

Index

- Abecedarian Project, 162
 abortion, 26–27, 28, 105, 134, 192
 ACEs (Adverse Childhood Experiences), 43, 45,
 95–97, 98, 100, 148, 231
 addiction, 46
 adolescent development, 27, 53, 59, 101–102
 adolescents, 24, 27, 54, 56, 58, 100
 birthrates, 151–152
 cultural views of, 28, 48–50
 decision-making capacity, 25–26
 impulsivity, 29, 47, 52–53, 54, 195
 neurodevelopment, 25, 50, 55, 101, 102, 171
 neuroimaging studies, 25
 psychosocial functioning, 27, 35
 puberty, 101–102
 responsibility, 22–24, 27–29, 31, 37, 38, 42, 45
 legal status, 22, 37
 reward sensitivity, 51
 self-expectations, 47
 adolescent stereotypes, 47–48
 Adverse Childhood Experiences, 4 *See* ACEs.
 Affordable Care Act, 141, 150, 185, 255
 Alameda County, 148
 Alan Alda Center, 253
 Allen, Graham, 160–161
 American Psychological Association's arguments
 in Roper, 50, 57
 American Psychological Association, 24 *See* APA.
 American Rescue Plan, 184
 Angelo (LA father), 5, 7, 217
 APA (American Psychological Association),
 24–27, 51, 56, 117, 253
 Aristotle, 6, 7
 Arizona, 2, 20, 152, 200
 Association for Psychological Science, 253
 attachment theory, 112, 117, 119, 130

 babies, 1 *See* infants.
 Baby Einstein, 171
 Bales, Susan Nall, 13, 15, 17, 194–195,
 207–209, 212, 213

 Barnett, Steven, 168–170, 178, 258
 Beatty, Warren, 109
 Beck, Joan, 115
 Begley, Sharon, 15, 110
 benefit-cost ratio, 160, 162–164, 169, 223, 234,
 258
 Benton Foundation, 194
 biological embedding (experience), 43, 67, 71
 Boldt, David, 118
 Bond, Christopher, 139
 brain architecture metaphor, 126, 209, 216–219
 See also serve and return.
 brain damage, 75, 231
 brain development, 142, 144, 155, 185
 adolescent, 23, 48, 50, 53, 59, 101, 102
 commercial interest in, 3
 developmental neuroscience account, 62, 63–76
 early years nurturant account, 95–100
 economic interest in, 12, 179
 education and, 170–175
 fetal, 63, 98–100
 media interest in, 104, 107, 116
 parental interest in, 1–2
 policy influence, 121–127, 139, 140–141,
 182–183
 political influence, 5
 psychological account, 62, 76–89
 public interest in, 2, 4, 104–105
 scientific communication of, 11
 scientific communication on, 117–121
 brain development revolution, 4–5, 106, 182,
 183, 225–226, 229, 233, 235, 236,
 237–239, 258, 259
 consequences, 175, 183–185, 189, 229–235,
 238, 259
 preconditions, 109
 Brainology, 217
 Brain weight, 63
 Bretton Woods Agreement, 180
 Breyer, Stephen, 25
 Brown, Willie, 146

- Bruer, John, 117–120, 128, 173, 222
 Bush, George H. W., 107
 Bush, George W., 126, 259
 Bushouse, Brenda, 176
- Cain, Bernest, 223
 California, 12, 20, 144–146, 149, 151, 152
 ballot initiatives, 145
 Proposition 10, 144, 146, 149–154, 174, 227, 239
 Proposition 28, 146
 California Children and Families Initiative, 146, 153
 campaign journalism, 20, 105–106, 127, 143, 226–227, 249–250, 256
 Carnegie Corporation, 107, 109–111, 114, 139, 144
 Castel, Alan, 31
 category membership, 85
 Center for Early Education Research, 169 *See* National Institute for Early Education Research.
 Center on the Developing Child, 206, 210, 215
 See also National Scientific Council on the Developing Child.
 cerebellum, 40, 73
 cerebral cortex, 72, 97
 Champlain Towers, 216
 Charen, Mona, 118
 Chicago Parent-Child Centers, 162
Chicago Tribune, 107, 203, 236
 child, definition, 5
 child advocates, 142, 143, 153, 160–162, 169–170, 229–230, 255–258
 I Am Your Child campaign and, 20
 child care, 121–122, 140–141, 142, 143, 177–178, 183, 193–194
 quality, 175, 177, 181, 223, 230, 237, 241
Child Development (journal), 11
 children, 6–7, 8, 9, 165
 adverse experiences, 43, 45, 95–97, 98, 100, 148, 231
 defined, 5
 language development, 66, 73, 82
 lived experience, 164
 memory, 72, 91
 mental health, 126
 public perception of, 17, 130–131
 scientific messaging about, 1, 21
 as scientists, 84, 86, 120
 social development, 34, 81, 84–86, 87 *See also* adolescents; infants.
 Children and Families First Commission, 146
 China, 47–48, 52, 57
 Chomsky, Noam, 78
 Chongqing, 48
 cigarettes, 12, 145
 Clinton, Bill, 112, 115, 121, 140
 Clinton, Hillary, 104, 113, 114, 118
 cognitive interviewing, 196
 collective prosperity, 199
 Committee for Economic Development, 180
 Committee on Integrating the Science of Early Childhood Development, 124, 127, 207, 244, 255 *See also* From Neurons to Neighborhoods.
 communication, 14–18, 129–130, 229–230, 243, 251–254
 science, 133, 219–221, 227–229, 235–236, 240, 245, 252
 concept development, 80–81
 core knowledge systems, 78, 86, 92, 235
 cortisol, 37, 98, 99
 Council of Chief State School Officers, 176
 Couric, Katie, 104, 113–114
 COVID-19, 15–16, 103, 148, 179, 232
 crime, 52–53, 54, 56, 58–59, 151, 160–163, 186
 capital, 23, 27, 31, 55, 58–59
 violent, 151
 Crook, Shirley, 23
 cultural models interviews, 196
- Dayton, Mark, 168
 depression, 35, 53, 100, 232
 maternal, 99, 209, 212, 215
 developmental cultural neuroscience, 47, 50
 developmental neuroscience, 18, 28–29, 59, 60, 91–95, 117, 120, 128–129, 170–174
 criticism, 117–121
 determinism, 129
 developmental science and, 92–94, 236–237
 education and, 172–173
 emergent issues, 102–103
 influence, 22, 59
 law and, 28–29
 memory, 72
 messaging, 16–17, 19, 239, 241
 overpromising, 133
 policy implications, 2, 228, 256
 public attention, 62, 107, 108, 111, 183, 227, 231
 use it or lose it principle, 43, 49, 62, 66, 69, 94, 172
 developmental science, 27, 29, 92, 93, 119, 236–237, 258
 developmental neuroscience and, 236, 238
 funding, 248
 mental modules, 92
 Dickens, Charles, 6–7, 260
 diffusion tensor imaging (DTI), 76
 Disney, 171

Index

315

- dopamine, 37, 51
dorsomedial prefrontal cortex (DMPFC), 34, 40–41
dualism, 36, 44–46, 55, 60
dual systems model, 51, 54–55
Duerksen, Susan, 115
Dugger, Robert, 180
Dutch Hunger Winter, 98–99
dynamic complementarity, 155–156, 164
- Early Childhood Development Act, 139
early childhood education, 141–142, 157, 159, 176–177, 178, 179–180, 186–187
Early Childhood Longitudinal Study survey, 3
Early Childhood Scholarship Program, 168
early education, 163
Early Head Start, 139, 177
Early Learning Scholarships, 168
Economic Success, 2, 176, 180
education, 7, 138, 171–173, 177, 193, 214
 attainment, 155, 163, 186, 228
 brain development and, 170–175
 early education programs, 162–163, 165–166, 170, 184, 187, 221–222, 226
 funding, 138
 kindergarten, 1, 3–4, 62, 168, 176
 prekindergarten, 2, 137
Education Writers Association, 176
EEG, 76
effectiveness factors, 212
embed, 43, 45, 67, 71, 173
emotions, 37–38, 41–42, 68, 86, 111, 113, 117
Epstein, Bruce, 115
essentialism, 80–82, 85, 88, 93
experience
 biological embedding, 43, 67, 71
 psychological embedding, 43, 173
experience-dependent development, 70–71
experience-expectant development, 69–71
- Families and Work Institute (FWI), 109–110, 114, 144
Family and Medical Leave Act, 140
fast mapping, 79
Fauci, Anthony, 16
fetal brain development, 63, 98–100
First 5 programs, 146, 148–153, 183, 185, 228, 244, 257
First Things First for Arizona, 152
Fiscal Policy Studies Institute, 149
Flint, Michigan, 97
fMRI, 10, 30, 33, 39, 76, 106
Foundation for Child Development, 178
frames, 132–133, 199–200, 202–203, 220, 241, 243–244, 281
 prosperity value, 221
- FrameWorks Institute, 20, 194, 195, 196, 197, 201, 203, 204, 205, 218, 219, 220, 243–244
 mirroring, 216
National Scientific Council on the Developing Child and, 20, 194, 206–207, 220, 222, 223–224, 229
 publications, 203
 research, 198–199, 200, 202, 204, 205–206
 strategic frame analysis, 195, 201
 training provided, 208
 website, 197
Friedman, Mark, 149
From Neurons to Neighborhoods, 118, 121, 124, 126–127, 207, 208, 210
frontal lobes, 25, 37, 42, 50
- Galinsky, Ellen, 109–112, 118, 144
genetics, 8, 123–124, 125, 131, 198, 201, 207–208
Genie, 70
Gilbert, Ellen, 110
Gilliam, Franklin D., 194–195
Gladwell, Malcolm, 191, 217, 242
Goffman, Erving, 194
Gopnik, Alison, 120–121, 217
Gore, Tipper, 109
Grady, Joseph, 193
Graham v. Florida, 58
Greenough, William, 117
Grunewald, Rob, 166–167, 170, 177, 258
gut microbiome, 103
- Harris, Judith Rich, 123
Head Start, 3, 108, 167, 177, 186–187
Healthy Kids program, 148
Hechinger Institute, 176
Heckman, James, 135, 155–160, 162, 164–166, 170, 177, 184
Heckman Curve, 158–159
Heinz Foundation, 110
Heston, Charlton, 146
hippocampus, 65, 68, 72, 91, 96, 101
Hodgson v. Minnesota, 25–28, 29, 57
homicide, 52, 151
Hong Kong, 47–48
Hugo, Victor, 7
human capital, 135, 141, 155–158, 160, 164, 165
Hyman, Steven, 124
- I Am Your Child* campaign, 20, 103, 114, 115, 120, 128
 celebrity involvement, 104, 244
 core message, 106, 117, 132
 failures, 184
 as model for science communication, 106, 128, 249, 250, 255

- I Am Your Child* campaign (cont.)
naming, 110
planning, 104
preconditions and context, 106–109
reasons for success, 127
responses to, 121, 139, 140, 141–143
significance, 105, 116
tensions within campaign, 112, 118
- I Am Your Child Foundation, 114, 127, 144
- IBM, 110
- imaging, 22, 30–32, 34–35, 37, 39–40, 74–76, 227
- immune system, 103
- implicit memory, 72–73
- impulse control, 2, 49–50, 51
- impulsivity, 24, 27, 29, 47, 50, 52, 55–56
- infants, 1, 72, 77, 78, 79, 83, 85, 86, 88, 90, 122, 136–275
attention span, 77, 84, 89
behavioral regulation, 90
care books, 8
child care, 122
concept development, 80, 120
early education, 177
enrichment, 118, 138, 232
importance of parental relationships, 108, 122, 129
language development, 2, 66, 73, 79, 88, 90
malnutrition, 99
memory, 72, 82
object permanence, 77
poverty and, 95
recognition memory, 72
social development, 85–87, 89
toddlers, 29, 86, 90
visual learning, 77–78, 83, 230
- interviews
on-the-street, 200
open-ended, 198
- investment and capital appreciation, 193, 199
- James, William, 77
- Japan, 191
- joint attention, 85, 87, 88
- Jones v. Mississippi*, 59
- journalism, 11, 19–20, 105–106, 143, 226–227, 249–250, 256
- K–12 education, 157–158, 166, 175–177, 181, 232, 234, 239
- Kagan, Jerome, 130, 242
- Kennedy, Anthony, 23–24, 25, 26–27
- Kerry, John, 139
- kindergarten, 1, 3–4, 62, 168, 176
- Kolata, Gina, 15
- Kotulak, Ronald, 107, 236
- Kuhl, Patricia, 120
- Lakoff, George, 193, 195
- language, 84, 90
brain structures, 37, 67, 73
deprivation, 70
infants, 2, 66, 73, 79, 87–88, 90
mental modules, 78–80
- Learning Brain: Lessons for Education, 171
- Levi, Yoel, 138
- Levine, Michael, 109, 111–112, 114, 118, 127, 144
- Lewin, Kurt, 39
- literacy, 3, 145, 149
- locationism, 37–38, 68
- Locke, John, 6–7
- Los Angeles County, 70, 147
- Lunden, Joan, 114
- MacArthur Foundation, 126–127, 201, 207
- MacNeil-Lehrer Newshour, 144
- magnetic resonance imaging (MRI), 76, 106
- malnutrition, 97, 98–99, 135, 240
fetal, 99
maternal, 98
- Mandarin Chinese, 66, 88
- Mann, Judy, 108
- Marshall Plan, 180
- materialism, 32, 212
- McCabe, David, 31
- McCormick Tribune Foundation, 178
- McFadden, Daniel, 155
- McLuhan, Marshall, 252
- media, 15, 19–20, 104–105, 226–227, 249, 250–254
brain development coverage, 107
content analysis, 203, 220
I Am Your Child campaign, 120
nontraditional, 251–252
policy and, 14
science communication and, 17
youth culture, 28
- Melmed, Matthew, 115
- Meltzoff, Andrew, 120
- memory, 37, 41, 62, 71–75, 82, 90–91
implicit, 72–73
recognition, 72
- mental health, 124, 126, 197–201, 204–205, 214–215, 221–222, 225–226
- mentalization, 34, 41, 91, 92, 101, 212–213
- mental modules, 78, 84, 86, 92–93
core knowledge systems, 78, 86, 92, 235
- metamemory, 82, 91
- Miller, Zell, 138

- Miller v. Alabama*, 58
 mind-mindedness, 87, 233
 Minnesota Early Learning Foundation, 168
 Minnesota Foundation for Early Childhood Development, 167
 mirror neuron system, 38
 Mozart effect, 142, 171
 MRI (magnetic resonance imaging), 76, 106
 myelination, 67, 74, 90, 101
Myth of the First Three Years, 117, 120

 National Association for the Education of Young Children (NAEYC), 177
 National Child Care Association (NCCA), 177
 National Institute for Early Education Research, 169
 National Research Council, 11, 122, 124, 244
 National Scientific Council of the Developing Child, 11, 13, 127, 206–211, 219–220, 222–224, 229
 Nebraska Early Childhood Education Endowment Fund Sixpence Program, 152
 neoliberalism, 144, 160, 164, 174–175, 240
 Nestlé, 1
 neural polarization, 33, 40–41, 43–44
 neuroanatomy, newborn's, 63, 73
 neurodeterminism, 18, 29–30, 32, 35–36, 186, 237
 neuroessentialism, 32–33, 36–37, 42, 44, 46–47, 60, 193
 neuroimaging, 22, 30–32, 34–35, 37, 39–40, 74–76, 227
 neurons, 61, 63–65, 67–68, 124, 126–127, 207, 208
 neuroplasticity, 59 *See* plasticity.
 neurorealism, 30–31, 32, 40, 44
Neurotalk: Improving the Communication of Neuroscience Research, 246
 neurotransmitter systems, 36–37, 38
 newborns, 20, 62, 77, 98–99, 134, 138–139
 Newman, Frank, 115
Newsweek magazine, 15, 104, 110, 116, 123
 NIEER (National Institute for Early Education Research), 169, 176, 178, 228
 No Child Left Behind Act, 3, 185
 numeracy skills, 149, 158
 nurturance, 123, 130, 132, 134, 135, 140, 238–239
Nurture Assumption: Why Children Turn Out the Way They Do, 123
 nutrition, 1, 96, 98, 100, 133, 135, 173–174

 Obama, Barack, 259
 Obamacare, 141 *See* Affordable Care Act.
 overpromising, 16, 152–154, 185–187, 189, 228, 238, 257–258

 Parisi, Mark, 29
 Parker, Kathleen, 115–116, 122
 Partnership for America's Economic Success (PAES), 2, 176, 180
 peer discourse sessions, 197
 Perry Preschool Project, 162, 163, 167, 169, 170, 205
 Personal Responsibility and Work Opportunity Act, 121
 Pew campaign for prekindergarten, 169, 174–178, 180, 183, 241, 243
 Pew Charitable Trusts, 2, 12, 169, 175–180, 184, 189, 194
 Pew Research Center, 9, 245, 250
 PFC, ventral, 74
 Phillips, Deborah, 122
 phonemes, 79
 phonics, 171
 Piaget, Jean, 8, 84, 86, 94, 120, 131
 plasticity (brain), 59, 68–71, 101–102, 118–119, 171, 212, 214, 216, 219, 229, 231, 234
 political polarization, 33, 35
 pollution, 97
 Positive Youth Development (PYD) model, 59, 102
 positron emission tomography (PET), 76
 poverty, 95–97, 134–135, 183–184, 186–187, 208, 212, 213
 Powell, Colin, 104, 114
 prefrontal cortex, 34, 49, 51, 67, 72–74, 96, 99–101
 prefrontal cortex, medial, 39–40, 41
 pregnancy, 63, 98, 99, 100
 prekindergarten education, 174–179, 183–184, 187, 189, 228, 232, 241–243
 PreK Now, 176, 178, 228
 prenatal care, 2, 100, 116, 134, 135, 185
 prenatal development, 63, 98–99, 100, 102, 133–134, 136, 140
 Proposition 10 voter initiative, 144, 146, 149–154, 174, 228, 239
 prosperity value frame, 119, 221–222
 psychological embedding (experience), 43, 173
 puberty, 2, 51, 56, 101
 public awareness, 4, 14–15, 104–105, 107, 110, 127, 225–226
 public officials, 182
 public-private partnerships, 139, 167

 QRIS (Quality Rating and Improvement Systems), 148, 152, 169
 quality standards, 169–170

 RAND Corporation, 105, 139
 ReadyNation, 180, 181–182, 244, 258

- recognition memory, 72
reframe development,
191–197, 208
Reiner, Rob, 108–110, 112, 114, 144–146, 150,
159–160, 188
Rethinking the Brain, 111, 116, 121–122, 134,
140
reverse inference, 36, 41–42, 55
Rolnick, Art, 166–170, 177, 213, 258
Roos, Mike, 144–145
Roosevelt, Theodore, 113
Roper vs. Simmons, 23, 25–29, 31, 45, 50, 52,
57–58
Rousseau, Jean Jacques, 6–7
- Santiago Declaration, 173
school readiness, 1, 147, 149, 151–153, 177,
179, 241
science journalism, 11, 19, 105, 143, 226–227,
249–250, 252–253
Scientific American, 172
*Scientist in the Crib: Minds, Brains,
and How Children Learn*,
120–121
self-regulation, 49–50, 67–68, 71, 74–75,
90–91, 172, 174
serve and return metaphor, 209, 211–212, 214,
216, 229, 232
shared experiences, 87
Shonkoff, Jack, 13, 15, 124, 126, 207, 215–216
Simmons, Christopher, 23, 25–27, 50, 53,
54–56
Singer, Eleanor, 14
skill begets skill maxim, 157, 164, 186, 193, 213,
221
sleep, 44, 103, 217
Smuts, Alice, 225
social brain, 34–35, 39–40, 91, 101
social development, 34, 214
social experiences, 86
social media, 17, 20, 105–106, 203, 206,
250–254
Spock, Benjamin, 2, 115
Starting Points Initiative, 107–111, 128, 134,
139–140, 255
statistical learning, 79, 83, 84, 91, 237
Steinberg, Laurence, 27, 32, 54–55
Stevens, John Paul, 26
Stipek, Deborah, 152
strategic frame analysis, 194–196, 197, 201,
205–206, 218–221, 224, 229
stress, 4, 99, 100, 209–212, 230, 231–232, 243
maternal, 99–100
suicide, 28, 52, 56
- Supreme Court, 18, 22–23, 37, 50, 56–57, 58,
60
survey experiments, 196
synapses, 18, 61, 65–67, 89, 97, 118
- television, 1, 88, 105, 110, 114, 128–129,
249–250
theory of mind, 86, 91, 93
tobacco taxes, 12, 20, 145, 148–149, 150, 152,
236
toddlers, 1 *See* infants.
toxic stress, 2, 212, 213, 214, 215–216,
227–229, 231
trauma, 2, 4
Twitter, 250, 251
- United Kingdom, 107, 160, 172, 184
United States, 3, 8, 47–48, 52, 55–57, 95, 169
untapped potential myth, 131, 186
usability trials, 197
- v., 26, 50, 197
values, 50, 117, 221–222, 235, 256
cultural, 49–50, 52, 60, 164, 189
family obligation, 49
policy and, 142, 144, 147, 223, 233–234,
256–257, 259
in science communication, 130, 136, 144,
196, 199, 200, 219–222
- V-chip, 1
Voices for America's Children,
176
Vygotskian theory, 132
- war on drugs, 192
Watson, John, 6, 8, 131
Watson, Sara, 177
Waxman, Seth, 25, 27
Weiss, Carol, 14
welfare reform, 116, 121, 210
White House Conference on Early Childhood
Development, 19, 113, 115, 118, 120,
122, 124
White House Coronavirus Task Force, 16
whole-language methods, 171
working papers, 209–212, 216, 223
World War II, 98, 180
- Young Children Develop in an Environment of
Relationships*, 209
- Zero to Three, 2, 115
Zigler, Ed, 186–187
Zuckerman, Barry, 109