

Building Opportunity into Adolescence

Mapping the Gaps between Expert and Public Understandings
of Adolescent Development

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A FrameWorks Map the Gaps Report

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Introduction

Scientists are making major strides in their understanding of adolescent development. They are finding that brain and biological systems interact with the social environment during this period to shape key capacities that affect lifelong health and wellbeing. The notion of adolescence as a period when individuals are primed for certain kinds of learning is groundbreaking—and holds major implications for how educational, health, legal, and other systems can best support adolescents as they transition to adulthood.

Uptake of this research among the public and policymakers, however, has been slow. A sizable gap remains between what we know about adolescents and what we do to support them.¹ While some steps have been taken, the wide-scale changes to policy and practice that are needed to optimally support adolescents have not yet materialized. This report offers one explanation for this failure: much of what researchers are learning about development is inaccessible to the public and their policymakers.

This stems from deep cultural assumptions about how people learn and change and entrenched beliefs about young people, and their lives and needs. These assumptions are echoed and amplified by the media, which strengthens their power in public discourse and in public thinking.² These assumptions make it hard to engage with the science of adolescent development and block it from informing public policy and practice in ways that promote social change and advance equity in the United States and across the globe.

Communicating effectively about adolescent development requires a clearer sense of the key ideas emerging from the science and a deeper understanding of how the public thinks about these issues. With this knowledge, we can identify key messaging gaps and begin to frame them in ways that will build public will and create a context in which policy and practice change is possible.

The research presented here is part of a broader project sponsored by the Funders for Adolescent Science Translation (FAST), a consortium that aims to develop communications strategies to build public understanding of adolescence. This consortium includes The Annie E. Casey Foundation, the Bezos Family Foundation, the Chan Zuckerberg Initiative, the Ford Foundation, the Conrad N. Hilton Foundation, the Raikes Foundation, the Robert Wood Johnson Foundation, and the National Public Education Support Fund.

We begin by laying out the “untranslated” expert story of adolescent development. These are the “big ideas” that adolescent development researchers want to communicate to nonexpert audiences. These points represent the content that we will later seek to make accessible to nonexpert audiences through the design and testing of frames and framing strategies. This report then identifies the deep, shared, and implicit patterns of thinking—what anthropologists call cultural models—that Americans (both adults and adolescents) use to think about this period of life. By understanding this thinking, communicators can see around the proverbial corner and predict how their messages will be received by the public.

Our intention is for researchers, advocates, and practitioners to use this report to avoid cuing unproductive patterns in public thinking. We also hope that the analysis and recommendations presented here will activate ways of thinking that allow a wider swath of the American public to understand the importance of adolescence and support the changes required to fully realize the potential of this critical period of learning and growth.

Research Methods

Interviews with Adolescent Development Researchers

To distill key messages from the science of adolescent development, FrameWorks conducted 18 one-on-one, one-hour interviews with experts in the field and six focus groups with researchers studying this period of development (a group henceforth referred to as “experts”). The list of participants was compiled in collaboration with the Center for the Developing Adolescent and FAST and was designed to reflect a diversity of perspectives and areas of expertise in the field of adolescent development. Interviews were conducted in late 2016 and early 2017 and, with participants’ permission, were recorded and transcribed for analysis.

Interviews were semi-structured and consisted of a series of probing questions designed to capture experts’ understandings about what adolescence is, how adolescents develop, the factors that influence development, and the actions that can be taken to better support development and improve outcomes. In each interview, the interviewer went through a series of prompts and hypothetical scenarios designed to challenge participants to explain their research, experience, and perspectives, break down complicated relationships, and simplify concepts and findings. In addition to asking preset questions, interviewers probed for elaboration and clarification and encouraged experts to expand on concepts they identified as particularly important.

FrameWorks used a basic grounded theory approach³ to analyze the interviews. Common themes were pulled from each interview and categorized, and negative cases were incorporated into the overall findings within each category. This procedure resulted in a set of themes shared across participants. The results of this analysis were presented to three groups: a leadership group from the Center for the Developing Adolescent and two groups of FAST members. FrameWorks also held a feedback session with participants to refine the set of themes that emerged from the interview (for example, by soliciting feedback about which parts of the science are most important to communicate). This series of interviews and feedback sessions resulted in the distilled set of ideas described below.

Cultural Models Interviews

The cultural models analysis presented in this report draws on two sets of interviews: one with adults and another with adolescents. FrameWorks conducted 19 in-person, two-hour interviews

with adults in May and June 2017 in four locations: Chicago, New Orleans, Oakland, and Philadelphia. In addition, researchers conducted 10 one-hour interviews with adolescents in Boston and Kansas City, MO, in September and October 2017.⁴

To document the deep and shared patterns of thinking about adolescent development, FrameWorks researchers conducted one-on-one, semi-structured interviews. This allows researchers to identify cultural models—the broadly shared, implicit attitudes and understandings that organize people’s thinking across a population.⁵ These interviews use a set of open-ended questions to elicit ways of talking and thinking about adolescence. Researchers approached each interview with a set of topics to cover but gave participants the freedom to follow topics in the directions they deemed relevant. All interviews were recorded and transcribed with participants’ consent.

Participants were recruited by a professional marketing firm to represent variation in ethnicity, gender, age, residential location, educational background (as a proxy for socioeconomic status), religious involvement, and family situation (married, single, with children, without children, age of children). The sample of adults comprised 10 men and nine women. Eleven identified as “Caucasian,” three as “African American,” four as “Hispanic/Latino,” and one as “Asian.” Ten participants described their political views as “middle of the road,” four as “liberal,” and five as “conservative.” The mean age of the sample was 44 years, with a range from 22 to 65. One participant had completed a graduate degree, five had completed a college degree, eight had completed some college (for example, an associate’s degree), and five had completed high school. Nine participants were currently married, two were divorced, and eight were single. Eleven of the 19 had children. The sample of adolescents consisted of four boys and six girls. Five identified as “Caucasian,” two as “African American,” two as “Hispanic,” and one as “Asian.” The mean age of the sample was 15, with a range from 13 to 17.

To analyze the interviews, FrameWorks’ researchers employed analytical techniques from cognitive and linguistic anthropology to identify common ways of thinking across the sample.⁶ Researchers identified shared, standardized ways of talking across the sample and examined them to reveal organizational assumptions, relationships, logical steps, and connections that were commonly made but taken for granted. The analysis discerned patterns of thinking from what was *said* (how things were related, explained, and understood) and what was *unsaid* (assumptions and implied relationships). In many cases, analysis revealed conflicting models that people brought to bear on the same issue. In such cases, one of the conflicting ways of understanding was typically found to be dominant over the other, in the sense that it more consistently and deeply shaped participants’ thinking.

Analysis centered on ways of understanding that were shared across participants. Cultural models research is designed to identify common ways of thinking across a sample. It is not designed to identify differences between sub-groups (for example, differences between individuals of different ideological or regional groups), as this would be an inappropriate use of this method and the sampling frame.

On-the-Street Interviews

FrameWorks researchers also conducted 43 sidewalk interviews in New York City and Austin, TX. These interviews produced additional data that were included in the cultural models analysis described above. All participants signed written consent forms, and interviews were video recorded by a professional videographer. Each interview lasted approximately 10-15 minutes. Efforts were made to recruit a range of participants, with an eye for including variation in age, gender, and race/ethnicity. Interviews consisted of a series of open-ended questions designed to gather information about people's top-of-mind thinking about adolescence, including their understanding of what adolescence is, how adolescents develop, and what influences development.

The Research Perspective on Adolescent Development

This section distills the key themes that emerged from analysis of interviews, focus groups, and feedback sessions with those studying adolescent development from a variety of perspectives. These themes constitute the “untranslated expert story” of adolescence: the core set of understandings that researchers want to communicate to the public and other audiences.

This untranslated story is organized around four broad questions:

1. What is adolescence and why is it important?
2. What changes occur during adolescence?
3. What are the key factors that influence adolescent development?
4. How can policy and practice better support adolescent development?

What is adolescence and why is it important?

- Adolescence is a period of multiple phases and transitions that begins with the onset of puberty and ends when individuals assume the roles, rights, and responsibilities of adulthood. Experts noted that when adolescence begins and ends can vary substantially across individuals and cultures. They also noted that, globally, the period of adolescence is elongating due to an earlier onset of puberty and a delay in assuming adult rights, roles, and responsibilities.
- Adolescence is a time of significant and, at times, rapid change in physical, neurobiological, and psychosocial development. These changes may occur at different times for different people. Many of the changes that take place during this period of life, such as increases in risk-taking behavior or heightened sensitivity to social status and rewards, are adaptive parts of the developmental process; they are vital for the learning and change that takes place during this time of life. These features of adolescence are not and should not be viewed as inherently problematic.
- Adolescence is a time for individuals to become purposeful, self-reliant, and socially engaged. One strategy to support adolescence is facilitating exploration and cultivating adolescents’ physical, emotional, social, and intellectual needs. Promoting these domains helps facilitate a successful transition to adulthood.

- Adolescent development lays the foundations for lifelong wellbeing. Experts noted that adolescence has far-reaching implications for physical and mental health throughout life, involvement with the justice system, educational attainment, and economic productivity. Both positive (such as good study habits or a love of a sport) and negative (such as substance misuse or physical inactivity) behaviors that begin in adolescence can become habitual and persist throughout the lifespan. While these core life skills can be built throughout the lifespan, it becomes harder and more expensive as we age.
- Adolescent development has social, economic, and public health implications for society. Experts emphasized that the process of adolescent development has effects and implications that extend beyond the individual. When adolescent development goes well, the effects are felt by communities, states, and the nation in the form of increased contributions to the labor market and to civic and community life. The opposite is also true: when adolescents do not have the support they need for positive and healthy development, negative effects are experienced by the whole of society.

What changes occur during adolescence?

Experts focused on the following changes that occur during adolescence:

- Adolescence is a period when the social factors that influence individuals and the influence that they have on their social environment expand. The social environment includes adolescents' friends and peers, teachers and schools, communities and wider cultural influences (including the media). While adolescents increasingly seek out and are influenced by their social environments, families remain a critical influence during this time of life.
- Autonomy and social integration are central components of adolescent development. Experts described a complicated balancing act between the need to assert independence from parents and family, the need for parental support, and the need to fit into various groups. Parents play an important role in scaffolding adolescents' exploration of the world in ways that are autonomous but safe, structured, and age appropriate.
- Identity formation is an important component of adolescence. Adolescents' identities are forged through interactions with others, especially peers. Adolescents become increasingly capable of formulating and articulating their values, goals, and interests, which inform their understanding of their own position within society.

- Social and economic inequities can be widened during adolescence, affecting education, economic attainment, and social relationships. For example, adolescence is a time when different rates of health problems, particularly mental health issues, emerge between young men and women. This is likely caused by the interaction of biological (e.g., differences in average onset of puberty) and social-cultural factors (e.g., harmful gender norms).
- Puberty contributes to important biological, social, and behavioral changes. During puberty, the body releases hormones that result in rapid physical growth (including the emergence of sex-specific physical characteristics), sexual maturity, increased metabolism, and changes in sleep and circadian rhythms. This rise in hormones affects neural structure and function and may influence adolescents' behaviors in response to changes in their environment and social context.
- Adolescence is an important period when cognitive, social, and affective skills are integrated. This includes the integration of skills related to the ability to monitor, inhibit, and modify behavior in the service of long-term goals and encompasses emotion regulation, goal-setting and self-monitoring with a growing proficiency for abstract thought, sophisticated reasoning, social perspective-taking, and emotion regulation.
- Adolescence is a time of important changes to the brain. These changes underlie many of the learning and behavior changes that take place during this period of life.
 - Adolescence is a period of high neuroplasticity when the brain's development is particularly sensitive to environmental influences. Experiences during this time of life are particularly formative and can have significant and lasting effects.
 - During adolescence, the brain refines and stabilizes its neural connections for later efficiency. New connections form to integrate disparate brain regions. This refinement and stabilization process allows adolescent learning in various areas to integrate and consolidate. New information and experiences occurring at this time may therefore play a particularly powerful role in sculpting the adult brain. An increase in exploration, experimentation, and risk-taking may occur during adolescence to enhance the information gathered for this process. In this way, exploration and risk-taking support successful development and, at the same time, increase vulnerability.

- The changes in the brain occurring during adolescence lead to changes in motivation and increased sensitivity to certain types of learning experiences. At the same time, individual experience also shapes the developing brain. This is a two-way process where brain changes affect adolescent behavior and adolescent behavior affects the ways in which the brain changes.

What are the key factors that influence adolescent development?

- Social relationships were identified as one of the primary shapers of adolescent development. Adolescents need opportunities to grow and develop identities and figure out how they fit into their social worlds. Successfully navigating this stage of life depends on quality and nurturing relationships with adults and peers as well as opportunities for community and civic engagement. In contrast, social isolation and other forms of severe disruption to social relationships during adolescence increase risks for negative outcomes in a number of areas, from school failure to mental health problems. Positive feedback and praise from parents, educators, and other respected adults supports positive adolescent development, especially when it emphasizes effort and perseverance.
- A reciprocal relationship exists between the social environment and adolescent development. Social and cultural contexts influence how adolescents develop; in turn, their development changes the social and cultural context they experience. Social and cultural factors including beliefs, values, and practices; socioeconomic resources; and social and structural factors can support or compromise adolescent development. Adolescents' agency in the co-creation of their social and cultural contexts plays an increasingly important role in their development, but it cannot override the powerful impact of many larger factors (e.g., neighborhood resources, school quality, racism, stereotyping, and discrimination) that are beyond their control.
- Researchers voiced the need for scaffolded, safe, sequenced, and satisfying ways of engaging adolescents' need for exploration and experimentation. Parents, caregivers, schools, and communities should provide opportunities for adolescents to take "positive risks," which can include participating in unmonitored time with peers, playing team sports, meeting new people, and trying out new activities and interests. These opportunities allow adolescents to practice making healthy, independent choices, even if they carry risk and the possibility of failure.

- In contrast, some phenomena that emerge during adolescence, such as negative risk-taking and mental health problems, can have adverse effects that last into adulthood. These phenomena include behaviors such as smoking, unprotected sex, reckless driving, and gang involvement, and mental health problems such as depression, eating disorders, schizophrenia, and substance misuse and addiction, all of which can lead to dramatic increases in mortality and morbidity during adolescence and later in life. Understanding the trajectories of these adverse outcomes, and the factors that predict their onset, is critical for informing early intervention and prevention efforts.
- Chronic stress undermines healthy development and can stem from a variety of factors, including excessive academic pressure, conflictual and/or unsupportive family relationships, maltreatment, peer victimization, social isolation, poverty, and community violence, among others. Repeated exposure to stress can sensitize the body's response to future stressors, interfering with adolescents' capacity to regulate their emotions and behavior.

How can practice and policy better support adolescent development?

While experts were cautious about making programmatic and policy recommendations based on the available scientific evidence, they agreed on the need to leverage developmental science to inform our understanding of the targets (timing, social contexts, etc.) for prevention, early intervention, and policy. This requires teams of researchers and practitioners with a clear focus on implementation research that tests the application of general principles from developmental science to specific outcomes (e.g., violence, sexual and reproductive health, educational attainment, etc.). The primary goal of this work must be to maximize opportunities and minimize vulnerabilities. To exemplify this approach, experts identified the need for:

- Health and child welfare systems that support families more effectively during the transition to adolescence. The quality of family relationships during early adolescence is a key predictor of many adolescent health and behavioral outcomes. However, no system-wide policies specifically support families during the period when their children are transitioning from childhood to adolescence. Yet adolescence is a time of high parental concern about children's preparedness to skillfully navigate change (thus creating readiness to access and learn from interventions). Many health and welfare systems see the transition to parenthood at birth and infancy as a key time to support families; a similar argument can be made for the need to support families during children's transition to adolescence.

- Developmentally sensitive education systems that better fit and meet adolescents’ needs. Experts agreed that schools are not currently optimized to promote adolescent wellbeing. They emphasized the need for school environments that enhance young people’s intellectual autonomy and creativity and provide them with opportunities to explore and experiment. Resources reflecting the social and emotional capabilities and needs of adolescents should be incorporated into teacher training and professional development. Consideration of the mismatch between the timing of the school day and the sleep and circadian rhythms of adolescents should be considered in designing school structures and schedules.
- Developmentally sensitive modifications to the juvenile justice system that respond to the developmental capabilities and needs of adolescents. Several experts criticized the practice of trying adolescents as adults in the justice system, arguing that adolescents have diminished responsibility for criminal acts. They also called for a greater focus on rehabilitation than punishment, given the malleability of adolescent neurobiology and behavior. Adult prisons deprive adolescents of the inputs they need to develop into successful adults, such as positive social relationships and cognitive stimulation.
- Public systems that meet the needs of adolescents. Researchers called for public services to be developmentally informed and consistent with the ways in which adolescents prefer to access services and information. Proposed changes include:
 - Avoiding what one expert called a “transition cliff” when youth age-out of services (e.g., when they leave foster care, mental health, or juvenile justice systems) and find themselves without the supports they need to navigate adult systems. For example, many mental health services end when youth reach age 18, which coincides with the highest incidence rate for psychiatric disorders. Experts called for a more seamless transition in public services that is guided by developmental rather than legal or bureaucratic considerations (such as the use of a “youth” model to provide mental health services across the highest period of risk for onset, i.e., the period when individuals are between 14 and 24 years old).
 - Policies and programs should take the heterogeneity of adolescent development into account. This includes recognizing that different kinds of policies and programs are appropriate at different times during adolescence and that these times vary across individuals.

- Legislative efforts that simultaneously increase autonomy and learning while reducing harm, reflecting the reality that experimentation and risk-taking are a normative part of adolescent development. This requires a delicate balance of policies that promote autonomy and scaffolding for adaptive, developmentally appropriate learning (e.g., driving a car; navigating romantic and sexual relationships; assuming legal culpability for minor offences) and those that deter specific behaviors that create biological vulnerability during adolescence and do not facilitate adaptive learning (e.g., tobacco use, drug use, and unhealthy food consumption).

Public Thinking about Adolescent Development

In the sections below, we present the dominant cultural models that orient, structure, and guide public thinking about adolescents and adolescent development in the United States. These are ways of thinking that are available to members of the public, although different models may be engaged at different times and in different ways. Some models are more dominant, readily accessible, and prominent in the public mind; others are more recessive, sitting in the background where they need to be brought to the fore through contextual or conversational cues.

Understanding the landscape of cultural models offers communicators an important tool. As we discuss below, some models are productive: they make it easier to engage with new information and see the value of solutions. Others are unproductive: they block people's access to information and may cause ideas to be rejected. The role of a strategic communicator is to be aware of the way in which the public thinks and reasons so that he or she can activate and promote cultural models that open up productive dialogue and engagement with ideas and actions required to better support adolescents in their development.

In the following section, we report findings from cultural models interviews with both adults and adolescents. The inclusion of adolescent voices within our sample is important. If advocates better understand adolescents' perspectives and lived experiences, they can better engage them in conversations about how they would like to be supported in their development and how positive outcomes can best be promoted. And while our analysis suggests that adult and adolescent cultural models are largely shared, we also point to important differences in how these groups think about this period of life. Throughout, we draw attention to places where adult and adolescent perspectives differ in our data in important ways.

Definitional Models: What is adolescence?

▶ A Cognitive Hole: The term "adolescence"

Members of the public share a vague and often inaccurate understanding of the term "adolescence." Across cultural models interviews, as well as in on-the-street interviews, participants expressed uncertainty about the meaning of the term and had widely divergent definitions of the ages that the term refers to—in many cases understanding it as referring to the period of life preceding the teenage years. While members of the public are generally unfamiliar

with and divergent in their understanding of the *term* “adolescence,” they share a strong *concept* of adolescence as a discrete stage of life between childhood and adulthood (which participants most often associated with the term “teenager”).

Implications

Communicators should not assume a shared understanding of the term “adolescence.” While members of the public understand the *concept* of a discrete developmental stage between childhood and adulthood, there is confusion about the term “adolescence” itself.

Communicators should, therefore, not assume that the term alone conveys basic definitional information about adolescence. Instead, upon first use, communicators should establish the term’s desired definitional parameters. They should signal the age ranges and key components of the concept of adolescence that they wish to convey rather than assuming that people understand this information when hearing the word “adolescence.”

▶ The *Independence Is Key* Cultural Model

The concepts of independence and responsibility underpin people’s understanding of adolescence. Adolescence was understood as a transition between stages of life defined by full dependence on caregivers (childhood) and full independence (adulthood). It was seen as an “in-between” stage, where individuals transition between these two states of responsibility. The following two models structured participants’ thinking about independence and adolescence:

▶ The *Independence in the World* Cultural Model

Both adult and adolescent participants described the acquisition of independence as being about key life events, such as the completion of formal schooling, leaving the family home, living independently, or attaining financial self-sufficiency. These were considered to be markers of adulthood—rites of passage that represent a person’s detachment from the family and emergence as an independent agent. The key aspect of this model is that it defines the transition to independence *externally*, in terms of an adolescent’s accomplishments. In this way, independence is modeled as a set of things that a person does.

Researcher: How do you know when they're getting to be an adult?

Adult Participant: It's when they graduate high school. And when they go to college. Because you have to now give them that adulthood, because you're not going to be around. You have to give them that push out the house kind of thing.

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Adolescent Participant: You have to choose if you're going to go to college or what school you're going to go to. What you're going to do with your life basically revolves around those years. It's when you get more responsibilities than being a child.

Implications

The *Independence in the World* model understands the goal of successful adolescence to be narrowly about personal accomplishments, such as living independently, attending college, or becoming financially self-sufficient. This mutes attention to the more collective dimensions of adolescent development, such as becoming good citizens or engaged members of communities. Communicators need to find ways to convey the idea that adolescent development is a public concern that warrants particular kinds of attention and investment. In addition, because it focuses narrowly on external accomplishments rather than internal processes, this model fails to provide a developmental perspective.

► The *Independence in the Mind* Cultural Model

Participants also thought about independence in terms of *internal* change. When thinking in this way, responsibility is acquired as adolescents establish their identities, values, and their place in the world. These identities are understood to be developed through self-exploration (i.e., trying out new experiences and activities) and from thinking about and processing interactions and experiences with peers, parents, and teachers. Thinking with this model, participants reasoned that independence is not conferred at a certain age or after a certain life event. Rather, it is acquired as people work through experiences and, as a result, acquire maturity and responsibility.

Adult Participant: I think that, for the adolescent who starts figuring out what their interests are, they're going to have the ability to look up and to learn more; they're going to learn as much as they possibly can about that topic that they're interested in. I think that the adolescent who is self-motivated to educate themselves, I think they're on a roll. They have an unquenchable thirst for more information.

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Adolescent Participant: I think you start to want to separate from your parents more. That's not like you start hating your parents; it's just you [are] like, "Now I have my group of friends, and we hang out at one of their houses all the time." And it's not that I hate my parents; it's that I've found my group that I like to be around, and it's slowly separating. When you are a kid, you are attached to the hip. When you are in the middle, you start to slowly divide. And when you are an adult, you are completely broke off, ideally.

Thinking in this way, participants' parameters around the ages of adolescence expanded significantly. Using internal criteria as a way of determining independence, they reasoned that anyone, regardless of age, could be considered an adolescent if he or she didn't possess the required maturity and state of mind.

Adult Participant: I guess it could be relevant to the same thing. But I think it is more of a state of mind in adolescence. Because I've known some teenagers who were adult-acting very early, and then I've known some adults that still acted like they were teenagers when they were 30. In New Orleans, because we have the 24-hour, 7-days-a-week tavern bars open, you can go crazy. If you want to stay a kid, not a good thing.

Implications

The *Independence in the Mind* model can potentially be used to expand thinking about developmental processes. Because this model centers on the development of adolescents' internal skills and capabilities, it provides an opening for communicators to discuss the skills that will help young people become independent and make positive, healthy choices in life.

► The *Dangerous Times* Cultural Model

The most predictable way in which participants understood adolescence was as a period of risk and danger. According to this perspective, adolescence is characterized by a heightened vulnerability to threats. This model was highly dominant in participants' talk. It consisted of three more specific assumptions that are vital for communicators to understand and be aware of:

- **The world is inherently threatening.** Participants understood the world as posing a significant threat to adolescents' physical and emotional wellbeing. Participants consistently focused on a narrow set of risks and dangers when talking about adolescents: drugs and alcohol; gangs; abusive parents; guns and mass shootings; sex and a highly sexualized culture; and unsafe driving. This assumption was strongest when participants discussed inner-city

environments. Analysis showed that these contexts were presumed to be especially dangerous environments in which to be an adolescent.

Adult Participant: If all a kid's life in Humboldt Park was gang-banging and selling drugs and watching his dad beating his mom or the mom beating up the dad, that's what they are going to learn.

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Researcher: What is life like during that time [adolescence]?

Adult Participant: I think of raising a daughter, body shaming, lack of confidence, the [experience] in many cases of being bullied. And especially girls with body shaming. Because I had a daughter, and there was fear in her about everything. About social things. About her girlfriends and what they were saying behind her back. About boys later. About her grades, which were not great. And then of course back to body shaming, which she got picked on because she was the heavier girl.

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Researcher: What do you think it's like being an adolescent in the United States today?

Adult Participant: I believe it's very difficult. I believe it's difficult because of the peer pressures, all of the distractions that are out there. You know we have the gangs, we have drugs, we have sex trafficking. That's something that was unheard of when I was coming up. And I think kids are really more troubled today because of what's going on with the world. And just hearing all of this drives *me* crazy; it has to be driving kids crazy.

- **Adolescents are easily corrupted.** Analysis showed a strong but implicit understanding that adolescents are particularly susceptible to negative influences—that they are fragile and easily corrupted and sent off course. Across the interviews, there was a common assumption that positive values, productive behaviors, and a generally good life trajectory can unravel easily and quickly in the face of negative influences. As one participant put it, “You put them around other kids, and it all goes out the window.”

Researcher: What does it mean for adolescence to go well?

Adult Participant: Your parents really help you out as far as staying on track with school, making sure you don't get pregnant or something like that. [...] Let's say someone gets curious and they talk to a boy and all of a sudden they are pregnant, and they are 14. I think you failed, because you are a kid and you're going to have a kid.

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Adult Participant: I think that the results of the overall environment [influence adolescent outcomes]. So, if I came from a very good home, but we live in an inner city and I go to a predominantly low-income school, and everyone around me is behaving at a different level, then that might override the family environment.

- **Adolescents make poor decisions.** Participants also understood adolescence as a period of irrationality and poor judgment. This was grounded in the assumption that adolescents are unaware, inattentive, or unconcerned about the possible consequences of their behavior.

Researcher: Are there ways in which we can distinguish children from adolescents, or even adolescents and adults?

Adult Participant: I would say the penchant for risky behavior of any sort. You're at that point where you are old enough to say, "Hey, I want to risk something." Whereas, as a child, you might not because your parents have said X and kind of or maybe [you're] a little fearful, you start to embrace risks a little bit more, of all sorts. You may not have quite become adult enough to assess those risks properly and decide not to. So, I would say risk-taking behavior spikes at that point.

These three assumptions come together to form a tight cultural script that guides much of people's thinking about adolescence and adolescent development. Together, these three models structure an understanding that risk and danger are inherent and unavoidable aspects of adolescence. And when active, this cultural script leads to a narrow understanding that, if adolescents are to develop well, they need to be protected from the dangerous contexts in which they live and from their own lack of judgment in managing these risks.

The Adolescent Perspective

The *Dangerous Times* model was considerably weaker among adolescents than adults. Unsurprisingly, adolescents held their ability to make sensible, rational choices in high regard. And while adolescents in our sample occasionally discussed issues of risk and danger, particularly in cases of negative peer influence or substance misuse, their understanding of the environments in which they live was considerably less negative than it was among adult participants.

Adolescent Participant: Well if people are influenced... I don't know how to put this, but maybe like drugs and alcohol can have an impact on someone's life, and those two things are very bad.

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Adolescent Participant: I would say adolescents need to be more careful with drugs. Teachers teach kids not to do drugs, but kids still do it. Like, don't do it at all. Don't even try it. Don't go near it.

Implications

The *Dangerous Times* model focuses thinking on the vulnerability of adolescents and channels thinking toward insulating them from their environments to reduce risk. The American public is able to appreciate the idea that adolescents are vulnerable to negative outcomes. However, their overwhelming assumption that vulnerability is the *defining* quality of adolescent

development is problematic and poses one of the most significant challenges identified in this research. This line of thinking leads people to selectively value interventions that shield adolescents from risk and takes the focus off of those that support learning, autonomy, and positive, strength-building aspects of development. In this way, the model infantilizes adolescents as agents who need to be protected and shielded from experiences.

If the world is a deeply dangerous place and adolescents are both highly sensitive to threats and unable to manage them on their own, any actions that are not about managing this danger are seen as misplaced and of secondary importance. There is a clear and pressing need to broaden the public's thinking about the social, cultural, and ecological factors that influence adolescent development beyond those associated with danger and risk.

► The *When It Starts to Really Matter* Cultural Model

There was a strong implicit understanding that adolescence is the basis for things that happen later in life. Participants saw adolescence as a time when individuals acquire the skills, values, and behaviors that they carry into adulthood and that shape lifelong success and wellbeing.

Participants shared an understanding that, at this time, an individual's development takes on greater meaning and importance than in earlier stages of life. In contrast, development that happens earlier in childhood is seen as considerably less consequential. In short, participants understood deeply that adolescence is the period of life when what happens has significant consequences for the rest of life.

Adult Participant: [Adolescence is] leaving childhood and going to this next stage with all the stuff they need to learn at this stage. Before, when they were children, everything was done for them. Now, you got to become a little more on your own. They got to take on all this, so I think that's a very important time; that's when your brain is like, the kid's learning everything that's expected of them for the rest of their lives. Think about that.

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Adult Participant: I think because that's where they get a lot of their self-identity as they get older. A lot of it—not all of it, but a good portion of it, can definitely be formed. It can be molded and things after, but a good percentage of it is formulated at that age. So, I think it's important for them to do well and succeed in those years.

Implications

The *When It Starts to Really Matter* model is productive because it conveys the importance of adolescent development for later outcomes. However, when applying this model, people discount the value of policies and programs targeted to early and middle childhood because they assume that these actions do little to improve outcomes during adolescence and beyond. Research on how to translate the science of adolescent development needs to focus on how to convey the importance of this stage of development *while also* allowing people to see how it is shaped by the developmental stages that proceed it.

Causal Models: How do adolescents develop?

One of the most important findings from our analysis was that people think about adolescent development as *either* an active *or* a passive process. Participants oscillated between these conflicting understandings: at one moment they thought of development as a process in which adolescents themselves play a dominant role and at others they viewed it as a passive process in which things happen or are done to adolescents. These two conflicting ways of understanding adolescent development came to the surface when discussing a wide range of topics. Below, we break down the specific assumptions that underlie these conflicting ways of thinking about how adolescent development happens.

There were two models of development from which participants could see *adolescents* as having a primary and active role in their development.

► The *Self-Makingness* Cultural Model

Participants' thinking about adolescent development was powerfully shaped by a model of individual responsibility. They assumed that individuals themselves determine their outcomes in life and, in this case, that their decisions and will are the exclusive factors that shape development.

The *Self-Makingness* model has been documented extensively among the American public across a broad range of issues⁷ and entails the belief that individuals make their own fates and determine their own outcomes and destinies. Applied to adolescence, people think that all young people have the opportunity to develop successfully, as long as they exercise the appropriate level of willpower, determination, and sound judgment.

Participants tended to ascribe increasing responsibility to adolescents as they age. That is, as young people progress through the adolescent period, they are understood as increasingly responsible for their outcomes. In our interviews, participants explained that children's dependence on parents or caregivers declines gradually but steadily from childhood to adolescence and, once they become young adults, they are attributed complete and unfettered individual responsibility for their lot in life.

Adult Participant: I think the way you think—your mentality and the change in your mentality—that you have a little more control over yourself [as you get older]. That's important because you have the opportunity to either go the good way or the wrong way. You choose to be good academically or stay on the good side or choose to ditch school, smoke, drink, go the wrong direction. I think that's the biggest change [during adolescence] because that's going to dictate where you are going to end up. Such a crucial time.

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Adult Participant: If a teenager could hear me right now, I would say that you have your own choice to make and you need to make yourself successful. If you just sit there and be negative, it's not going to happen. You have to put yourself where you want to be and you have the choice in that. That's all I would say.

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Adult Participant: I want him to learn responsibility and try to be a man. You know what I'm saying? Fend for himself. Things teenagers should do when they are going into adulthood. Learn to have his own decision. Some kids might want to drink. Okay, are you drinking or not drinking? You're not 21 yet, but you make a choice. You know what I'm saying? Do I smoke, not smoke? Now is the time to start making choices. And I'm not there to tell you the answer.

When the *Self-Makingness* model was active in participants' thinking, the quality of supports and access to resources were absent from the conversation. In fact, when this individualistic model was active, participants tended to explicitly *reject* the idea that an adolescent's background and experiences could limit her or his opportunities for success or explain less than optimal outcomes. This way of thinking predisposes people to think about poor outcomes as failures of character or deficiencies in moral strength and to be blinded to the influence of context, systems, and resources.

Adult Participant: I think it depends on how you grew up and how you took control of your life—because again, your circumstances don't have to make you.

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Adult Participant: You can have that person who was spoiled to death, and they're a nightmare as an adult. They think they can do anything, have anything, get anything. And you have that person that

grew up and who was a hard worker. They grind. They know how to hustle. They know how to do whatever.

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Adult Participant: Maybe someone who has had it all handed to them is not as good at life as someone who didn't. And someone who didn't have it all has had to work harder for it. And that's not necessarily a bad thing; that's just going to make you a better person. And then you have the kids that were handed everything but still have this mentality of working hard and working hard for the future. So, it just depends on the mentality of the child.

The Adolescent Perspective

In our adolescent interviews, the *Self-Makingness* model was *especially* dominant—perhaps even more than among adults. Adolescent participants held a strong understanding that, to be successful, all they had to do was work hard, take control of their lives, and seize the opportunities available to them. This way of thinking was couched in the language of choice (making good choices, resisting temptation, staying away from a “bad crowd”) and commitment (committing oneself to personal excellence at all times). In contrast, bad choices were seen to reflect laziness, poor judgment, or lack of ambition.

Adolescent Participant: But I think the big part is that you are responsible for who you want to be. I didn't like the way I was getting treated when I was younger. So, I changed, and now I stand up for myself.

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Adolescent Participant: They need to know about these things; they need to know they can have their own ideas and feelings about stuff. It's not cultural. America is not making me shoot up a school, stuff like that. That's your own choice; you are the one reading the gun magazines. It's a personal path. You choose the path.

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Adolescent Participant: It depends on the person because it can really be a hindrance going into your adult life or it can be a slight hindrance that you have to get over. Like my sister, she grew up in a really abusive household, but she's grown into a really great person. It's a matter of kicking yourself in the butt and not feeling sorry for yourself. You've got to actually make yourself the person that they said you weren't. You got to improve yourself, make yourself better.

Implications

While the *Self-Makingness* model understands independence and self-sufficiency to be important aspects of adolescent development, it also focuses thinking on the more problematic view that adolescents alone are responsible for their development and life outcomes. In turn,

this mutes attention to the ways in which adolescents' independence can be scaffolded and supported.

► The *Raw Materials* Cultural Model

A second, more recessive model of adolescent development emerged from our analysis. According to this model, adolescents are self-driven and self-propelling, but environmental factors serve as the raw materials that adolescents use to explore and construct their identities and outcomes. This model shares some basic commonalities with the *Self-Makingness* model (e.g., that adolescents determine their own development), but it is more dynamic, leaving room for an understanding of how environments and opportunities facilitate adolescents' self-development. When participants used this model, they talked about how adolescents need diverse experiences so they can figure out who they are and what they want to do. In short, people understood that environments matter, supporting adolescents' exploration of their own identities.

Adult Participant: I think that if an adolescent has an opportunity to learn about something, they're gonna do it. For example, if you've got an adolescent who's interested in a specific subject, and if he has the ability to access that subject through books or going to see it or whatever, they're gonna be all over it.

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Adolescent Participant: [Parents need to] make sure they present them with opportunities to try things out. Like, don't just go to school. Do you want to go to Kung Fu? Do you want to do tennis? Do you want to learn to play the violin? Something extracurricular, things like that. Know what the child wants. Don't just send them off to school, and then they come home, send them off to school. Do you want to be in baseball? Do you want to learn how to make games? Do you want to do all this stuff? Do [you] know how to sew? Do you want to know how to sew? It's embracing every aspect of the child. It's school, home, their personal life, who they want to be with, things like that.

In addition to these active models, participants drew on two passive ways of thinking about adolescent development. When thinking in these ways, development was seen as a process where forces outside an adolescents' control act upon adolescents to shape their development and outcomes.

Implications

The *Raw Materials* model, in contrast to *Self-Makingness*, offers a more constructive way of thinking about development. It allows the public to understand how the environment interacts with adolescents' emerging independence and identity to shape their development. Future research should focus on identifying the best ways to activate this model as a way of engaging the public with messages about the science of adolescent development.

▶ The *Sponge* Cultural Model

Participants drew on a deep and metaphorical model in which adolescents were conceptualized as “sponges,” passively absorbing and “soaking up” the behaviors, attitudes, and values of those around them. This comparison was made implicitly and explicitly in the language used to describe development, such as “you’re just soaking up so many different things” and “you just sit there, taking it all in.” This model locates agency almost entirely in the environment, rendering adolescents as empty vessels who are waiting to be filled and affected by experiences.⁸

Adult Participant: Well, I feel like they’re just learning. They’re still in that learning phase. They’re absorbing. They’re like a sponge. They’ll absorb a lot of things that you’re saying. They say everything you say. They repeat everything.

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Researcher: What’s it like to be an adolescent?

Adult Participant: I think it’s a somewhat simplistic time in your life. [...] It’s sort of like that sponge is still pretty dry at this stage. Then, as we get into our twenties, that sponge gets a little full. You’ve got to kind of, maybe, wring it out a little more. For them, it’s like the sponge is more open. When you go over things, it picks it up a little better.

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Adolescent Participant: I think that if you are hanging out with people who are doing things that they shouldn’t be doing [...] you are going to end up doing what they are doing. Because if everybody is doing it, you may be, like, peer-pressured or whatever and you see it happening so much. You start to think, “Oh this must be okay because everybody is doing it.” Kids who are not bad kids, but just happen to be with the wrong group of friends, end up doing bad things and get in trouble.

This model also led to a more specific set of assumptions about the role of parents and other adults—as the providers of experiences and opportunities that adolescents passively “soak up.” As a counterpoint to the passive role that adolescents themselves play in this model, adults have a highly *active* role, and are responsible for “filling” adolescents with positive skills and attributes.

Adult Participant: But what you should do [as parents], while your child is still moldable, is fill them with those traits and those skills.

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Adult Participant: Well, there's no right or wrong way to do it, but obviously just by mom and dad showing affection, they learn love or they understand safety and security. So, we just kind of... you know, we teach them "what is this" and that's how they learn to speak. They pretty much learn everything by watching us. So, we need to do everything that they need to survive. So, I guess molding them is... Everyone's going to be molded different, but we're all just humans. We all eat and have to get dressed.

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Adolescent Participant: I do feel like parents play a big role in [development] though because you are with them for a good portion of your life every day. All day most days. So, they're shaping you. And, if you have a good home where people love and care for you and help you when you need it, or you feel sad or anything like that, then it is going to be much better for you in the long run.

Implications

While the *Self-Makingness* model casts development as a wholly active process, the *Sponge* model does the opposite: understanding adolescents as passively absorbing things in their environment. This bifurcated way of thinking makes it hard to appreciate and engage with the idea that development is an integrated process that *always* entails the interaction between choice and control on one hand and context, environments, and influences on the other.

▶ The *Biological Takeover* Cultural Model

Puberty, and the surge of hormones that accompanies it, was understood as *the* hallmark of adolescent development. As one participant said, "It impacts everything." This model, which was highly pervasive in participants' talk, contained a number of constituent assumptions:

- **Puberty=hormones.** Hormones featured prominently in participants' understanding of puberty. Indeed, the term "hormones" was often used as shorthand for puberty in interviews.

Adult Participant: I think because you're trying to sort of navigate your way through, like, through society when you reach that age. Certainly, the hormones are a big thing, because it's something you've never really had to deal with before.

- **Hormones powerfully shape behavior.** Puberty was often described as a form of mental hijacking in which hormones take over the body. When thinking this way, puberty was understood as an antagonist—as something that descends upon an adolescent and suspends his or her ability to think clearly, behave appropriately, and regulate emotions. Behavioral changes were seen as significant—yet were also understood to be beyond an individual’s control. As a result, adolescents were largely viewed passively in this process and with a fair degree of sympathy.

Researcher: Why do you think you care so much when you’re that age?

Adult Participant: Certainly, the hormones are a big thing, because it’s something you’ve never really dealt with before. That’s throwing off your chemical balance somewhat. So, not only are you not really that experienced and knowledgeable about things, but you’re also going through these extreme changes which are impacting the way you’re feeling.

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Adult Participant: I think the hormones, they just make you go crazy sometimes. And just the emotional field you go through. And stress can be a giant part of it; you can just flip out over anything.

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Adult Participant: Oh my goodness, those hormones. They kick in, and it’s like, “Are you the same person that I gave birth to? Come on, who are you?” I can understand that because when I was going through the change my hormones were all out of whack. When I was pregnant it was all out of whack. So, I can imagine two times over what it’s doing.

- **Hormones have an immediate impact.** One of the distinguishing features of puberty, according to this model, is the immediacy of its impact. Participants described this change in motivation and behavior as dramatic, sudden, and unexpected, like the turning on of a biological switch.

Adult Participant: Well, again, they don’t look for the consequences of their behavior. All of a sudden, my hormones are just swirling, and I want to go, “Fuck that.” Uh-oh. I don’t think of what’s going to happen after.

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Adult Participant: The physiological just changes the makeup of who you are. I mean, you went from being a girl and, all of the sudden, puberty. You were a tomboy and now, all of a sudden, guys are talking to you that weren’t or looking at you differently.

It is important to note that this model did not include an understanding of why puberty happens and of its developmental significance.

The Adolescent Perspective

The *Biological Takeover* model of puberty was not identified in our interviews with adolescents. In these interviews, discussions of puberty were largely centered around physical changes, such as growth spurts and changes in voice or body hair. Adolescents did not connect puberty with changes in emotional, behavioral, or psychosexual development (or were unwilling to share if they did).

Researcher: Are there certain things that change during that period of time?

Adolescent Participant: Well, your body over the years. It gets bigger, or even like your voice or hair, maybe you have a different hairstyle.

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Researcher: Are there other things that change?

Adolescent Participant: I mean, I shot from 5'9 to 6'3 in the past three years, or four years. So yeah, I guess tallness. I got these boys, size 17.5 feet.

Implications

The *Biological Takeover* model offers mixed implications. On one hand, it facilitates an understanding that puberty drives important physical, social, and behavioral changes. On the other, it assumes that puberty functions like a switch rather than a gradual process of maturation. Most problematically, it positions puberty in a wholly negative light—as something to fight against—rather than as a normal, adaptive aspect of human development.

Stress was an important part of participant discussions about adolescence and adolescent development. These discussions were shaped by the following three models.

▶ The *Stress Makes You Stronger* Cultural Model

Participants understood adolescence as a stressful and challenging time of life. But there was also a strong assumption that stress could be productive as a rite of passage or a challenge that young people work through and push against to develop the strength and resilience that will help them cope with the trials and tribulations of adulthood. This model has been documented widely in prior FrameWorks research on how Americans understand stress and development.⁹

Adult Participant: I put a lower level of importance on it unless it's stress like, "Where am I sleeping tonight?" or "Where is the food coming from?" [...] But I think normal stress that adolescents would have, such as what am I gonna wear today, how am I developing as a man or a woman, do I have friends, do I have freckles or pimples, or my bloody braces. I think all those things are normal levels of stress that are healthy.

Researcher: That are "healthy"?

Adult Participant: Yeah.

Researcher: Why are they healthy?

Adult Participant: They help to build a stronger person. And also, I think it helps to prepare you for more stressful situations that you'll have to deal with.

This understanding of stress was often heavily suffused with the idea of willpower. Participants' thinking was structured by the idea that individuals can (and should) embrace stressful experiences and understand them as valuable opportunities for personal growth and development.

Researcher: What kind of impact does stress have when they're growing up?

Adult Participant: I think can be good or bad. Struggling and not eating can make them say, "I'm going to do better" when they get older. And the kids that don't have to struggle.

Researcher: That can be bad?

Adult Participant: Yes, because then they think everything should be given to them. So, it can go either way. Sometimes, when you live in worse circumstances, you're actually a better kid or person than the person who has the best of certain things. Because you want to survive. You have survival skills.

▶ The *Stress Accelerates Development* Cultural Model

Analysis also showed a second model of stress in which the kind of stress typically experienced by adults (e.g., having to take care of a sick or disabled parent or being exposed to poverty) results in an adolescent "growing up faster" than she or he should have to. These developmentally atypical experiences are understood to accelerate development by exposing adolescents to a set of "adult" challenges and responsibilities.

Adult Participant: Kids are in different economic statuses and things like that. They can grow up faster and grow up, you know, seeing things that they shouldn't see or doing things or, a lot of times, being the parent because the mother has to work—has to work, and she's single—a single parent, and she has to work. The kid has to help raise his brother or sister.

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Adult Participant: Sometimes, the city can grow the child up before it's their time because of the things they've seen. Somebody gets stabbed, somebody gets shot. I'm not saying it's all the time, but these

things might be depending on where they, you know, grew up, lived, and all that stuff.

Importantly, this model of stress is anchored by an understanding of what childhood and adolescence *should* be: a time where individuals are unburdened by the kinds of responsibilities that adults face (e.g., finances, illness, employment, and so on).

Adult Participant: I think the difference of adolescence is basically responsibility. In adolescence, you don't really have a whole lot of responsibility, but, as you grow into adulthood, that responsibility increases. You might have your own home, you might have kids, you have a job you have to go to. And in adolescence, you don't really have to worry about those things because your parents are taking care of that.

▶ The *Stress Is a Distraction* Cultural Model

In a third model of stress and adolescence, participants assumed that stress diminishes adolescents' capacity to direct attention and energy toward other, important activities. This model is based on the assumption that people have a limited bandwidth of attention and energy, which is depleted when they experience stress or are preoccupied by worrying about problems. Following this logic, participants reasoned that, once a stressor is alleviated, an adolescent reverts back to his or her normal state of functioning.

Adult Participant: When you are under stress as a child, as an adult, as a teenager, you might not be able to function to the best of your ability because you might have too much going on mentally. I think that definitely has an impact. And you might not be able to fully focus in school per se when you are a teenager.

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Researcher: What comes to mind if I ask about adolescents experiencing stress?

Adult Participant: I think if they are experiencing stress, it's going to affect how well they do because it's on their mind. They are not focused on what they need to do well, so, definitely.

Implications

The public's understanding of the relationship between stress and developmental outcomes is incomplete. Using the *Stress Makes You Stronger* model, people see stress as having an adaptive function. But this model does not help people differentiate between types of stress or recognize the important nuance that, while some types of stress in some contexts *do* build resilience, other types in other contexts can powerfully derail development. The *Stress Accelerates*

Development model identifies stress as problematic, but only in the sense that it deprives adolescents of opportunities for an ideal childhood, not because it poses a significant threat to lifelong physical and mental health. And while the *Stress Is a Distraction* model productively conveys the idea that stress impairs learning and attention, it fails to hold the idea that stress has *cumulative* effects. None of these models positions people to see stress as a biological experience that can affect short- and long-term learning, health, and wellbeing.

In addition to the models of people's active and passive understandings of development and their specific conceptions of the role of stress in this process, researchers identified two other important dimensions of how participants thought about adolescent development.

▶ The *Gender Naturalism* Cultural Model

A *Gender Naturalism* model was used to explain what participants frequently described as developmental differences between males and females. Underlying this model was a core assumption that development happens differently for boys and girls. Participants described how adolescent boys naturally mature at a slower rate than girls, in terms of both physical development and maturity. Thinking with this model, gender differences are seen as innate and unfolding deterministically across development, an assumption that led to an understanding that “boys will be boys” or that gender differences are an acceptable and avoidable reality of growing up. When thinking this way, differences in behavior and outcomes for males and females are viewed as natural, unobjectionable, and beyond the influence of society and culture.

Adult Participant: Let's face it. I mean, don't get me wrong. There are some women who don't mature. But I think women—I mean, I think a 12-year-old woman knows a bit more than the 12-year-old boy. Know what I mean? [LAUGHTER]

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Adult Participant: With maturing, it's a whole different level. Maturing and childish, I don't know what it is about guys. They just can't seem to get it, to click it right. Why would you—you just got in trouble for doing this, you go right back and get in trouble for doing the same thing over again? Like, how smart is that? A female can get in trouble one time for something and, “Oh no, I'm not doing that again. I learned my lesson the first time. I suffered my consequences. Do you think I'm going to suffer the consequences again?”

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Adult Participant: Well, I think boys are just reckless. They don't care. Nothing matters. And I think young girls do. And I think it's more important for a female to have her parents around than it is for a male.

Implications

This model makes it hard to think about gender as a social construct. By highlighting the idea that gender differences between boys and girls are *natural* (and, by extension, unavoidable), this model occludes an understanding of the way in which gender roles are socialized and how this contributes to widening inequality between males and females during adolescence.

► A Cognitive Hole: *Brain Development*

The topic of adolescent brain development almost never came up spontaneously during our interviews. It was clear that brain development was not a dominant part of people's thinking of this stage of life and the changes that take place within it. On the rare occasions when people *did* discuss adolescent development and the brain, they conceptualized the brain either as an organ that grows and develops in the same way as the rest of the body, or as a synonym for “the mind”—as a stand-in for the many facets of adolescents' psychological experience.

Implications

Efforts are needed to provide a fuller account of the brain and biological changes that underlie the social, behavioral, and learning changes occurring during adolescence. The developmental processes that are visible to researchers are generally invisible to members of the public. Without an understanding of the changes that are occurring, the factors that these processes are responsive to, and the outcomes that they shape, it will remain difficult for the public to fully or effectively support adolescents in their development. Lifting the curtain to make visible what is currently invisible to the public is one of the most important framing tasks facing those working to translate the science of adolescent development.

The Adolescent Perspective

In analyzing interviews with adolescents, researchers observed a pattern of thinking about how development happens that was not apparent, or as apparent, in the adult data. Adolescents assigned a critical role to *self-esteem* in shaping development. The *Self-Esteem Is Key* model, which was unique to the adolescents in our sample, contained two more specific assumptions:

1. Self-esteem was understood to play a protective function during the developmental process. Like a shield, high levels of self-esteem were seen to enable an adolescent to withstand the

stressful experiences in their lives and to be a tool that could be used to overcome challenges.

Adolescent Participant: I guess my coach was terrible, but my track coach is really good because he gives me confidence. So, when I'm feeling down, I feel better.

2. Adolescent interviews also evidenced an assumption that self-esteem changes based on the social environment. According to this idea, self-esteem fluctuates in response to judgments from peers and adults. Positive affirmations bolster self-esteem and increase motivation. In contrast, criticism or bullying deplete self-esteem and sap motivation, leading adolescents to give up in the face of challenges.

Researcher: How does bullying affect adolescents?

Adolescent Participant: It brings self-esteem down. It lowers what they think about themselves a lot. Sometimes it even makes them just want to give up with everything and just forget about everything. I just feel like bullying has a really negative impact on an adolescent.

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Adolescent Participant: A teacher telling you that "you did amazing in class today" can help you boost your esteem and make you want to do that the next day.

Researcher: And what about when they're not saying positive things? How does that affect adolescents?

Adolescent Participant: That brings you down. It lowers your confidence.

Influence Models: What shapes adolescent development?

When asked to think about the factors that influence adolescent development, participants drew on a set of assumptions about the roles of parents, peers, and society.

▶ The *Perforated Family Bubble* Cultural Model

Two decades of FrameWorks' research on early childhood has documented the ways in which members of the American public assume that child outcomes depend primarily, if not *exclusively*, on parents and what happens within the confines of the family home.¹⁰ This *Family Bubble* model makes it easy to blame parents and hard to appreciate society's broader responsibility for ensuring healthy development.

Interviews on adolescent development revealed a different assumption about family responsibility—one in which people fundamentally understand that adolescents and parents are influenced by a wider set of actors and influences, including peers, teachers, and community members. This *Perforated Family Bubble* model affords a more contextual understanding of development in which people can see beyond exclusive personal and parental responsibility.

Adult Participant: Well, as they say, it takes a village to raise a child. It probably does: a grandma, the family structure, the social structure around you. The school you are in, the environment you're in.

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Adult Participant: Well, I feel like teachers have a big impact. Like, as far as I told you in the beginning, I had soccer coaches. One of those soccer coaches was my teacher. She was my PE teacher. And then also teachers throughout high school—they play such a huge impact. I never thought about it this way, but teachers are—they spend a lot of time with us. And I feel like, you know, maybe you don't think about it, maybe this teacher has a problem sometimes, and maybe some teachers are known to be mean. Maybe they have a lot going on. But if a teacher is really caring with, you know, teenagers and really shows support, that will help in the child's development.

Implications

The *Perforated Family Bubble* model provides a wide understanding of developmental influence. It allows people to identify a range of factors outside of the home that influence adolescent development, including peers, schools, and community factors. This relatively wide recognition of influences allows communicators to message about the importance of a broad set of factors and can be cued to help expand the public's ecological understanding of adolescent development. As compared to public understandings of early childhood development, this more expansive view of influences represents a communications opportunity for those translating the science of adolescent development.

While participants were clearly and easily able to see beyond parents and look outside of the home in discussing factors that influence adolescent development, they also saw parents and parenting as essential factors in the process of development. A close analysis of these discussions showed four assumptions about parenting that structured thinking.

▶ The *Parent as Authority* Cultural Model

Members of the public often drew on an authoritarian view of parenting characterized by a vertical relationship between parent and child. In this model, parents are conceptualized as authority figures who impose rules and boundaries and monitor their child's behavior. Children, on the other hand, are expected to obey parental injunctions, without negotiation. The *Parent as Authority* model assumes a unidirectional relationship between parent and child; parenting is something that is done *to* adolescents, not in partnership with them. This model leaves little room for thinking about a child's autonomy and independence. In discussions informed by this model, participants often rejected the idea that a parental relationship should take any other form, suggesting that parents should make it abundantly clear that they are *parents*, not *friends*.

Adult Participant: They [ineffective parents] are trying to be more of their kid's friend than their parent. "Parenting" is the key word. "Parenting," not "friendship." You make friends on the street. I'm your mother; I'm not your friend.

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Adult Participant: Discipline means punishment. You have to be in the house, in your room. I want you to read me a book, write me a story, and tell me what happened in that book. That's my type of discipline. When you want to do something bad, I'm not going to physically put my hands on you. I'm not going to verbally abuse you. I'm going to make you do something that's going to make you think about ever doing it again.

▶ The *Parent as Equal* Cultural Model

The *Parent as Equal* model is, in some ways, the opposite of the *Parent as Authority* model. It understands parenting as a horizontal relationship between parent and child, characterized by reciprocal openness. According to this view, adults and adolescents need to tolerate and accept each other; be approachable; and demonstrate care and concern at all times, while having few demands or expectations. Drawing on this model, participants would describe rule and boundary-setting as a negotiation between parent and child, a process where both parties engage in a "give and take" to arrive at mutually agreeable compromises. At the core of this model is the assumption that breaking down the hierarchical relationship with an adolescent and being "on her or his level" is an effective way of parenting.

Adult Participant: You've got to relate to them. You can't come to them as an oppressor or a stranger. You have to be on their level.

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Adult Participant: I think adults need to be truthful with children. I think, don't camouflage anything. I've always practiced being open and honest with my daughter on anything that I did in my youth that was incorrect, that I regretted, everything. I'm blatantly honest. There's nothing she does not know—any experience. Hurtful relationship to decisions to school. You just have to be, you know, almost like, give your child your biography first. And therefore, they'll know and say, "Hey," because that's what I find that she does. She will say, you know, "Mom did tell me that," or she'll text me, "You were right." And I find that to be helpful for her.

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Adult Participant: So, when [adolescents'] mind is wandering, it's different thoughts that's going through they head. It can be bad thoughts or it can be good thoughts. You will never know if you don't have that connection or bond with your child. Like me and my daughter. We have open discussions every day. "Tell me what's on your mind. What could be better? What can I do to be a better mom to you? What do you want?"

The Adolescent Perspective

The *Parent as Equal* model was dominant in adolescent participants' discussions of parenting. These participants underscored the importance of empathy and acceptance in relationships with parents.

Adolescent Participant: They should just have more communication with them. Take them seriously. Talk to them about their day when they come home and ask them how their day was. If they came from hanging out, ask them how it was. Things like that.

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Adolescent Participant: Because that starts changing them into the person that they gonna be. They tell you that they love you. That gives you—gives them warmth in their heart. They're more open now 'cause they know that you care about them.

One consistent theme across interviews with adolescents was a desire to be treated as equals by adults and not infantilized. Participants described often feeling belittled or not taken seriously, treated like "adults-in-waiting" but not given meaningful responsibility or autonomy. Adolescents resisted what they perceived to be stereotypes of people in their age group as bratty, entitled, and child-like, and argued that parents should engage with them first and foremost as equals: as individuals with unique needs and capabilities rather than as subordinates to be corrected and directed. In a way, this resistance to the vertical model of parenting is evidence of the existence of this model; adolescent participants assumed that most people use the *Parent as Authority* model to understand parenting an adolescent and actively resisted this way of thinking.

Adolescent Participant: I feel like being there for them and talking to them. Like being serious with them [...]. Serious because, that's another thing—most parents don't take them serious. And they really don't hear them out on things, and I feel like they should do that more.

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Adolescent Participant: They generalize—adults like to generalize. They are like, “Oh, you are 16. That means you are horny all the time and you think about girls constantly and you suck at school and you are angsty. Like they always assume general statements. Like a 9-year-old plays with Bey Blades. Stuff like that. It's just they have a profile for all of these ages, and it's like, that's not how this works. Everybody is their own unique individual. And a lot of parents don't accept that. They are like, “You have to fit into this category or else I'm mad at you.”

Implications

The *Parent as Authority* and *Parent as Equal* models understand parenting in two distinct, unintegrated ways. On one hand, the *Parent as Authority* model supports the idea that parents should be emotionally distant, authoritarian, and controlling, charged with setting and enforcing boundaries and rules. On the other, the *Parent as Equal* model conceptualizes the parent-child relationship to be about reciprocal openness and trust. While participants could access both ways of thinking, they struggled to incorporate them in a way that allowed them to see that parents can show affection and warmth *and* enforce age-appropriate boundaries on their adolescent's behavior.

► The *Parent as Gatekeeper* Cultural Model

A *Parent as Gatekeeper* model was a third way that participants thought about parenting as a factor that shapes development. Using this model, people assume that a parent's role is to manage the environments and experiences to which their child is exposed. There is an assumption that adolescents' natural inclination is to explore the world and to push boundaries, and effective parenting means “gating” these experiences in a way that blocks access to harmful experiences and (to a much lesser extent) facilitates access to healthy, growth-promoting opportunities and influences. This model ascribes a passive role to adolescents in a process of development and has a clear emphasis on the need to restrict access to the plethora of negative experiences that are waiting for adolescents out in the “dangerous” world.

Adult Participant: I think you have to watch your kids. You have to talk with your kids. You have to just make sure and watch and see how they are doing, how they are reacting, how they associate with their friends if they do. You just have to kind of watch them, really.

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Adult Participant: So, I think that if you have the opportunity to move somewhere, do some research where you might be able to afford, then do so. And I think as a parent, you know you want to look into that and take your family to a place when they are going to be successful.

Implications

The *Parent as Gatekeeper* model leads people to (1) focus on the environment as a source of danger rather than opportunity and (2) prioritize solutions that *protect* adolescents from harm and *restrict* their experiences rather than *grant* them autonomy, responsibility, and empowerment. For these reasons, communicators should avoid cuing this model and its protectionist undertones.

► The *Parent as Scaffolder* Cultural Model

Participants also relied on a more recessive assumption that parenting involves granting incremental, structured freedoms. In this view, the role of parents is to allow children to experience challenges that are just out of their “comfort zone.” Doing so gives them ways of gaining independence and experiencing autonomy in a safe and somewhat structured way. This model draws on a deeper understanding that experiencing age-appropriate challenges is important in skill development. Participants described the way in which parenting entails helping adolescents access low-stakes opportunities to try and fail in safe ways that facilitate learning.

Adult Participant: They have a harder time with different things in life if they don't go well, if they make bad choices about different things. I try to at least give you a choice. I don't try to just say, “This is what you need to do.” I try to give you a choice. “You want to grab that sauce or that sauce?” You know, it's just one of those things where you want to try to give them a choice, but they can choose wrong. But a lot of parents won't let kids choose or let them breathe.

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Adult Participant: I just, I take a helicopter view. I'm going to be there. I know where you are, but I'm not going to get you. I'm going to be up here; not too far, but I'm going to be up here. And hopefully you are guarding yourself. And a little help when you need it—I'll be there for you.

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Adolescent Participant: [Adolescents] need to have more opportunities. They're trusted more than children because, of course, you can't just let your children go and run off because they're young. They don't really know what the world is because they don't really pay attention. But as you become a teenager, I feel like you're trusted more. You need to have more responsibilities.

Implications

The *Parent as Scaffolder* model provides a helpful perspective. It is highly consonant with the expert perspective on effective parenting: that parents should provide age-appropriate autonomy to children as opportunities for learning and growth. Communicators should activate and build on this model to help communicate the kinds of parenting behaviors that are most beneficial for adolescent development.

Peers also figured prominently in how participants thought about the factors that influence adolescent development. Analysis revealed the following two dominant ways that people thought about peer influence.

► The *Peers Matter Most* Cultural Model

One of the strongest models from this analysis was the assumption that peers are the *dominant* factor that influences adolescent development. This idea was evoked at numerous times in every interview. Participants understood that peers strongly influence the lives and trajectories of adolescents. At times, this assumption could be seen explicitly when participants voiced strong opinions about the importance of these influences. At other times, this assumption was more implicit in its effect on thinking—shaping the types of stories that participants told about adolescents and adolescent experiences.

Researcher: What do you think are the most important things that influence how adolescents develop?

Adult Participant: The biggest influence? Definitely peers I think is the biggest. Because they are your same age and you spend a lot of time and feel comfortable talking to someone your same age.

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Adolescent Participant: [Peers] is a huge part of it. Your friends are the biggest part of [your life], because you're with your friends more than you're with your family. At school 8 hours a day, you're with them a long time. And that reflects who you are.

Discussions of peer influences were informed by several of the dominant models described above. As evident in the excerpts above, people drew on the passive *Sponge* model in thinking about peer influence. They explained that the reason that peers matter is because adolescents spend so much time with them. In this way, peer influence was understood as a passive process in which adolescents take on the behaviors, values, and attitudes of those around them simply because they are there. When thinking in this way, the reciprocal nature of peer relationships was obscured.

Researcher: How do peers affect development?

Adult Participant: Kids want to do what other kids are doing. If there's a certain activity that all the kids are doing or that is popular, then they'll jump on that, even though they had no interest in that activity. And sometimes, it could be a good thing. Sometimes it might be a bad thing.

Discussions of peer relationships were also shaped by the *Dangerous Times* model. This was particularly visible in how participants talked about the concept of “peer pressure.” These discussions focused on the *corrupting* influence of peer groups (or “falling in with a bad crowd”); adolescents’ propensity for risk-taking and poor judgment when around peers; and the idea that adolescents are especially sensitive to negative peer influence (anti-social or deviant behavior). As evidence of the way that the *Dangerous Times* model was applied, the positive and supportive role that peers and peer relationships can play in adolescent development was absent from discussion.

Adult Participant: I think definitely peer pressure causes stress because it has you sometimes doing something that you really don't want to do. But because your friends are looking and saying you should, you go ahead and do it, but knowing that that's not really something that you should have done or even really wanted to do. So, yeah, that has a big effect on you, the peer pressure.

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Adult Participant: I think you start to form the person you're gonna be. You start to hang out with certain people. You start getting certain friends. You start hearing about certain things, and that kind of shapes who you're gonna be as you get older. [...] You hang out with a bunch of hoodlums, you're gonna be a hoodlum. [LAUGHTER] You hang out with people who like to get high, you're gonna get high. You hang out with thieves, you might become a thief.

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Adolescent Participant: I think that if you are hanging out with people who are doing things that they shouldn't be doing, eventually you will do them, obviously. You are going to end up doing what they are doing. Because if everybody is doing it, you may be peer-pressured, and you see it happening so much. You may start to think, “Oh, this must be okay because everybody is doing it.” You know, but most of the time it probably is not okay.

Implications

The *Peers Matter Most* model is unproductive. By focusing so strongly on the role of peers in shaping adolescent outcomes, this model simultaneously obscures the role of other actors in adolescents' lives. In addition, it combines with the *Dangerous Times* and *Sponge* models in ways that reinforce unproductive scripts that peers are destructive influences on adolescents' lives. Perhaps more importantly, this model makes it hard to appreciate *why* adolescents are more sensitive to and attuned to peer influence—that peers matter because the developing brain is attuned to social influences, not simply because they happen to spend more time with them.

► The *Birds of a Feather* Cultural Model

Participants also drew from a more dynamic understanding of adolescent social development. According to this model, adolescents are understood to actively seek out peer relationships that align with their actual or aspirational identities, values, and interests. The core assumption is that peer relationships reflect and reinforce adolescent identities. This notion that “birds of feather flock together” positions adolescents in an active role and is attentive to the wider social context in which they develop. This way of thinking gives people an understanding that (1) adolescents actively pursue relationships and (2) these relationships affect their development. This understanding closely aligns with several of the key ideas from our research with developmental researchers.

Adult Participant: By that time in your life you can pick who your friends are. Like who you want to hang out with and who you want to surround yourself with. But I feel like when you are younger or you are a kid, you may not have that quite yet.

Adolescent Perspective

While both adult and adolescent participants employed the *Birds of a Feather* model, it was considerably more dominant among adolescent participants. Adolescents described themselves as highly discriminating about peer groups; they saw these groups as having significant effects on their lives by being instrumental in their values and identities. They drew on the assumption that friendships formed earlier in childhood are created (and dissolved) with almost anyone and are superficial and relatively inconsequential. In contrast, peer relationships in adolescence are self-selected and therefore more likely to be long-lasting and influential for development.

Adolescent Participant: When you are young, it's easy to just pick anybody—you can be like, “Hey, I like you, I like your red shirt, you are my best friend now.” And that means nothing at 1 to 12-ish, maybe 11, I

don't know. When you are that young, mentally having a best friend means nothing; they can get dropped anytime. But once you make a best friend during the stage of adolescence, it's much more important, it's a much more important term.

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Adolescent Participant: I feel like, for younger kids, it may be more of the parents. But once adolescence enters adulthood, it is more of who you choose to hang out with. Because by that time in your life you know you can pick who your friends are. Like who you want to hang out with and who you want to surround yourself with at that time. But I feel like when you are younger or you are a kid, you may not have that quite. That technical authority to do so. Or your parents may control what you do or you know.

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Adolescent Participant: Well, I should say, if you're hanging with your friends or something, and the more you're around them, the more you're going to learn about them. And that's more [than] you would learn about yourself, because you're learning about what you like to do. You're learning what you like to do, what you want to do. And that's doing that with your friends that are sharing the same values.

Implications

The *Birds of a Feather* model facilitates thinking about adolescent social development. By giving people the ability to think productively about the ways in which adolescents' social environments support the development of their identity and individuality, it provides a way of talking about the fact that adolescents actively seek out these relationships. Communicators can use this model to make information about the importance of adolescent social relationships clear and accessible.

While most discussion of the factors that influence adolescent development focused on family and peers, participants did occasionally evoke the idea that development is shaped by a set of larger social factors. When discussions went to the social level, the following set of four models shaped participant thinking.

▶ The *Modernity as Threat* Cultural Model

Participants frequently drew on the assumption that, over the past several decades, life has become increasingly difficult for young people. This model was often suffused with a nostalgia for the past and driven by the assumption that society has changed in ways that make it harder to keep adolescents safe and secure. In discussions informed by this model, participants focused on the threat of technology and social media (e.g., that it exposes adolescents to “too much too

soon” or increases the risk of cyberbullying); the fragmenting of community relationships; and the breakdown of the nuclear family. This line of thinking was tightly linked to the *Dangerous Times* model in that it conceptualized the world as a series of threats to healthy adolescent development.

Adult Participant: A lot of my friends that are my age, we had a very structured growing up where we usually had dinner at the same time. We weren't able to go out during the week and go out and get fast food. And if we did, we couldn't get junk food and things like that. Maybe that was reserved for Friday or Saturday night. I had a bedtime. I had to be in bed early—or at least pretend to be in bed at a certain time. There was more structure in things.

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Adult Participant: I've talked to several parents who had big dinners for Mother's Day. And four out of five had to tell the adolescents—and these are literally 13- and 14-year-olds—to put down the god-damned cellphones so they weren't bringing them to the table. I can picture eight people in a room, the teenagers with their noses in the phone, almost negating the family time that we were there to celebrate, the mother and the grandmother. It's not really well viewed from the adult standpoint. They're into instant gratification, being able to communicate in milliseconds, instead of sitting around.

Implications

Understanding modernity as a threat to adolescent safety and development is heavily fatalistic. The *Modernity as Threat* model sets up an understanding of societal change as negative and results in a fatalistic attitude that threats to adolescent development are inevitable. It is likely to undermine support for policies and programs by reinforcing the public's assumption that adolescents “these days” are simply destined to struggle and that many are fated to fail.

► The *Modernity as Progress* Cultural Model

Although more recessive than the *Modernity as Threat* model, participants alternatively thought of societal changes in positive terms—as progress toward a better time. Using this model, people understand technology as a resource that supports positive development by exposing adolescents to wider sources of knowledge and alternative perspectives on the world. Using this model, participants understood the world today as open-minded and tolerant and saw today's adolescents as having more opportunities than in the past. This model tended to be linked to the *Raw Materials* model: adolescents today have a wider set of experiences to use in developing their identity.

Adult Participant: Lane Tech has a lot of social groups. Carl Schurz, where I went, has a lot of places now. They have the gay and lesbian stuff. They got music. They got like so many organizations that I'm like, "Wow, why didn't they have that when I was growing up?"

Adolescent Perspective

Neither the *Modernity as Threat* nor the *Modernity as Progress* models were strongly articulated among adolescents in our sample. Perhaps unsurprisingly, participants had few reference points with which to compare their generation's experience with previous ones.

▶ The *Available Opportunities* Cultural Model

This model provides an understanding of how adolescent development is facilitated or impeded by the availability of opportunities. The model is particularly focused on educational opportunities. When active, participants assumed that adolescents' likelihood of achieving professional and personal success is tied to the availability of resources, and particularly educational resources.

Adult Participant: If they had the resources, schools could be uniform and help them [all adolescents] the same. Why should the kids in the suburbs have more and get more than the kids in the city or in impoverished areas? Why should they get more? Why can't we all learn together at the same level? We don't all have the same chances.

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Adult Participant: Money. Money, and, if your parents have got a lot of money and a lot of time, you can get on the other side of the wall real easy. If you don't, it's gonna be hard. Because you're gonna have to climb a little harder or get a ladder.

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Adolescent Participant: If you are born into a rich family, then you are probably going to be put into the school that is best for you because money won't be an object. So you are going to get what you need because you can pay for it. But somebody who may not have as much money? It's going to be hard for them to find what they need and get somewhere that they can afford that has exactly what they want and has everything that they need. Because it just doesn't work, it is not in the budget. It can't happen.

Implications

The *Available Opportunities* model opens the door to communicating about structural inequality. The existence of a model in which people understand the role of systems and structures in facilitating or impeding adolescent development is an important and positive finding from this research. It provides a way for communicators to cue public thinking about systemic inequality and an opportunity to introduce novel, systems-level solutions to improve adolescent outcomes.

► The *Culture of Poverty* Cultural Model

Although recessive, participants occasionally drew upon a *Culture of Poverty* model to explain why poor adolescent outcomes tend to occur in certain communities. According to this model, poor communities hold a shared set of norms, values, and behaviors that negatively influence adolescent development. This culture is described in highly moralized terms, with certain communities depicted as lazy, entitled, and dysfunctional. There was a thinly veiled (and, at times, explicit) racialized dimension to this model, with participants referring to imprisoned fathers, members of “those” communities, and using other similarly coded language. There was an assumption that this deficient culture is reproduced across generations and responsible for creating intergenerational cycles of ineffective parenting and, in turn, poor adolescent outcomes. Notably, this model was present among adult participants but not adolescents.

Adult Participant: It's a new boyfriend and she's more worried about pleasing him than her child. You got a guy that is a child molester. You don't even know anything about this guy, and you're already leaving him to babysit your child. I don't know how you bring a man into your child's life when you've only known him for a couple of weeks. The self-esteem of these young mothers... You've got to inform them and find out why they're doing this. Why do you feel this way? Why is it more important for you to have a man than to raise your child properly?

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Adult Participant: In North Philadelphia, I often hear the median family income is in the \$1,000- \$2,000 range. There is virtually no two-parent households. There's often a one-parent household where the mother herself has a drug or drinking problem. There is no discipline. They're seeing things; that adolescent is seeing horrific things. And hearing shootings outside their door and drug use in the house. Drug use certainly on the street for blocks.

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Adult Participant: I call it the culture of poverty in New Orleans. Unfortunately, we have a lot of people that have the mindset... I don't know if I've heard about that or not, and that's just so out of reality, back with reality. If my grandmother was on welfare and food stamps for 30 years, your mother has been on it

for 20 years, you expect to be on it too. That's not a good thing. That doesn't give you any incentive to want to improve yourself. Why would I want to do anything different? Because if you get that check once a month, you all right. And that's not all right.

Implications

The *Culture of Poverty* model stigmatizes and essentializes specific populations, assigning blame to deficient family, community, and class cultures. In so doing, it makes it hard to recognize the value of systems-level reforms. It is based on the assumption that deeply entrenched social and cultural norms are beyond the reach of policies and programs. Communicators must be careful to not inadvertently trigger this model.

Mapping the Gaps: Opportunities and Challenges

In this report, we have reviewed how experts in the field of adolescent development think about the topic and described the patterns of thinking that shape how Americans—including adolescents—understand this developmental period. Below, we identify the overlaps between expert and public perspectives and then “map the gaps” between them to reveal communications opportunities and challenges.

Overlaps in Thinking

There are significant areas of overlap between researcher and public understanding of adolescent development. These overlaps represent promising areas to explore in future reframing research, as they have potential to make the science of adolescent development more accessible. However, some of these are relatively superficial overlaps that reveal, upon closer inspection, deeper gaps in thinking. Communicators need proven strategies for activating these overlaps in ways that avoid accidentally triggering unproductive ways of thinking. Both researchers and members of the public:

- Recognize **the existence and importance of a transitional period between childhood and adulthood.**
- Understand adolescence as a period in which individuals **develop important capabilities that are carried forward into adult life.**
- Understand **adolescence as a time when individuals develop goals, values, interests, and aspirations** and when **social and personal identities take shape** and begin to crystallize.
- See **the relationships that adolescents have with those around them** as factors that shape the process and outcomes of development. There is also a shared recognition that the sources of these relationships expand beyond the family to include peers and other adults.
- View **puberty as a key event marking the passage from childhood to adulthood** that is associated with profound changes.
- Share the understanding that **opportunities and resources matter for how adolescents develop.**

- See the importance of **providing adolescents with structured and incremental ways of gaining independence and autonomy.**

Gaps in Understanding

In addition to the overlaps described above, a set of gaps between research and the public understandings of adolescent development emerged. These are areas where effective framing is necessary to make information from the science of adolescent development accessible to public, practitioner, and policymaking audiences.

- **Brain Development: Key Character in the Story of Development vs. Cognitive Hole.** While brain development features prominently in expert thinking on adolescence, it was almost entirely absent in discussions with members of the public. Even when the topic was introduced, members of the public did not afford the brain special status; they viewed it as either another site of growth or as vaguely synonymous with the mind. Neither understanding offers people productive ways to engage with key ideas from developmental science.
- **Biological Plasticity: The Heart of the Matter vs. Off the Radar.** For researchers, the understanding that adolescence is associated with significant, region-specific changes to the brain is central to their understanding of development. It underpins the notion of “windows of opportunity,” when adolescents are particularly sensitive to certain types of experiences and environments. In contrast, while members of the public *do* recognize that adolescents are easily influenced, this assumed sensitivity is without a biological underpinning and, as a result, is understood to be about vulnerability to threats.
- **Puberty: Wide vs. Narrow View.** Researchers understand puberty as a set of complex biological changes that affect sexual maturation, brain development, and behavior, changing the ways in which adolescents are sensitive and respond to their social worlds. The public thinks narrowly about hormones and a specific set of physical (body hair, height) and behavioral (irrational behavior, sexual desire) changes. What’s more, puberty is modeled in heavily valenced ways for the public; it is understood as a hostile process, whereas researchers see puberty as a neutral process that creates opportunities for positive learning and development as well as sensitivity to risks and threats.
- **Adolescence: Time of Risk *and* Opportunity vs. Danger.** Experts understand adolescence as a period of development that confers not only vulnerability to risky

behaviors and negative influences but also powerful opportunities for learning and positive adaptation. The public, however, sees adolescence primarily as a period of heightened vulnerability in which individuals are particularly sensitive to threats. This gap was wider for adult participants than for adolescents, who were less oriented toward the riskiness of adolescence and more attuned to the power of positive opportunities.

- **Context: Complex Influences vs. Threat.** Experts and the public diverge in their understanding of the broader social and cultural environment that adolescents inhabit. While experts understand the community as providing a set of rich opportunities and challenges for adolescents, the public sees it primarily as a source of risk and danger. This leads to the understanding that parents, teachers, and other adults should restrict access to contexts outside the home and the school.
- **Effects: Societal and Individual vs. Individual Only.** Experts cite a wealth of research about the collective benefits that accrue when adolescents develop in positive ways, including increased contributions to the labor market, savings to the health care and justice systems, and, perhaps most importantly, greater civic and community engagement. In contrast, the *Independence in the World* model guides the public to think about adolescent outcomes in narrowly individual ways and in terms of personal accomplishments. This makes it hard to see supporting adolescents as a matter of collective concern or to view adolescent development as a social and public policy issue.
- **Bias and Discrimination: Key Influence vs. Out of Mind.** Researchers emphasize that inequity, discrimination, and racism can have significant effects on the way that adolescents develop. They also understand adolescence, because of the sensitivity of this period, as a time when inequitable distribution of and access to resources widens racial and socioeconomic disparities in outcomes. This is off the radar for members of the public, who are typically unaware of the ways in which systemic biases affect adolescents. Members of the public do not see the connection between issues of equity and the process of adolescent development.
- **Youth-Serving Systems: Need for Reform vs. Missing from Thinking.** Working with a nuanced understanding of development, experts suggested a range of ways in which youth-serving systems could be more responsive to the developmental needs of adolescents. The public, by contrast, has a thin understanding of these systems to begin with and lacks the ability to envisage ways to modify them to more effectively support adolescents.

- **Stress: Damaging Effects vs. Mostly Benign.** Researchers emphasize that adolescents have heightened susceptibility to social stressors, and that this can carry long-term, negative consequences for development. By contrast, the public largely understands stress as positive (i.e., it builds character and resilience) or not especially problematic (i.e., it is a temporary distraction or, at worst, imposes adult responsibilities on a child at an earlier age than is desirable).
- **Policies and Programs: Central vs. Absent.** Researchers suggest the importance of specific policies and programs designed to target modifiable risk and protective factors for adolescents. For members of the public, who typically do not adopt a systems-level perspective, this kind of solutions thinking is consistently thin, if not altogether absent.

Initial Recommendations and Directions for Future Research

For those communicating about the science of adolescent development, the findings presented here are simultaneously promising and problematic. In some ways, public thinking is in step with that of researchers and advocates, making the communications process more direct and less complicated. Communicators can focus on activating the productive models through which many of their ideas become accessible and applicable in people's thinking. For example, at a general level, the public understands that adolescence is an important transitional period when individuals develop independence and responsibility and learn skills necessary to become competent adults. There is also a shared understanding that relationships, especially with parents and peers, provide powerful influences for growth and development.

However, a deeper look reveals a more complicated cultural landscape—one that poses significant challenges to those working to make the science of adolescent development more accessible to those who are not developmental researchers. Most notable among them is the fact that the public is hyper-attuned to the threats posed to young people, leading to the understanding that adolescents should, above all else, be shielded from harm. From this perspective, the best policies are those that insulate adolescents from threat and protect them from the dangers inherent in the world. This mutes attention to the ways in which communities and adults must do a better job of supporting and creating room for adolescent growth.

Similarly, while researchers hold a clear understanding of why and how adolescents change, as well as the biological underpinning of this change, members of the public struggle to see and understand these processes. This complicates efforts to advocate for how systems could be changed to intervene on these processes and promote more positive outcomes. Finally, while the public asserts the importance of parents and a select group of other individuals with whom adolescents come into direct contact, their understanding of the influence of a wider set of actors, resources, and contexts is thin.

The analysis presented above points to a set of recommendations for those seeking to make the science of adolescent development more accessible to and usable by audiences outside of the research community.

1. Don't assume the public understands the term "adolescence."

The public understands the term "adolescence" in many different ways and rarely interprets it as experts do. For this reason, communicators should define the term early and often. Such definitions should establish clear parameters around the concept, either by anchoring it to chronological age or by describing it as "a transitional period between childhood and adulthood." Without establishing a common understanding of what adolescence *is*, communicators cannot be sure that the public will think about the term in the that way they do. Future reframing research will explore the possibility of using different terms to capture this developmental period.

2. Rebalance the discussion.

While focusing on adolescent risk-taking and vulnerability is sometimes appropriate, the field needs a broader strategy that speaks to *both* risk and opportunity. The public is already strongly attuned to the ways in which adolescence can be a vulnerable period of life.

Communicators should emphasize that adolescence is also a time of sensitivity to positive influences to counter the notion that vulnerability is *the* defining characteristic of adolescent development. Such discussions must be balanced though, and not overly idealistic and rosy, or they risk rejection from the public. Introducing the idea of adolescence as a time of opportunity will take time and discipline from messengers.

3. Explain adolescent development as an issue of *collective* importance and identify its social implications.

To counter the public's individualistic orientation, it is important to refer to the end goal of adolescence as more than just individual academic or personal success. If communicators wish to build support for policy change, they must frame the issue of adolescent development as a social rather than merely an individual issue. Communicators should speak to shared values that activate our sense of collective responsibility for supporting young people. Prior FrameWorks research on early childhood development has shown that priming communications with the values of *Social Progress* and *Collective Prosperity* helps the public see child development as a priority issue that warrants collective concern and public policy action.¹¹ These values will (1) reinforce our communal responsibility to actively support adolescent development and (2) prevent people from holding individuals or their parents solely responsible for adolescent development and outcomes.

4. Broaden understanding of the people and places that affect adolescents.

Communicators should make efforts to show adolescents involved with individuals other than their peers and in non-stereotypical contexts (i.e., not just at school). They should

introduce a range of community actors, including mentors, youth leaders, and other role models, and explain the role these actors play in supporting various aspects of adolescent development. This will help the public overcome its assumption that those who are responsible for healthy adolescent development are primarily, if not exclusively, adolescents themselves or their parents and teachers.

5. Spotlight positive community influences.

One of the key communications challenges emerging from this research is the public's assumption that the community is primarily a source of threat and danger for adolescents. As a corrective, communicators should describe and explain the way in which *positive* community influences, including private and public individuals and institutions, guide adolescents toward positive outcomes.

6. Be specific about programs and policies.

Our findings suggest that people struggle to call to mind successful examples of quality programs that support adolescents' growth and autonomy. Communicators should explain what these programs should look like at multiple levels (local, state, and federal), and articulate *how* they support adolescent development. Giving examples of effective programs helps direct responsibility to the social level and break the public's sense of fatalism about the possibility of change.

7. Introduce and explain the importance of scaffolded independence.

Communicators need to help people practice thinking with the *Self-Development* and *Parent as Scaffolding* models. They should show that adults support adolescent development when they give them opportunities to learn—and fail—in safe, structured ways. It is essential to show *how* these experiences facilitate positive outcomes and explain the processes that connect these experiences with better outcomes.

8. Establish Efficacy.

Communicators should provide examples of how changes to youth-serving systems will better support adolescent development and explain how these actions improve outcomes. They should tell stories that cue and expand on the *Available Opportunities* model, linking positive development to broader structural and systemic conditions.

These recommendations serve as a preliminary strategy to translate key ideas from the science of adolescent development for the public. However, designing a core story that the field can use over time to reframe this issue will involve generating and testing new frames and strategies that

can overcome the challenges identified here. The following represents a list of key tasks for future reframing research:

1. Develop explanatory tools that increase understanding of how adolescent development and brain plasticity work and why these concepts matter for outcomes of public concern.

New framing strategies are needed to incorporate biology and neurobiology into the public's understanding of how adolescents change and develop. The public's existing ways of thinking do not allow for an appreciation of the relationship between puberty, brain development, learning, and behavior. Explanatory tools, such as metaphors, can be developed to explain how these biological systems work and how they give rise to burgeoning adolescent competencies. People need ways to understand what is going during adolescent development, why these processes matter, and how they can be better supported. This is a primary framing task.

2. Expand thinking about adolescence as a sensitive period.

The public is already attuned to the fact that adolescents are sensitive to their environments. However, communicators must find ways to broaden this understanding to include adolescents' sensitivity to *positive* experiences and environments. In short, communicators need to communicate the idea that this period of life is one of both risk *and* opportunity.

3. Integrate thinking about developmental processes.

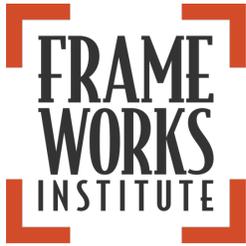
As this report has shown, the public holds a highly bifurcated view of development: *either* as a process entirely independent of outside influences *or* one that is entirely passive and reflexive. Future framing research should find ways to *integrate* these two models of development, explaining how adolescents' agency is facilitated or impeded by their environment and the opportunities they have available to them.

4. Deepen understanding of how economic, social, and cultural forces introduce and exacerbate inequities during adolescence.

While communicators can potentially leverage the *Available Opportunities* model to broaden thinking about structural barriers to success, more research is needed to determine how this model can best be activated and used in communications. Communicators will also need strategies to deepen understanding of other structural factors that influence adolescents, such as racism, sexism, and other forms of discrimination.

5. Cultivate a sense of efficacy.

Communicators need strategies to address the fatalism stemming from dominant cultural models. Strategies are needed to disrupt the *Culture of Poverty* and *Modernity as Threat* models in particular. These will help members of the public understand that programs and policies are able to address challenges and support positive development during this important period of human development.



About the FrameWorks Institute

The FrameWorks Institute is a nonprofit think tank that advances the nonprofit sector’s communications capacity by framing the public discourse about social problems. Its work is based on Strategic Frame Analysis®, a multimethod, multidisciplinary approach to empirical research. FrameWorks designs, conducts, publishes, explains, and applies communications research to prepare nonprofit organizations to expand their constituency base, to build public will, and to further public understanding of specific social issues—the environment, government, race, children’s issues, and health care, among others. Its work is unique in its breadth—ranging from qualitative, quantitative, and experimental research to applied communications toolkits, eWorkshops, advertising campaigns, FrameChecks®, and in-depth FrameLab study engagements. In 2015, it was named one of nine organizations worldwide to receive the MacArthur Foundation’s Award for Creative and Effective Institutions. Learn more at www.frameworksinstitute.org.

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Endnotes

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