

INDEX

- Academic identity, 166–167
- Achievement gap, 12
- Acknowledging, knowing, understanding, valuing, and applying (AKUVA), 103
- ACT prep program, 29–30
- Advanced Placement (AP), 91, 172
- Affect, 104
- Affirmative Action, 94
- African American males. *See also*
Black males, 2, 54, 117, 183
- academic achievement, 92–93
 - critical factors for, 54–55
 - participants, 65
 - students, 68–69
- African Americans, 67, 120–121
- American Educational Research Association, 90–91
- American K-12 education system, 164
- American Psychological Association, 90–91
- Assessment Toward Motivation Mastering STEM (ATOMMS), 15–18
- “Asset” based model, 166–167
- Authenticity, 105
- Barbershop computing, 141
- Between-school sorting, 175
- Bias and men, 93
- Black academics, 160
- Black boys, 38, 100–101
- findings, 43–47
 - literature review, 39–43
- Black culture, 185
- Black girls, 38
- Black Lives Matter protests, 79
- Black males, 25, 66, 100–101, 131, 164
- data analyses, 28
 - data collection, 27–28
 - faculty, 146–147
 - findings, 29–32
 - funding, 34
 - in high school, 184
 - identity, 166–167
 - literature review, 24–26
 - participant selection, 28
 - purpose and research question, 24
 - race, 175
 - recommendations for practice, 33–34
 - research design, 26–27
 - researchers’ positionalities, 27
 - science and hip-hop for, 102–103
 - selection criteria, 27
 - Stanton Academy, 27
 - in STEM classes and careers, 131–132
 - students, 24
 - teachers, 119–123
- Black philanthropy, 74
- advancement, 81–82
 - advancement and black philanthropic behaviors, 76–77
 - barriers black men face in attaining STEM degrees, 77–79
 - utilizing philanthropy to promote STEM education, 79–81
 - W. E. B. Du Bois’s Talented Tenth framework, 74–76
- Black poverty, inheritance of, 89
- Black professionals, 130
- Black Student Union (BSU), 3
- Black students, 131
- Black tax, 155–156
- Black youth, 101–102
- Brain-based learning (BBL), 120

- Bringing Attention to Transforming Teaching Learning and Engagement in Science (B. A. T. T. L. E. S.), 109
- Career academy participation, 25–26
- Career and technical education (CTE), 184
- Career readiness, 30
- Central City, 41–43
- Central City School District (CCSD), 41–42
- Central Elementary, 42
- Children’s behavior, differences in, 176
- Coding, 59
- Cogenerative dialogues, 106
- College readiness, 30, 93, 173
- Communalism, 104
- Communities of practice (CoP), 56–57
- Competition, 107–108
- Comprehensive mattering, 49
- COMPUGIRLS curriculum, 137
- Computer science (CS), 65, 131
- Computing, 137
- Computing Research Association (CRA), 57–58
- Computing sciences, 66–67
- Constant comparison analysis, 28
- Content, 107
- Context, 107
- Correlations, 3–4
 between grit and academic achievement scores, 4–5
- Corroboration, 60
- Cosmopolitanism, 106–107
- Coteaching, 106
- Counter-storytelling, 43, 124
- Course-taking patterns, 172
- Coursework, 30–31
- Credibility, 60
- Critical discourse analysis (CDA), 152
- Critical race theory (CRT), 116, 123, 184
- Cultural compatibility hypothesis, 104–105
- Cultural congruence, 105
- Cultural engagement, 39
- Cultural taxation (CT), 147
- Cultural training pedagogy, 122–123
- Culturally responsive computing (CRC), 137, 185–186
- Culturally sensitive pedagogy, 104–105
- Culturally sustaining pedagogy, 104–105
- Culture, 123–124
 classes, 40–41
- Curation, 108
- Davis’ Office of Development and Alumni Relations (DEVAR), 79
- “Deficit” model, 166–167
- Dehumanization process, 100–101
- DIGITAL innovator, 132
- Digital Youth Divas program, 137
- Discourse analysis, 152
- Discovery Research Education for African American Men in STEM (DREAMS), 118
- K-12 instruction, 118
- Distortions, 60
- Diversity, equity, and inclusion (DEI), 79, 119
- Diversity initiatives, 146
- Diversity talk, 146–147
- Diversity walk, 146–147
- “Do Now” Activity, 116–117, 124
- Donor engagement, 82
- Dual enrollment programs, 172
- E-textiles, 137
- Education, 137
 debt, 120
- Educational system, 100–101
- Educational Testing Services (ETS), 13
- Edutopia, 139–140
- Elementary students, 38–39
- Employee engagement, 146
- Engineers, 31–32

- Entire employee experience (EEX), 159
- Equity, 116, 135
 ethic framework, 138–139
- Eurocentric paradigm, 100–101
- Exceptional Children’s Program
 (EC Program), 168
- Expressive individualism, 104
- Expulsions, 174
- Familial nurturing, 63–64
- Flickr, 130
- Full Option Science System (FOSS), 42
- Gary Earl Grice, 125
- Gender, 131
- Google, 130
- Grade point average (GPA), 80
- Green, Kevin, 132–133
- Grit, 2
 academic achievement scores, 5–7
 data analyses, 3–4
 limitations, 7–8
 methods, 3
 results, 4–6
 scores, 3–4
- Grittier individuals, 2
- Harmony, 104
- Health sciences, 14–15
- High schools, 24, 131
- Higher-level courses, limited access to,
 172–173
- Hip-Hop
 Cultural Competence, 105
 Scientists, 125
- Hip-hop development (HHD), 100,
 103, 105
- Historically Black colleges and uni-
 versities (HBCUs), 17–18,
 33, 40–41, 94–95, 185
- Homework gap, 136
- Human resources (HR), 146
- Human resources management
 (HRM), 146
- Hype-Fun-Learn, 105
- Identity, 38–40
 development, 56, 167
- Implicit bias of teachers, 173–174
- Indirect data-gathering methods,
 26–27
- Institute of Education Sciences (IES),
 17
- Intergenerationality, 105
- International Baccalaureate (IB), 172
- Intersectional theory (IT), 116
- Interventions, 13–14
 educational, 13–14
 intervention, 16
 STEM, 12
- Interview protocol, 58–59
- “Invisible” labor, 147
- Item response differences by gender
 and race, 148–152
- K-12 education system, 54
- Lachney, Mike, 133–134
- Landmark theoretical model, 104–105
- Language impairments (LIs), 168
- Layering programs, 29–30, 184
- Learning, 123–124
- Light Amplification by Stimulated
 Emissions of Radiation
 (LASER), 132
- Male seasoning, 100–101
- Marginal mattering, 49
- Massachusetts Institute of Technol-
 ogy (MIT), 125
- Mathematics, 120, 135
- Media accountability, 121
- Medical science, 14
- Mentors, 67–68
- Minority serving institutions (MSIs),
 95
- Movement, 104
- Multifaceted mentorship, 64–65
 in computing, 67

- National Academy Foundation (NAF), 26–27
- National Assessment of Educational Progress (NAEP), 136
- National Center for the Advancement of Translational Sciences (NCATS), 14
- National Council on Measurement in Education, 90–91
- National Institute of Health (NIH), 14
translational research framework, 14, 17
- National Science Foundation (NSF), 13, 183–184
- National Science Teachers Association (NSTA), 170
- Next Generation Science Standards, 42
- No Child Left Behind ACT of 2002, 92
- Nonexistent Adulthood, 105
- Oklahoma State University (OSU), 82
- Orality, 104
- Ordinary least squares regression, 3–4
- Parental nurturing, 63–64, 66
- Partial mattering, 49
- Perceptions of people or objects, 121–122
- Personal bias statements, 132
- Philanthropic investment, 74, 76, 84
- PK-20 contexts, 118
- Positionality, 60
- Positive identification, 120
- Positive peer interactions and modeling, 61–63
- Pre-K developmental screenings devoid of culture, 168–169
- Predominantly white institutions (PWI)
- Predominantly white institutions (PWI), 3, 15, 33, 55, 146, 183
- Preschool programs, 168, 174–175
- Princeton Review, 90
- Principles of Psychology, The* (James), 16
- Private tutoring, 136
- Program for International Student Assessment (PISA), 134
- Public school, 100–101
- Qualitative study, 185–186
- Race, 131
- Racial battle fatigue, 147
- Racial gap in school suspension, 175–176
- Ransaw, Theodore, 132
- “Ratchademic” educator, 110–111
- Reality pedagogy (RP), 100, 103
theory and practice 4 STEM connectedness and discovery among black males, 105–110
- Reliability, 60
- Research model, 183–184
- Retrieval, 16–18
- Role models, 117, 121
- Samuel Merritt University (SMU), 81
Nursing Workforce Diversity grant, 81
- Sanctuary city, 41
- Sandia National Laboratories, 132
- Scholastic Aptitude Test (SAT), 91
- School composition, changes in, 175–176
- School personnel, 34
- Science, mathematics, engineering, and technology (SMET), 134
- Science, technology, engineering, and mathematics (STEM), 2, 54, 100, 119, 123–124, 130, 146, 164, 183
barriers black men face in attaining STEM degrees, 77–79
barriers to black males’ success in, 167–174

- career pathways, 24–25
- case for more intervention studies
 - in STEM education research, 12–19
- college to STEM pipelines, 118–126
- contributions, 186
- conversation, 164
- curriculum, 101–102
- disciplines, 2
- drivers of school discipline and suspensions, 174–176
- early childhood experiences in, 170–171
- early childhood focus on, 170–172
- education, 24, 164
- fields, 74
- historical contributions of black males engaged in, 165–166
- identity, 55, 65
- lack of early exposure to STEM curriculum, 169–170
- learning, 40
- professions, 39, 88
- strategies to engage minority males in, 176–177
- utilizing philanthropy to promote STEM education, 79–81
- Science education, 100–101
 - for black boys, 39–41
- Science Genius, 108–110, 185
- Self-concept, 56, 65–66
- Self-efficacy, 65–66
- Self-regulated learning, 18
- Self-regulation, 18
- Service, 155–156
- Short Grit Scale, 3
- Smartphones, 139–140
- Social action, 125–126
- Social Economic Status (SES), 134
- Social emotional learning, 18
- Social equity, 146–147
- Social justice, 125–126
- Social science scholars, 56
- Social time perspective, 104
- Socialization process, 62–63, 67
- Sociocultural cognitive theory, 103
- Specific trait anxiety, 88
- Spirituality, 104
- St. Charles Aeronautics Team (SCAT), 132
- Standardized tests, 91
- Stanton Academy, 27, 29–31, 33
- Stanton Engineering Academy, 27
- STEMfluences*, 55
 - CoP, 56–57
 - data analysis, 59
 - data collection, 58–59
 - limitations and future research, 69–70
 - participant selection, 57–58
 - positionality, 60
 - results, 61–65
 - study design, 57
 - validity, 59–60
 - VSI, 56
- Stereotype threat (ST), 18
- Storytelling, 184
- Students from underrepresented communities (SURC), 12
- Suspensions, 174–176
- t-tests, 3–4
- Talent centered education leadership (TCEL), 157, 160, 186
 - item response differences by gender and race, 148–152
 - method, 147–148
 - qualitative results, 152–160
 - results, 148–160
- “Talented Tenth” of race, 74
- Teacher education, 39
- Test anxiety, 88, 90, 185
- Test bias, 90–91, 185
- Testing, significance of, 91–93
- Testing effect. *See* Retrieval
- Themes, 59
- Traditionally White institutions (TWIs), 94–95
- Transformative teaching and engagement, 103
- Translational research, 14

- framework of National Institute of Health, 14, 19
- TRS-80, 132
- United Negro College Fund (UNCF), 118
- US National Academy's National Research Council, 13
- Validity, 59–60
- Verve, 104
- Viable social identity (VSI), 56
- W.E.B. Du Bois's Talented Tenth framework, 74, 76, 185
- Weekly Adrenaline Rush of Mastery experience (WARM experience), 19
- Wells Fargo, 130
- White males, 54
- Zero-tolerance policies, 175