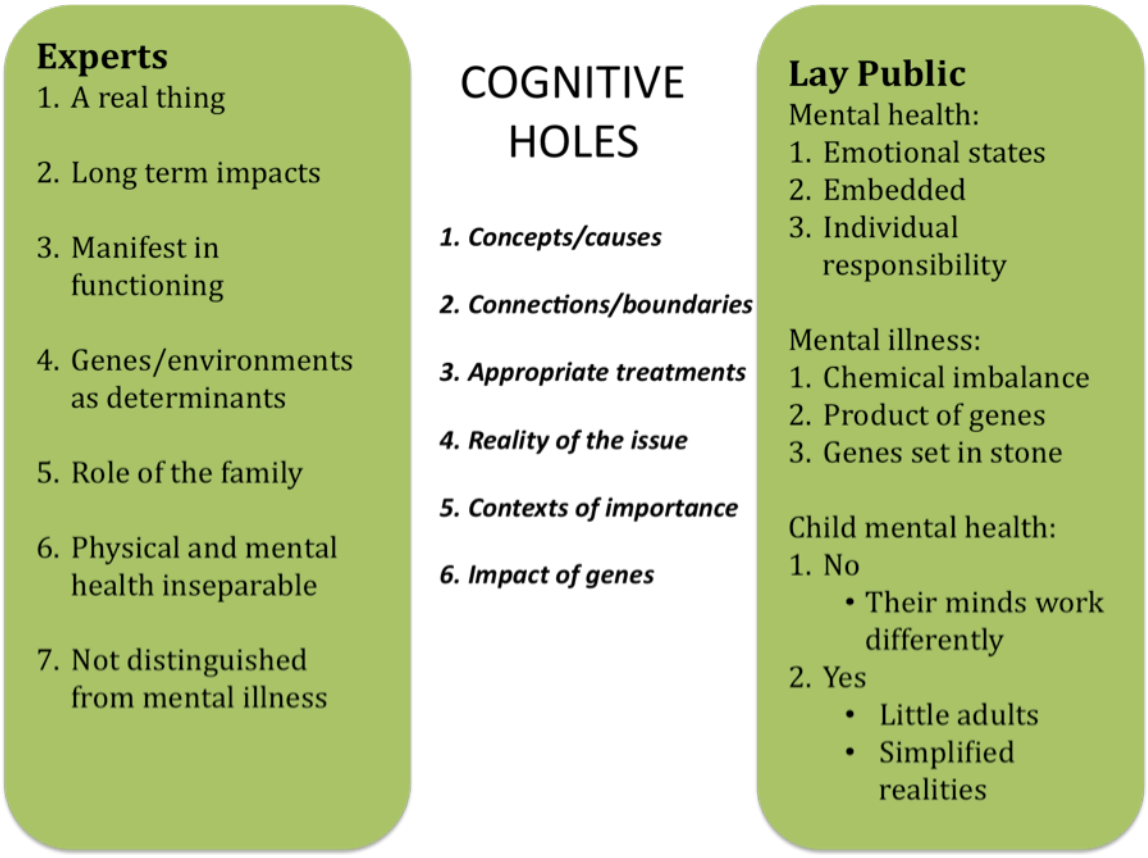
3. The "foundations" model has the potential to open up thinking about the importance of context and the power of policy and programs to affect the contexts in which children develop and have experiences. It would seem that by activating this model, scientists and advocates would be better able to communicate about key aspects of the story of child mental health and child development more generally. Namely, that there are critical periods that "set the stage" for later outcomes, that brains are built in early childhood, and more specifically, that child mental health issues can in fact develop in early childhood and have long-term impacts. However, this pattern of thinking has the unfortunate although not surprising tendency to activate and reinforce or precipitate little-picture thinking in much the same way as the *environments influence child mental health* model discussed above. In other words, when informants make the assumption that a child's foundation is in part responsible for determining whether that child has good or poor mental health, they also make assumptions about what comprises this foundation — parents and the home. This limits the contexts that individuals can see as important to child mental health and inhibits people's ability to appreciate the importance of the range of policies that science suggests are appropriate for addressing child mental health issues.
4. The functioning model described above presents an incredible opportunity in translating and communicating the science of child mental health. The ability to see the functioning of a child as a sign of mental health is directly consonant with the expert explanation described above. Our research suggests that including the concept of *functioning* in descriptions of what child mental health and the outcomes it affects is an effective means of shifting away from more unproductive patterns of thinking and engaging the public in a concept that is directly in line with the science on this issue.

[6] Manuel, Tiffany. (2009). Refining the Core Story of Early Childhood Development: The Effects of Science and Health Frames. Washington, DC: FrameWorks Institute.

COGNITIVE HOLES

The primary goals of this analysis have been to: 1) document the way scientific experts talk about and explain the issue of child mental health; 2) establish the way that the lay public understands the concepts of mental health, mental illness and child mental health; and 3) compare and "map" these explanations and understandings to reveal the overlaps and gaps between these two groups. While we focus here on the gaps between expert and public understandings to identify areas of understanding that would benefit from simplifying models, research did suggest that there *are* some areas of overlap between the way that scientists and the general public understand these concepts. These overlaps are largely discussed in the preceding "recessive models" section. FrameWorks views overlaps in patterns of thinking as features of the cognitive landscape that communications must use to shift thinking and counteract the more dominant and unproductive cultural models.

In addressing the gaps, we identify particular areas where "cognitive holes" on the part of the public impair a productive understanding of the science around an issue. The figure below represents the *map* of expert explanations, lay cultural models and the gaps that exist between these two groups in understanding mental health and child mental health more specifically. An integral part of FrameWorks' Strategic Frame Analysis™ is to first generate this map and then design simplifying models that fill these holes by cultivating clarifying metaphors that concretize key scientific concepts. Designing simplifying models relies on knowing the *locations* and *characteristics* of expert-lay cognitive holes — it requires a detailed, in-depth understanding of the map. Understanding the locations and features of the specific holes detailed below is therefore essential as we move from the largely descriptive research laid out in this report to more prescriptive reframing experiments that will follow.



1. *Concepts and causes.* There were conspicuous holes between the ways that scientists and the general public conceptualize mental health and mental illness. The expert interviews revealed complex understandings of mental health and illness in which a wide variety of factors and considerations function as possible causes and in which a wide variety of treatments hold promise. Expert explanations of causation focused on the interaction between genes and environments as the determinants of both mental health and illness. Research suggests that the public, on the other hand, holds much narrower conceptions of both concepts, assuming that mental health is a purely emotional concept, while mental illness is determined exclusively by chemicals and genes that are set in stone. Communications should aim to provide the public with new causal conceptions of mental health and illness that are in line with the expert understanding and would increase the solutions that public sees as viable to these issues.

2. *Connections and boundaries*. In addition to seeing different concepts, the degree to which both scientists and the public implicitly connect these concepts and distinguish between them is an important cognitive hole. Expert interviews revealed little distinction between mental health and illness and demonstrated a tendency to blur the line between mental health and mental illness. In short, most of the discussion in the scientific community on mental health is in reality a discussion of mental illness. This conceptual blurring stands in stark contrast to the public's conceptualization of these concepts as absolutely distinct,

with different assumptions guiding thinking on one concept than those applied to make sense of the other.

3. *Appropriate treatment.* Because of the connection between perceptions of causation and views of effective treatment, the fact that experts and the public have dramatically different sets of assumptions about what causes these various states means that they see dramatically different sets of treatments as appropriate. The gap between expert and lay public assumptions of causation leave communications caught in the middle; the treatments about which scientists and advocates want to communicate are highly dissonant with the treatments that the public is cognitively equipped to see as effective and necessary policy components. Whereas the expert understanding of causation opens the door to a wide range of potential factors that shape mental health and illness outcomes and a range of effective means of addressing these causes, the public's perception is substantially more limited. Lay assumptions of causation structure two narrow understandings of effective treatments. When the issue is mental *health*, appropriate treatments are those in which individuals take responsibility for and deal with their own negative emotions. When the issue is mental *illness*, effective treatment must rebalance chemicals through the use of drugs, but will never "heal" or "cure" the underlying genetically predetermined condition. In the words of one informants, "you can *come out of* mental health problems, but the illnesses stuff is just the way it's gonna be…"

4. *The reality of child mental health.* One of the most glaring gaps between experts and the public is that experts insist that child mental health is a real phenomenon that requires treatment. Our interviews with members of the lay public, on the other hand, demonstrate that the public does not share this unequivocal conviction in the reality and existence of this phenomenon. Many informants employed cultural models to understand child mental health that made it difficult for them to see and appreciate the fact that children could experience good or poor mental health. Crafting communications that shift Americans off the dominant model in which the minds of children are fundamentally different from those of adults is paramount in making the science of child mental health cognitively available to the public.

5. *Contexts/environments of importance.*
   Another conspicuous cognitive hole emerged from comparing data on what either group sees as the environments that shape mental health and illness outcomes. Data from cultural models interviews point clearly to a restricted lay conception of the environmental factors that play a role in shaping a child's mental health: family and self. The expert conception of the environmental factors that impact these states is dramatically broader, systemic and includes factors from beyond the family bubble. Filling this hole requires providing a new conceptual framework around the concept of child mental health that allows for the consideration of a wider range of causal factors.

6. *The impact of genes.* Finally, similar to recent FrameWorks research exploring lay conceptions of the interaction between genes and environments, cultural models interviews revealed a dramatic gap between the expert understanding of genes and their

functioning in determining outcomes like mental health and that of the average American. Cultural models interviews revealed a heavily fatalistic understanding of genes — in which genes and the outcomes they determine are firmly set in stone. The expert explanations are in opposition to this understanding — resting on the idea that genes and outcomes are not set in stone. Rather, experts explained that environments have a fundamental impact on how and when genetic material is expressed.[7]

CONCLUSIONS

This report describes and examines the implications of the ways that members of the scientific community and the general public think about concepts of mental health, mental illness, and more specifically how these groups understand these concepts in relation to young children. Thinking on these topics is examined through the analysis of interview data with members of both of these groups. The report considers the limitations of the dominant cultural models currently in place in the public's thinking about mental health, mental illness and of these concepts as applied to young children. A primary goal of the report has been to locate specific gaps, or cognitive holes, between the ways experts and the general public understand and talk about these issues. These lay-expert gaps must be addressed in communicating and translating the science of child mental health and, as such, addressing the presence of these holes through the design of specific frame elements including simplifying models is a major task of FrameWorks' next stage of research on this topic.

Ultimately, the report demonstrates the pressing need for scientists and reformers to work on providing Americans with alternative ways of thinking about what are currently seen as neatly distinct and simple concepts of mental health and illness and about the existence of states of mental health in children. It is our firm position that, without new ways to think about mental health in children, the public will interpret communications on child mental health through the perspective that this is not a real concept, which will result in considerable difficulty in applying the science on this topic in thinking about, realizing and supporting public policies to improve the environments families and children experience, the preventive programs which might improve their well-being and their access to age-appropriate and ongoing treatment. New communications strategies are required to shift away from patterns of thinking in which the minds of young children are seen to be incapable of experiencing the mental states required to have either good or bad mental health and the understanding in which the limited power of children to remember translates into the general position that early experiences in children have little lasting impact or significance in both their mental health and overall development. Communications must also shift the perceptions of causation that people hold for both mental health and mental illness and the contexts currently assumed to be significant to open a wider dialogue around this issue that includes and considers the importance of a wider set of policies that focus on the systems into which both children and families are embedded. Subsequent phases of research will explore precisely how scientists can most successfully address the challenges presented here.

---

[7] Using the simplifying model that comes out of FrameWorks' ongoing research on gene-environment interaction will be effective in creating a different understanding of how genes shape and are involved in child mental health and illness outcomes.

While this research represents the first phase of our larger investigation, several preliminary recommendations and future directions have become apparent:

1. *Connect concepts and expand thinking*. Communications must expand both the cultural models that are applied to think about mental health (as these limit the types of causes and treatments to which the public will be receptive) and mental illness (as these models limit the discussion of mental illness to ones of fatalistic chemical imbalances). Scientists and communicators must come up with a way of talking about these two concepts that provides a model through which the public can understand how mental illness and mental health relate to one another.

2. *Connect child mental health with family well-being and situate families in larger social and community contexts.* Connecting child mental health with family well-being is directly in line with the science on this issue and appears to be consonant with existing patterns of public understanding of child mental health. *However*, communications must approach this child-family connection warily and with considerable caution, as it has the potential to constrict thinking and make public issues narrowly ones of personal and parental responsibility. One possible solution is to embed this child-family connection into a larger discussion of the importance of social and community contexts; contexts in which people can see the importance and role of policy in shaping family contexts. Communications should also focus on expanding the contexts and foundations that the public sees as relevant in shaping the mental health of children. Put another way, that people can see that environments and foundations affect mental health is highly promising, but communications must work hard to change the conceptualizations that people have and the assumptions they make regarding the content and factors that comprise these environments and foundations.

3. *Use the concept of functioning*. Employing the recessive model of functioning is in line with the science story of child mental health and represents a latent but available way that the public has to think about the fact that child mental health *does* exist and to understand many of the policy and programmatic implications of the issue.

APPENDIX A: MORE INFORMATION ABOUT EXPERT INTERVIEWS

RESEARCH METHOD

Subjects

Seven child mental health experts were identified by surveying prominent specialists in the field of early child development. A FrameWorks researcher conducted one-on-one interviews with these experts over the phone in December 2008 and January 2009. Interviews lasted approximately one hour and were recorded and transcribed with participants' permission.

Interviews

In past FrameWorks research, we have found talking to experts in a particular issue or area of study to be an invaluable addition to a more traditional review of the literature, particularly in revealing the major tenets of the expert discourse — that is, the common and standardized themes and currents in how experts talk about and conceptualize the relevant subject.

We aimed to use these interviews to reveal the gaps, or what we call "cognitive holes," that currently exist between how experts understand and explain child mental health and how average Americans think about and conceptualize this topic. Coupling these expert interviews with a series of cultural models interviews with members of the general public enables FrameWorks to locate cognitive holes. In other words, during the analysis of and comparison between the data derived from these two methods (expert and lay-cultural models interviews) the cognitive holes become powerfully and readily apparent. These cognitive holes then represent targets to address in our efforts to reframe the issue of child mental health. Because of this goal, we designed these expert interviews to elicit the "story" of child mental health from the scientists who were positioned, because of ongoing research and academic interests, to give us a general account of what the science has to tell us about this topic.[8]

A FrameWorks researcher guided expert informants through a series of prompts and hypothetical scenarios designed to challenge them to explain their research; break down complicated relationships; and simplify concepts, methods and findings. For example, in one exercise, experts were asked to imagine that they were speaking to a room of policy makers and were tasked with explaining what mental health is in young children, and the implications of this concept for "average" Americans. In addition to the preset questions, the researcher probed with additional questions that members of the hypothetical audience might ask in response to the initial explanations offered by the informant. In this way, the interviews were semi-structured

[8] We also saw this series of interviews as a valuable opportunity to elicit the distilling and clarifying concepts and metaphors that scientists use to relate their findings to various "public" audiences. In our past communications research on early child development, the metaphors and concepts we have been able to "mine" from experts have proven invaluable in translating scientific findings into a digestible and effective story that emphasizes policy implications to both policy makers and the general public.

collaborative discussions with frequent requests for clarification, elaboration and explanation.

Analysis

Analysis of the expert interviews was conducted using a basic grounded theory approach.[9,10] Common themes were pulled from each interview, but the themes comprising the final list presented below are consistent with and representative of *each* scientist's account. This is a hallmark of the grounded theory approach in which data is analyzed to generate categories and themes, which are modified and refined during analysis to accommodate negative cases — resulting in a set of categories and statements that are consonant and account for the *entire* data set. In addition to pulling out the science "story" of child mental health, analysis focused on identifying both overt/explicit and covert/implicit metaphors that the experts used in the interviews. These metaphors are invaluable in FrameWorks' communications research and will be subjected to empirical qualitative and quantitative testing as we move forward with our iterative research process.

The core themes that emerged from the analysis of these expert interview data are presented below.

CORE THEMES

1. Child Mental Illness *is* a Real Thing

In our interviews, experts concentrated on the point that child mental illness is a *real* phenomenon — that children really can experience mental illness and that there are variable degrees, or levels, of this state. To make this point, experts relied on three lines of reasoning. When asked to defend the position that children can really experience poor mental health, experts explained that there are distinct patterns in the symptoms of children experiencing mental illness. Experts explained that this suggests that children with these symptoms are actually experiencing *something* — that when scientists talk about child mental health, they are talking about a discrete and definable phenomenon. They explained that symptoms are manifest as patterned deviations from "normal" abilities and behavior. Secondly, experts explained that because these common patterns of symptoms across individuals respond in similar and predictable ways to treatment, symptoms are in fact characteristic of an observable and treatable phenomenon, similar to mental illness in adults. Finally, experts responded to probes about whether or not children really could experience mental illness and mental health by citing the *outcomes* of mental illness in children. Experts discussed epidemiological research that has shown the "costs to society" derived from child mental illness. In other words, if something causes real outcomes, it in turn must also be real. In summary, the logic used by experts to explain why mental illness does in fact exist in children was that there are patterns of symptoms, these symptoms respond to treatment in similar ways, and that the presence of this phenomenon is apparent in its clear effects on both individuals and society more broadly.

[9] Glaser, Barney G., and Anselm L. Strauss. The Discovery of Grounded Theory; Strategies for Qualitative Research. Chicago: Aldine Pub. Co. 1967.

[10] Strauss, Anselm L., and J. Corbin. Basics of Qualitative Research: Grounded Theory Procedures and Techniques. Newbury Park, CA: Sage Publications. 1990.

2. Life-Long Effects

Scientists emphasized that what happens in childhood affects an individual for their *whole life*. In short, children who experience persistent symptoms of mental illness are impacted in a wide range of areas, from school to social abilities, to proficiency in dealing with issues and challenges of everyday life. Experts explained that child mental illness affects the success of the individual for the rest of their lives.

3. Functioning

Experts employed a concept of *functioning* to explain what child mental illness is and how it manifests. At points during all interviews, experts explained that mental illness could be conceptualized as an *inability for children to function* in culturally standard developmental patterns. Experts used this concept both explicitly, in explaining what child mental health is, and more implicitly in discussing diagnosis and treatment. When used explicitly, the concept of functioning was employed to explain child mental health to audiences who would be reluctant to realize and/or understand the concept and would be resistant to its existence at all. According to experts' hypotheses, even if people are resistant to recognizing certain diagnoses in kids (depression for example), they would be less resistant to thinking about limits in functioning (i.e., what it means for a child to have mental illness). Child mental illness, therefore, can be conceptualized as something that affects the way kids function and can or can't do "normal" things. "Treatments" for child mental illness can be similarly conceptualized as ways of helping kids function — rather than as treating an illness.

4. Genes and Environment

In our interviews, experts discussed the causes of mental illness in children by focusing on the interaction between genes and an individual's experiences in an environmental context. Scientists employed this interaction to formulate four different combinations of influences that ranged from least to most predictive of child mental illness. On the least predictive side was the scenario where a child has a predisposed resistance to threats of mental illness *and* is situated in an environment that supports positive mental health. On the other extreme was the scenario where the child has a predisposition to mental illness and experiences a stressful and unsupportive environment. The other two combinations of these factors lay between these extremes (genetic resiliency and unsupportive environment, and genetic predisposition and supportive environment). See Table 1 for a representation of these categories.

Table 1: A Matrix of Risk for Child Mental Illness

		Environmental Context	
		Good	Poor
Predisposed to Mental Illness	Yes	*Moderate*	*Most predictive of mental illness*
	No	*Least predictive of Mental illness*	*Moderate*

5. The "Family" in Child Mental Health

Experts were resolute and unequivocal in making the connection between the mental health of the family, particularly of the child's mother, and that of the child. Experts explained that, if parents' functioning is limited by symptoms of mental illness, they cannot respond to the child's needs. Consequently, when physical and socio-emotional needs are not met, dysfunctional responses in the child, impaired development of functional responses, and an increased likelihood that the child will develop mental illness are likely to precipitate.

6. Child *Mental* and *Physical* Health are Inseparable

The idea that mental and physical health are closely related and intertwined was a dominant theme in our expert interviews. For the experts, mental illness was rooted in the body in the same way as physical health. Physical illness was explained as occurring when trauma or disease acts upon some area of the body, and is then manifest as physical symptoms. Mental illness was explained using the same underlying model, logic and causal sequence — occurring as the result of some physical change in the brain. Because of its roots in the body, mental illness can be understood from the same perspective as physical illness — it is located in the body and is the result of physical changes to that body in much the same way as when someone gets the flu or breaks an arm.

7. Child Mental Health is "Fuzzy"

A dominant feature, both explicitly recognized and implicit in shaping conversations in expert interviews, was a lack of clarity on the science of some key issues in the field of child mental health. Experts explained that diagnosing the symptoms of child mental health remains contentious because adult models cannot simply be "aged down" to fit the symptoms and experiences of children. Because children are so developmentally different from the adults on whom diagnostic models are based, diagnosing child mental illness is an area where the science remains inconclusive. Further complicating this issue is the fact that there is no one "child" model of mental illness or health because of the vast differences between both individual children and children at different developmental "windows." "The child" was described as a

moving target. Experts also explained that much of the scientific understanding of adult mental illness is based on self-report data, which for obvious reasons is less readily available, detailed and reliable for young children. Another reason for the imprecise nature of the scientific understanding of diagnoses in child mental health is the lack of significant case history when dealing with young children. Quite simply, young children have not been alive long enough to have the extended, detailed and heavily patterned case histories of symptom presentation as their adult counterparts. Such case histories are influential in diagnosing mental illness in adults and the absence of these data create diagnostic difficulties in children. Finally, experts explained that the relative scientific fuzziness of the concept of child mental health and illness is due to the newness of this area of scientific research and clinical practices. In other words, the discipline is relatively under-conceptualized and poorly understood because scientists have only recently begun to focus on mental illness in young children.

8. No Concept of Child Mental *Heath* and an Implicit Blurring of the Concepts of Mental *Illness* and Mental *Health*

Surprisingly absent from our interviews with experts was a working concept of child mental *health* or a positive conception of the issue. For each scientist we spoke with, child mental health was largely defined as *the absence of mental illness*. Implicit in each of our interviews (our questions were broad at the outset to see how experts oriented towards the concept that we introduced as "child mental health"), experts focused on child mental *illness*, with little to no mention of what it means for children to have mental *health*. The implicit assumption made by our informants was, therefore, that child mental health is the absence of the aggregate of child mental illnesses.

APPENDIX B: THEORETICAL FOUNDATIONS

The following are well-accepted characteristics of cognition and features of cultural models that figure prominently into the results presented in this report and in FrameWorks' research more generally.

1. Top-down nature of cognition

Individuals rely on a relatively small set of broad, *general* cultural models to organize and make sense of information about an incredibly wide range of *specific* issues and information. Put another way, members of a cultural group share a set of common general models that form the lens through which they think and make sense of information pertaining to many different issues. This feature of cognition explains why FrameWorks' research has revealed many of the same cultural models being used to think about seemingly unconnected and unrelated issues — from education to health to child development. For example, FrameWorks' research has found that people use the *mentalist* model to think about child development and food and fitness — seemingly unrelated issue areas. For this reason, we say that cognition is a "top-down" phenomenon. *Specific* information gets fitted into *general* categories that people share and carry around with them in their heads.

2. Cultural models come in many flavors but the basic ingredients are the same

At FrameWorks, we often get asked about the extent to which the cultural models that we identify in our research and that we use as the basis of our general approach to social messaging

apply to ALL cultures. That is, people want to know how inclusive our cultural models are and to what extent we see/look for/find differences across race, class or other cultural categories. Because our aim is to create messaging for mass media communications, we seek out messages that resonate with the public more generally and, as such, seek to identify cultural models that are most broadly shared across society. We ensure the models are sufficiently broad by recruiting diverse groups of informants in our research who help us to confirm that the models we identify operate broadly across a wide range of groups. Recruiting diverse samples in our cultural models interviews often confuses people who then think we are interested in uncovering the nuanced ways in which the models take shape and get communicated across those groups, or that we are interested in identifying different models that different groups use. To the contrary, our aim is to locate the models at the broadest possible levels (i.e., those most commonly shared across *all* cultural groups) and to develop reframes and simplifying models that advance those models that catalyze systems-level thinking. The latter does not negate the fact that members of different cultural groups may respond more or less enthusiastically to the reframes, and this is one of the reasons why we subject the reframes that we recommend to our clients to rigorous experimental testing using randomized controls that more fully evaluate their mass appeal.

3. Dominant and recessive models

Some of the models that individuals use to understand the world around us are what we call "dominant" while others are more "recessive," or latent, in shaping how we process information. Dominant models are those that are very "easy to think." They are activated and used with a high degree of immediacy and are persistent or "sticky" in their power to shape thinking and understanding — once a dominant model has been activated, it is difficult to shift to or employ another model to think about the issue. Because these models are used so readily to understand information, and because of their cognitive stickiness, they actually become easier to "think" each time they are activated — similar to how we choose well-worn and familiar paths when walking through fields, and in so doing these paths become even more well-worn and familiar. There is therefore the tendency for dominant models to become increasingly dominant unless information is reframed to cue other cognitively available models (or, to continue the analogy here, other walking paths). Recessive models, on the other hand, are not characterized by the same immediacy or persistence. They lie further below the surface, and while they *can* be employed in making sense of a concept or processing information about an issue — they *are* present — their application requires specific cues or primes.

Mapping recessive models is an important part of the FrameWorks approach to communication science and a key step in reframing an issue. It is often these recessive patterns of thinking that hold the most promise in shifting thinking away from the existing dominant models that often inhibit a broader understanding of the role of policy and the *social* aspect of issues and problems. Because of the promise of these recessive models in shifting perception and patterns of thinking, we discuss them in this report and will bring these findings into the subsequent phases of FrameWorks' iterative methodology. During focus group research in particular, we explore in greater detail *how* these recessive models can most effectively be cued or "primed," as well as how these recessive models *interact* with and are *negotiated* vis-à-vis emergent dominant models.

4. The "nestedness" of cultural models

Within the broad foundational models that people use in "thinking" about a wide variety of issues lay models that, while still general, broad and shared, are *relatively* more issue-specific. We refer to these more issue-specific models as "nested." For example, in our past research on executive function, when informants thought about basic skills, they employed a model for understanding where these skills come from, but research revealed that this more specific model was nested into the more general *mentalist* cultural model that informants implicitly applied in thinking this issue. Nested models often compete in guiding or shaping the way we think about issues. Information may have very different effects if it is "thought" through one or another nested model. Therefore, knowing about which models are nested into which broader models helps us in reframing an issue.

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.

Please follow standard APA rules for citation, with FrameWorks Institute as publisher. Kendall-Taylor, Nathaniel (2009). *Conflicting Models of Mind in Mind: Mapping the Gaps Between the Expert and the Public Understandings of Child Mental Health as Part of Strategic Frame Analysis™*, Washington, DC: FrameWorks Institute.