



Learning About the Past to Leave it Behind: Eugenics & Norm-Referenced Educational & Psychological Testing

*Benjamin Brumley, Lauren Brumley, & Dana Morrison
West Chester University of Pennsylvania*

Abstract

Over the past century, standardized educational testing has become deeply embedded in practice, policy, and teacher preparation in the United States. Institutions, most notably the Educational Testing Service, have been influential in shaping and promoting these practices. Yet the origins of standardized, norm-referenced educational and psychological tests are closely tied to early 20th-century eugenics and scientific racism. Although these practices have been challenged and critiqued for more than a hundred years, teacher educators are still expected to learn and use them. This article traces the historical development of standardized testing, highlights long-standing critiques of norm-referenced measurement, and concludes with recommendations for preparing future teacher educators to understand the historical influence of eugenics on the field.

Keywords: *eugenics, norm-referenced testing, Educational Testing Service (ETS), standardized testing, IQ*

During each year of the past decade, over a hundred thousand new teachers entered public education to embark on their teaching career (National Center for Educational Statistics 2022). Many of these aspiring educators have grown up taking standardized, educational tests which comprise a core element of their educational experience (Au 2022; Angrist & Guryan 2004). Standardized testing extends beyond their own educational experience, and continues upon their entry into teacher education programs, deeply integrated into both their certification requirements and coursework (Warren 2023). However, one critical component often absent from their curriculum is an exploration of the origins of standardized testing and its significance in shaping the education system.

Standardized educational and psychological testing in the United States has deep roots in eugenics and systemically racist educational gatekeeping, influencing everything from the development of teacher certification exams to the SAT (Au 2022; Lemann, 1996). Yet, this troubling history is rarely included in training on test administration or test interpretation for future teacher educators and is frequently overlooked in the broader curriculum of teacher preparation programs (Warren 2023). By learning this history, educators can better critique the testing system and push

for more equitable and inclusive practices. In what follows, we explore a century of the implementation of and resistance to standardized testing through the fields of education and psychology, providing vital context for preparing the next generation of teachers.

Standardized Intelligence Tests Ascendent

The concept of modern intelligence testing began in the early 1900s with the work of French psychologist Alfred Binet (Gould 1988). Alfred Binet developed the first standardized intelligence test in 1905, aiming to identify children who needed special educational support. [Binet] decided to bring together a large series of short tasks, related to everyday problems of life (counting coins, or assessing which face is "prettier," for example), but also involving such basic processes of reasoning as "direction (ordering), comprehension, invention and censure (correction)" (Binet, 1909 as cited in Gould 1988). Binet suggested the "mental age" of a child, in terms of their peers, should be divided by chronological age and thus the *intelligence quotient*, or IQ, was born (Gould 1988).

While Alfred Binet intended the test to be used as a diagnostic tool to help children, it was soon, translated and adapted by other psychologists for different purposes (Gould 1988). In the U.S., psychologists Lewis Terman and former West Chester Normal School (now West Chester University) Professor Henry H. Goddard revised and translated Binet's test to create the Stanford-Binet Intelligence Scale, which became the foundation for modern IQ testing (Zenderland 2001; Gould 1988). Lewis Terman, Henry Goddard and other early adopters of IQ testing were proponents of eugenics, a movement advocating for the selective breeding of human populations to improve genetic qualities (Gould 1988; Black 2012). Eugenicists believed that intelligence was a fixed, heritable trait and that IQ tests could scientifically classify individuals and races as superior or inferior.

These prejudiced beliefs led to the misuse of IQ testing to support racist and classist policies (Gould 1988; Black 2012). For example, IQ tests were administered to immigrants at Ellis Island in the early 20th century, and the results were used to justify restrictive immigration laws targeting groups considered less desirable, such as southern and eastern Europeans (Gould 1988; Zenderland 2001). Similarly, IQ testing was used to support forced sterilization and institutionalization programs in the U.S., with laws allowing for the sterilization and forced institutionalization of individuals deemed "feeble-minded" or unfit to reproduce (Black 2012). In this context, IQ tests were not neutral measures of cognitive ability but tools to enforce social and racial hierarchies.

Standardized intelligence testing soon took the stage out of the eugenics movement in the US education system. Most notably, the original Scholastic Aptitude Test (SAT) for college admissions also has roots in this eugenic history. Carl Brigham, a Princeton psychologist and eugenicist, developed the SAT in 1926 near the height of the American eugenics movement (Gould 1988; Brigham 1922; Lemann 2000). Carl Brigham alongside Henry Goddard and Lewis Terman, had previously worked on the first mass-scale Army intelligence quotient tests (sometimes referred to as the "Alpha" and "Beta" tests), which were purported to assess the intellectual abilities of U.S. soldiers during World War I. These World War I army intelligence tests were a precursor to the SAT and shared a similar purpose: to classify and rank individuals based on presumed innate intelligence (Lemann 1996; Lemann 2000).

Carl Brigham's work on the SAT was influenced by his belief in the superiority of certain races and classes as enumerated in his work *A Study of American Intelligence* (1922). The SAT

was initially intended to identify academically talented students regardless of their social background, but it was designed within a framework that assumed innate differences in intelligence among races and ethnicities (Warren 2023). While the SAT evolved over the years and eventually sought to distance itself from these ideologies via aptitude and achievement reorientation, its norm-referenced characteristic is still marked by these eugenic roots and its correlation to modern intelligence tests is quite high (Warren 2023, Lemann 2000).

Carnegie and the Educational Testing Service

The Carnegie Institution, and the Carnegie Foundation for the Advancement of Teaching (CFAT) played a central role in both funding eugenics-related initiatives in the United States and advancing standardized testing in the early 20th century (Schambra 2013; Lemann 1996). One of their primary contributions was providing financial and research support for the study and institutionalization of educational assessment and measurement, particularly in developing early intelligence tests within educational contexts like the SAT (Lemann 1996). CFAT's support extended to the creation and popularization of early educational and psychological assessments, solidifying the view that standardized testing could serve as a key tool for evaluating academic performance and shaping educational policy (Zheng & Walton 2024). It was also instrumental in establishing the National Assessment of Educational Progress (NAEP) testing program in 1966 which continues to administer standardized tests in all 50 American States (Carnegie Corporation of New York 2025).

Following World War II, the increasing interest in standardized testing within both military and civilian domains led to the founding of the Educational Testing Service (ETS) in 1947 with support from the CFAT (Lemann 1996). ETS was established to develop and administer standardized tests and house the growing U.S. standardized testing industry, including the SAT, building on frameworks initially established by military testing practices (Lemann, 2000). The United States military's focus on quantifiable assessment and efficient personnel selection reinforced the broader acceptance of standardized tests in both educational and business settings (Lemann 1996). And substantial military investment in these assessments provided resources and momentum for ongoing research in psychological testing and assessment methodologies (Lemann 2000). The military's influence on the development of standardized testing underscored the adoption of similar sorting mechanisms in business and education.

ETS remains a significant presence in the educational testing field, both domestically and internationally including the administration of the SAT and educator certification tests like the PRAXIS (Lemann 1996). As one of the largest testing organizations globally, ETS is still renowned for its role in designing and administering tests for a wide range of educational and professional purposes (ETS 2025). Among its notable contributions are the (1) Graduate Record Examination (GRE), widely used by graduate programs as part of their admissions processes; (2) the Test of English as a Foreign Language (TOEFL), which evaluates English proficiency for non-native speakers applying to English-speaking institutions; (3) the PRAXIS Series, employed by many states to assess candidates for teacher certification. Historically, it has also had a role in the creation and administration of the MCAT, LSAT and GMAT used for professional school admissions (Lemann 1996; Lemann 2000). Furthermore, ETS has been involved in the development and scoring of the SAT and other College Board assessments, reinforcing its influence on educational testing and admissions practices.

Despite its nonprofit status, ETS has long faced criticism for its significant financial influence in the testing industry (Nairn 1980). The organization generates over a billion dollars in revenue from its testing programs (ProPublica 2025), prompting discussions around the commercialization of education and potential conflicts of interest. ETS, along with other large testing organizations like ACT, Inc., Pearson, Kaplan and others, contribute to a testing culture that shapes education and teacher education by emphasizing standardized assessments to the detriment of alternative forms of learning and evaluation (Warren 2023; Anderson 1998). In addition, its roots and preferences for norm-referenced testing methods that give way to a critique that it carries on a legacy of eugenical educational measurement (Warren 2023).

There is a clear conflict of interest when the same corporations that develop standardized tests are also responsible for evaluating their own products for bias, while simultaneously profiting from their widespread adoption (Nairn 1980; Warren 2023). Alan Nairn's original report, part of a Ralph Nader report on the Educational Testing Service, entitled *The Reign of ETS The Corporation That Makes up Minds* highlighted the fact that for years many insiders had been criticizing the test and recommending changes only to be met with a "wall of resistance" (Nairn 1980, p xii). The standardized testing ideology was quite a "closed circle..." and a culture of "fear and secrecy which pervade ETS" when trying to reform their internal evaluation processes (Nairn 1980, p xiii). These large, lucrative corporations, like ETS, often operate without meaningful public oversight, and their test development processes remain largely opaque (Nairn 1980; Warren 2023). This lack of transparency raises serious concerns about accountability, especially given the high-stakes nature of these assessments in determining educational opportunities, teacher assessments, and school funding (Nairn 1980). When private interests dominate the design, validation, and distribution of standardized tests, it undermines public trust and limits the potential for truly fair and equitable assessment practices.

The legacy of eugenics and early intelligence testing continues to shape standardized testing practices today. Critics contend that tests like the SAT and IQ assessments remain biased, often disadvantaging marginalized groups and thereby perpetuating social and educational inequalities (Warren 2023; Au 2022). These concerns have fueled ongoing debates surrounding the fairness, validity, and relevance of standardized testing within education but also the representation of historically disenfranchised voices in the creation and administration of these tests. A historical understanding of these developments is necessary to explore more equitable approaches for evaluating student learning and potential.

Norm-Referenced Standardized Testing: An Evolution of Intelligence Testing

Modern day norm-referenced standardized tests including tests like the SAT and GRE are like the original intelligence tests in that both are designed to compare an individual's performance to a larger, pre-established group (Warren 2023; Taylor, 1994). In many cases the performance of students on tests like the SAT closely correlate to IQ tests (Lemann 1996, Lemann 2000). Both types of tests use standardized scoring systems, which means each test-taker's performance is compared against a "norming group", i.e., a representative sample of normal, average test takers (Warren 2023). These tests are primarily designed to differentiate between test-takers rather than assess absolute performance, helping identify outliers, such as those with significantly high or low scores rather than mastery of content (Taylor 1994). In both cases, the aim is to assess where an individual stands in relation to others rather than to measure achievement based on a set standard, what is called criterion-reference testing.

The normal part of norm-referenced can be traced back to Francis Galton and other key figures in eugenics in the late 19th and early 20th century England. Francis Galton was instrumental in promoting the concept of normality in statistics, influencing how we view data distribution and individual differences (Grue & Heiberg 2006). Galton, known as the father of eugenics, was deeply interested in the variation of traits in populations. In the 19th century, he used the concept of the "normal distribution" to analyze human characteristics like height and intelligence (Davis 1995). Galton observed that these traits tended to cluster around an average and became less frequent as they deviated from it, which fit the bell-shaped, "normal" curve.

His work popularized the idea that many human traits and behaviors conform to this distribution, reinforcing the notion of an average as a central tendency. Karl Pearson, a protégé of Galton, formalized the mathematical foundation of the normal distribution (Grue & Heiberg 2006; Schambra 2013). He developed statistical techniques, like correlation and regression, that relied on the assumption of normally distributed data. Pearson's correlation coefficient has become a ubiquitous tool in the social sciences and educational research (Zuberi & Bonilla-Silva 2008).

By providing methods for analyzing data that assumed normality, Pearson helped institutionalize the belief that normality was the default (Grue & Heiberg 2006). Pearson applied the normal distribution concept to human populations, suggesting that individual differences, whether in intelligence, physical ability, or behavior, could be ranked and linearly ordered along a bell-curve distribution. Their work made it more acceptable to quantify and compare people, which laid the groundwork for norm-referenced tests, standardized testing, and psychometrics, which often assume a normal distribution of scores and ability (Warren 2023). Pearson's work established normality as a critical concept in data analysis and the study of human traits, creating a foundation that is still used in fields ranging from psychology to education.

A Century of Critique

Critiques of IQ tests and other norm-referenced tests can be traced back to their rise in the early 20th century (Lemann 1996; Warren 2023). Walter Lippmann in the 1920s argued forcefully that IQ tests often reflected cultural biases, disadvantaging individuals from different backgrounds (Pastore 1978). He believed that intelligence cannot be measured accurately through standardized tests, as these assessments often favor certain cultural and educational experiences over others. Lippmann was also critical of how IQ scores were interpreted and used, particularly in policy-making as they would be used to shape immigration policy in particular. He warned against using IQ testing as a definitive measure of a person's potential or worth, advocating for a more nuanced understanding of intelligence that encompasses a broader range of human abilities (Lemann 2000; Lemann 1996). He also expressed concern about the implications of labeling individuals based on IQ scores, suggesting that this could reinforce social hierarchies and limit opportunities for those deemed lower in intelligence.

As an early advocate for public education, Horace Mann Bond emphasized the importance of equitable access to quality education (Bond 1924; Thomas 1982). He critiqued IQ testing as potentially undermining efforts to provide fair educational opportunities, particularly for marginalized groups. Horace Mann Bond believed that intelligence could not be reduced to a single numerical score. He emphasized the importance of character, creativity, and moral education, arguing that a well-rounded education was essential for personal and societal growth. This made him wary of the reliance on standardized tests to assess student abilities (Bond 1924). He believed that such tests could not capture the full range of human potential and could misrepresent the abilities of

students from diverse backgrounds. Horace Mann Bond highlighted significant, early concerns about the limitations and implications of IQ testing, advocating for a more comprehensive understanding of intelligence and educational equity.

Civil Rights and the Association of Black Psychologists

The Association of Black Psychologists (ABPsi) was formed in 1968 as an independent, nonprofit organization dedicated to advancing inclusion of Black students and professionals in psychology, promoting research to solve prominent social problems including racism and poverty, and improving the wellbeing of Black individuals and communities (Williams 1974). Since its formation, ABPsi has raised several critical critiques of IQ testing regarding the ways it has perpetuated educational inequities for Black individuals and communities. One such critique is that traditional IQ tests reflect the cultural and linguistic norms of predominantly White, middle-class populations, disadvantaging Black test-takers and others from different cultural and socioeconomic backgrounds (Hillard 1983). A second critique is that an IQ score can be misinterpreted as a definitive measure of a person's potential or worth. This critique emphasizes that test scores often fail to account for environmental, socioeconomic, and educational factors that significantly impact performance. Together, these two critiques raised concerns about the validity and reliability of IQ tests, particularly when applied across diverse populations. Third, ABPsi highlights the historical misuse of IQ testing to justify racial discrimination and segregation, critiquing how these tests have been used to support racist ideologies and policies, reinforcing stereotypes about intelligence and ability, and resulting in an overrepresentation of Black children in special education (Graves & Mitchell 2011). Due to this, the Association has argued that IQ testing should not be used for educational tracking and resource allocation, as reliance on these tests can perpetuate systemic inequalities in education and social services.

These critiques played an important role in the most famous court cases concerning intelligence testing, *Larry P. vs. Riles* (Wade 1979), which resulted in a ban on IQ tests in the State of California for special education purposes. As part of this class action suit, ABPsi organized for two Black psychologists (Drs. William Pierce and Harold Dent) to re-administer intelligence tests to five Black children whose previous scores placed them in classes “for the educable mentally retarded”. Drs. Pierce and Dent used rapport-building strategies during testing and the children all performed above the cut-off for needing placement in separate special education classrooms (Hillard 1983). This case argued that the tests and test administration procedures were biased against Black children resulting in inappropriate educational placements. ABPsi adopted a statement on testing stating that “The Association of Black Psychologists fully supports those parents who have chosen to defend their rights by refusing to allow their children and themselves to be subjected to achievement, intelligence, aptitude, and performance tests, which have been and are being used to: (1) label Black children as uneducable; (2) place Black children in special classes; (3) potentiate inferior education; (3) assign Black children to lower educational tracks than Whites; (5) Deny Black children higher educational opportunities, and (6) Destroy positive intellectual growth and development of Black children” (Williams 1974). This statement was followed by calls for a moratorium on the use of all standardized psychological and educational tests with Black children (Williams et al., 1980).

Overall, the critiques from the Association of Black Psychologists underscore the need for a more equitable, comprehensive, and culturally responsive approach to understanding intelligence and assessing individuals' needs for support within school and work contexts, particularly within

marginalized communities. Even contemporary research on updated versions of prominent IQ tests, such as the current version of the Wechsler Intelligence Scales for Children, Fifth Edition (WISC-V), notes differences in the factor structure and performance on some subtests by race (particularly those with extensive, linguistically demanding instructions), indicating ongoing issues with cultural biases in the tests, administration procedures, and/or processes for establishing samples on which the tests are standardized (Graves Smith & Nichols, 2021).

Disability, “Normalcy,” and IQ

Scholars in the field of Disability Studies have also provided critiques of IQ testing, articulating the role such instruments played in the development of contemporary conceptualizations of “normalcy,” ability, and disability, as well as in the enforcement of social hierarchies based on individual capacities. As documented by Robert Chapman (2023), the industrializing economy of the late 19th and early 20th century spurred a growing emphasis on productivity and mechanization, shifting societies toward an instrumental view of human abilities. The productive body and mind became central to pursuits of economic and national progress, and a new concept of normality emerged to determine whether bodies and minds were working or broken (Chapman 2023, p. 44). As articulated by Leonnard Davis (1995), it was believed that “individual variations would accumulate into a composite national identity” (p. 44). Disability, then, would subsequently degrade the nation. This belief was often combined with “an industrial mentality that saw workers as interchangeable and therefore sought to create a universal worker whose physical characteristics would be uniform, as would the results of their labors” (Davis 1995, p. 36).

Animated by the eugenics movement, societies became consumed with assessing ability in order to identify *disability*. It was in this context that a new apparatus was created to systematically rank individuals and populations in terms of physical and mental ability (Chapman 2023). Early operationalizations relied on a variety of methods that would quickly fall out of favor. Jay Dolmage (2018), for example, documented the use of photography at immigration checkpoints like Ellis Island as one of many systematic attempts to discern physical and mental “defects” and cast groups and individuals as “disabled upon arrival.”

As such methods faded from relevance, the use of IQ tests to identify disability was solidified in the broader society as well as in the field of education. In fact, some of the earliest IQ tests were developed at institutional “schools” for disabled youth; Henry Goddard’s revisions to Binet’s intelligence test were conducted on students at the Vineland Training School for Feeble-Minded Boys and Girls. While IQ tests were created and used at these “schools,” very little of what we call education was taking place. Instead, these facilities were mere tools for the eugenics project, where individuals with disabilities could be segregated from the public to “protect” against the “social contagion of rampant feeble-mindedness” (Downey 2017).

Individuals with disabilities would be segregated for decades in facilities like the Willowbrook State School (New York) and the Pennhurst State School and Asylum (Pennsylvania), both of which would later be the subject of infamous exposés that revealed the horrendous physical and mental conditions experienced by the child and young adult residents. In the years that followed the widely publicized news reports (Andrus, 2025; Downey 2017) former residents and their families fought for the closure of these institutions as well as for the educational rights that had been denied to students with disabilities for decades simply because they had been identified by instruments like IQ tests and deemed uneducable.

Connor and Ferri (2005) note that this process of segregation was deeply intertwined with the racial segregation and subsequent *desegregation* of schools after the *Brown v. Board of Education* ruling in 1954. Importantly, they highlight how the segregating of students with disabilities occurred not only via institutions like Pennhurst, but also *within* schools themselves.

A response to the integration of students of color was the increase in special classes, located in different parts of the school building...in one example, perhaps to curb the flight of white students from the district, school officials in Washington, DC, placed over 24 percent of their newly admitted African American students in separate special education classrooms. (Connor & Ferri 2005, p. 108)

In fact, in the two years following the *Brown* decision, special education classes in DC schools doubled in enrollment and over 77 percent of the students in those classes were African American (Connor & Ferri, 2005 p. 108). Subsequent court cases challenged the biases in standardized assessment policies, like *Diana v. State Board of Education* (1970) and *Larry P. v. Riles* (1971-79), and “revealed that school personnel, tests, and testing practices played a major role in deciding who received the label of “disabled” and were thus responsible for the disproportionate placement of racial and linguistic minorities in separate special education classes” (p. 108).

Despite revisions to assessments and legal directives requiring schools to educate students with disabilities in the least restrictive environment (i.e. IDEA), children of color, specifically Hispanic, Black, and Native children have higher risk ratios for being identified with disabilities than White students (National Center for Learning Disabilities 2023). Likewise, Black students are still more likely than white students to be taught in more restrictive environments in separate special education classes, where they miss out on the social inclusion and more rigorous learning opportunities of a general education classroom (National Center for Learning Disabilities 2023).

Further complicating questions of equity in education is what disability studies scholar, Sarah Triano (2000) has called the “enshrinement of the medical model in disability policy” via requirements for categorical eligibility as determined by standardized instruments like IQ tests. As explained by Triano (2000), to qualify for the right to a free and appropriate public education, students with disabilities must meet categorical eligibility requirements as outlined in the Individuals with Disabilities Education Act (IDEA), which are often determined by standardized instruments administered by professionals like school psychologists. While IQ tests cannot, since the Larry P case, be the sole justification for identification, as argued by Triano (2000), their dominance reinforces the medical model of disability, which places disablement within the student while ignoring the sociocultural and historical construction of normalcy, ability, and disability. As stated by Triano (2000), “The harm in this arrangement is self-evident when one considers the cost involved in attributing the problems experienced by disabled children in the educational system to a fundamental part of their identity—their disability” (p. 2).

At a Crossroads

Education is at a crossroads regarding how and whether to continue to use standardized intelligence testing (Murdoch 2009). Since the Larry P. case in the 1970s, education policy and practice has assumed that using norm-referenced standardized intelligence tests as one point of data within broader assessment battery is more inclusive and less biased than basing decisions about classifications or placements solely on children’s performance on the tests. We are faced

with the question: is this approach sufficient or perpetuating a eugenics mindset of medicalizing need for accommodations in school?

We are approaching a moment where we could put ourselves down a different path, one that genuinely leaves eugenics behind, rather than adapting around it and using its tools. Imagining the direction to take to diverge from a eugenics-driven policy and practice framework while embedded within its constraints is like trying to “detoxify racist waters while submerged in their waves” (Anderson & Jones 2024). We acknowledge that professionals using these tools are most often intending to help children, and this is often in tension with a system that requires standardized intelligence or achievement testing for children to access supports and accommodations. However, given that these tools have a history of harming Black children (Hillard, 1983) and biases remain within the tests themselves (Graves et al., 2020; Aston & Brown, 2021), it is time for structural changes in how students can access accommodations. Below we summarize actions and movements that resist or pivot from the eugenics agenda that could assist with envisioning a possible future without use of standardized intelligence testing as a way to rank and sort children.

Apologies for the Eugenics Movement

Several organizations and institutions have issued formal apologies for their historical involvement in eugenics, acknowledging the harm caused by supporting or implementing such practices. In 2021, the American Psychological Association (APA) formally apologized for how psychological research and testing had been misused to support racist theories, including eugenics, which marginalized and harmed vulnerable communities.

More than a dozen universities, including Stanford University and University College London, have also apologized for their involvement in eugenics, such as supporting forced sterilization programs in the early 20th century (University College London 2021). Similarly, states like California, North Carolina, and Virginia have issued public apologies for the harm caused by eugenics policies. Additionally, philanthropic organizations, such as the Carnegie Institution for Science, have expressed regret for their roles in advancing these harmful ideologies (Isaacs 2020). These apologies signify a broader reckoning with the legacy of eugenics across fields like psychology, academia, and government, acknowledging the lasting impact on individuals and communities targeted by these ideologies.

In Pennsylvania, West Chester University’s Board of Trustees voted to rename the Schmucker Science Center on its main campus in 2023 (Fiorentino 2023). The building had been named after Samuel Christian Schmucker, a science education professor at West Chester Normal School in the early 1900s, whose involvement in the American eugenics movement was brought to light by Aaron Stoyack, a history undergraduate at WCU. Stoyack’s undergraduate research supervised by West Chester University history professor Brent Ruswick, revealed Schmucker’s connections to another prominent eugenicist, Henry H. Goddard, a fellow professor at the West Chester Normal School (Fiorentino, 2023). Schmucker’s work contributed to the spread of eugenics ideologies, which had devastating social consequences, particularly for historically marginalized groups. Despite his other contributions as a teacher and public intellectual, his strong advocacy for eugenics, including ideas about forced sterilization and genetic superiority of western Europeans were extreme even during his own time (Fiorentino 2023).

The Schmucker Committee Final Report, issued by West Chester University (WCU), recommended to remove the name of Samuel Christian Schmucker from the university’s science center due to his advocacy for eugenics (Fiorentino 2023). The committee’s investigation included

extensive research, interviews, and community engagement to evaluate Schmucker's legacy. The overwhelming majority of students, faculty, and staff supported removing Schmucker's name. West Chester University's renaming of Schmucker Science Center in 2023 is part of a decades-long movement among institutions to confront and reconcile their ties to eugenics (e.g., Issacs 2020; University College London 2021). However, despite these efforts, the history of eugenics and its key figures remains absent from required coursework for future educators even in Pennsylvania.

Grassroots Resistance to Standardized Testing

Grassroots resistance against standardized testing has expanded significantly in the United States during the 21st century, exemplified prominently by movements such as the Opt Out movement and the Bartleby Project (Paladino 2020; Garrison 2012). These initiatives encourage parents and guardians to refuse student participation in high-stakes standardized tests as a protest against the adverse impacts these assessments can impose on students, educators, and schools. Originally emerging as a response to educational accountability policies like No Child Left Behind, these movements gained momentum as parents, educators, and activists highlighted concerns about narrowed curricula, punitive actions against schools with poor performance, and increased stress on students. In particular, the Opt Out movement reached significant public prominence in 2015, notably in New York State, where many families refused participation. Although these grassroots efforts have not eliminated standardized testing, they have substantially shifted public conversations, empowered communities to challenge the legitimacy of test-centric accountability systems, and influenced policy changes such as the reduction of standardized testing in California and Pennsylvania, as well as waivers to NCLB mandates under the Race to the Top initiative (Pennsylvania State Education Association 2017; Ujifusa 2012).

Internationally, various educational systems provide alternatives by minimizing or eliminating the role of high-stakes standardized testing (Darling-Hammond 2017; Morgan 2014). Finland is frequently cited as a successful model due to its equitable, high-performing education system, which avoids frequent standardized tests and instead employs teacher-designed, classroom-based assessments (Morgan 2014). Alternative educational philosophies such as Montessori, Reggio Emilia, and Waldorf also reject standardized testing, favoring developmental assessments, portfolio evaluations, and qualitative feedback (Aljabreen 2020). These international and alternative educational models offer concrete examples and pathways for educational reformers advocating for a significant reduction or abolition of standardized testing within the United States.

The Neurodiversity Movement: Affirming Disability and Disabled Identity

Introduced by Australian sociologist, Judy Singer, in the late 1990's, *neurodiversity* parallels familiar concepts like cultural diversity and biodiversity, emphasizing that identifiable differences in human neurology and cognition should be understood much like the differences between cultures and species, that is as naturally occurring and beneficial distinctions. As concisely articulated by Walker (2014), "Neurodiversity is the diversity of human minds, the infinite variation in neurocognitive functioning within our species" (p. 1). Since its first conceptualization, neurodiversity has been developed by disability scholars and activists into a theoretical paradigm that provides analytical tools for understanding disability and advocating for disability rights in contemporary society.

Core principles within this paradigm hold that a) neurodiversity is not only a naturally occurring fact of life, but that it is also a valuable form of human diversity, b) there is no singular “norm” of neurocognitive functioning, and c) social power dynamics and inequities that impact other forms of human diversity (e.g. race, ethnicity, or gender) also manifest within neurodiversity (Walker, 2014). In stark contrast to the eugenicists who believed that neurocognitive divergence was a threat to humanity that should be eliminated, contemporary disability rights activists contend that neurocognitive differences should be uplifted as essential components of human identity. This contention has shifted not only conceptualizations of disability but also accepted language practices around disability. Neurodiversity advocates, for example, have encouraged the adoption of identity-first language (i.e. “I am autistic”) rather than person-first language (e.g. “I am a person with autism”) to outwardly emphasize the conceptual shift.

Neurodiversity, however, has become more than just an ideological paradigm with the emergence of vast network of individuals and organizations operating under the umbrella of the *neurodiversity movement*, a “social justice movement that seeks civil rights, equality, respect, and full societal inclusion for the neurodivergent” (Walker, 2014, p. 1). This movement has led to concerted political efforts via groups like the Autism Self Advocacy Network (ASAN), but also to a broader cultural shift with the proliferation of social media accounts dedicated to content about neurodiversity, the creation of Neurodivergent Pride Day and Neurodiversity Celebration Week, and even the widespread popularity of shows featuring neurodivergent people such as “Love on the Spectrum.” While these cultural shifts have not been free of critique from movement activists, they highlight a significant change in the social perception of disability that stands diametrically opposed to that offered by eugenics ideology.

This societal shift, while not all-encompassing, can also be observed in educational and psychological theory and practice. The inclusion of—rather than the segregation of—students with disabilities in general education classes has become the ideal rather than the exception. Likewise, neurodiversity-affirming practices like Universal Design for Learning (UDL), have become mainstays in teacher-education and teacher professional development. Mental health and clinical psychology practitioners and scientists have also issued calls to move away from practices rooted in a medical, deficit-focused model aimed at “healing” or “fixing” intellectual disabilities and autism, and rather developing neurodivergent-affirming interventions in partnership with individuals with lived experience to promote wellbeing (Baron-Cohen 2017; Lerner et al, 2023; Najeeb and Quadt, 2025). Such theoretical and practical shifts have been articulated not merely as for efficacy, but also as necessary to remedy the injustices experienced by students with disabilities (Bailey 2023; Hanesworth et al, 2019; Sweetapple 2022). Many in the neurodiversity movement argue that larger changes are still needed. The widespread use of Applied Behavior Analysis (ABA) for autistic students, for example, has been critiqued by autistic self-advocates as treating their autism as a problem to be fixed and thus damaging to their mental health and identity as autistic (Anderson 2023). Movement advocates have also critiqued the exclusivity of professional testing and diagnoses, recognizing their class-, race-, and gender-based bias and economic inaccessibility, and uplifting the relevance of self-diagnosis in the pursuit of positive mental health, identity development, and accommodations (Abdulle 2025; Hendrix 2024; Feucht 2025). Such advocacy highlights how the neurodiversity movement, and the disability rights movement more broadly, can be understood as an ongoing response to the deeply engrained history of eugenics theory, policy, and practice.

Conclusion: A Reminder about Eugenics and Testing

The historical connections between standardized, norm-referenced intelligence testing and the eugenics movement underscore the need for critical examination and educational reform in teacher preparation programs (Warren 2023). The US education system, deeply influenced by standardized testing, has historically overlooked the problematic origins of these assessments and their role in perpetuating systemic inequities. The intertwining of eugenics with the development of intelligence testing reveals the pseudo-scientific roots of practices that sought to categorize and rank individuals based on discriminatory, racist, and ableist ideologies. Understanding this history is essential to addressing the lingering impact of these ideologies in modern educational practices and fostering equitable learning environments.

Institutions and organizations have increasingly acknowledged their historical complicity in advancing eugenics, offering formal apologies and making efforts to reckon with this legacy (e.g., Issacs 2020; University College London 2021; Fiorentino 2023). The renaming of the Schmucker Science Center at West Chester University exemplifies such efforts, as it reflects a broader movement to confront historical wrongs and align institutional practices with contemporary values. These actions, while important, also highlight the ongoing need for a more comprehensive integration of this history into educational curricula to ensure future educators are equipped with the knowledge to uphold the responsibilities outlined by the Model Code of Ethics for Educators (MCEE), including a) to advocate for equitable educational opportunities for all students, b) to protect students from any practice that harms or has the reasonable potential to harm, c) to respect the dignity, worth, and uniqueness of each individual student, and d) to maintain an environment that promotes the emotional, intellectual, physical and sexual safety of all students (National Association of State Directors of Teacher Education and Certification [NASDTEC] 2023). Future educators should be required to learn about this history, its impacts on educational theory, policy, and practice, and the ongoing efforts to address it as part of their educational certification programs. What's more, they should learn about the historical and contemporary advocacy movements that have fought against the status quo of eugenics-based standardized testing and demanded transformative change in schools for Black, Indigenous, and People of Color (BIPOC) and disabled students.

The American Educational Research Association (AERA) in 2020 issued a *Statement in Support of Anti-Racist Education* (2020) which supports learning about the history of racism and discrimination in education by emphasizing the importance of equity, diversity, and inclusion in academic inquiry (AERA 2020). It acknowledges the historical and ongoing inequities in education, including exclusionary practices and biases, and highlights the necessity of critically examining these issues to promote integrity and inclusivity. The statement critiques political efforts to suppress discussions on systemic racism, such as bans on the *1619 Project*, arguing that such measures undermine democracy and the pursuit of truth in education. Furthermore, the statement advocates for educational institutions to examine their own biases and systemic barriers while opposing federal restrictions on curriculum content, reinforcing the need for schools and educators to have the freedom to critically engage with the realities of racism and discrimination in education (AERA 2020). As attacks on such curricula have been expanded under the second Trump administration, we must reaffirm the call for critical anti-racist learning in PK-16 education, and especially teacher-education, which provides the foundation for meaningful changes in practice.

This means that teacher-educators must not merely be aware of such histories, but that they must also hold the line on the inclusion of such histories in the teacher education curriculum. It is

essential that those of us who prepare future teachers maintain a robust and rigorous course array in our programs, which includes opportunities for preservice teachers to explore not only classroom methods and subject-area content, but also essential questions about how teachers can work against the past to ensure schools are sites of diversity and inclusion rather than identification and segregation. For the authors, this has meant developing and leading classes on ethical approaches to educational assessment and the social, cultural, and historical foundations of education in the United States. With pressures from accreditation and teacher certification standards, these courses are often under threat of being cut to provide additional space for the required content demanded by such policies. Yet we believe, like Cochran-Smith (2020), that teacher educators must commit to preparing principled professionals who “teach against the grain” of taken-for-granted practices and policies by recognizing and challenging the assumptions, systems, and structures that produce and reproduce inequities in schools and societies” (p. 51).

Another way that this can be done is by advocating for more holistic and inclusive assessment methods, which value diverse ways of learning and understanding over the narrow frameworks of standardized metrics, which provide only one data point without context. The persistence of norm-referenced testing, despite its roots in eugenics, underscores the systemic challenges in dismantling entrenched practices, but leaving standardized intelligence testing in the past could be one way to divert away from the legacy of eugenics and detoxify the racist waters that psychology and education have been operating within. Addressing these issues requires both institutional reform and a commitment to equitable education practices from new and future practitioners in the fields of education and psychology. It is for this reason that we also urge university faculty to engage in interdisciplinary research collaborations such as this one, where intersections between the histories, policies, and practices across fields can be explored to uncover important linkages and to envision ways that we can work together to undermine the established approaches that have made our educational institutions unjust.

Ultimately, the legacy of eugenics in standardized testing serves as a cautionary tale about the intersection of science, education, and societal values. Educators, psychologists, policymakers, and institutions must confront this history to foster a more just and inclusive educational landscape. Incorporating the history of eugenics into teacher preparation programs is a critical step toward ensuring that future professionals are not only aware of the inequities in past practices but are also empowered to advocate for systemic change. By understanding and addressing these historical injustices, the broader education system can work toward a future that prioritizes equity, diversity, and fairness in assessment and education.

References

- Abdulle, S. (2025). An Intersection of Race and Disability: A Critical Analysis of the Racial Inequities in Autism and Neurodivergent Disability Diagnoses for Black Children. *Canadian Journal of Autism Equity*, 5(1), 22-42.
- Aljabreen, Haifa. 2020. "Montessori, Waldorf, and Reggio Emilia: A Comparative Analysis of Alternative Models of Early Childhood Education." *International Journal of Early Childhood* 52 (3): 337–353.
- American Educational Research Association. 2020. "Statement in Support of Anti-Racist Education." September 24. <https://www.aera.net/Newsroom/Statement-in-Support-of-Anti-Racist-Education>.

- Anderson, L. K. 2023. "Autistic Experiences of Applied Behavior Analysis." *Autism* 27 (3): 737–750.
- Anderson, Rebecca S. 1998. "Why Talk about Different Ways to Grade? The Shift from Traditional Assessment to Alternative Assessment." In *Changing the Way We Grade Student Performance: Classroom Assessment and the New Learning Paradigm*, edited by Rebecca S. Anderson and Barbara W. Speck, 5–16.
- Anderson, R. E., and S. C. Jones. 2024. "Reflections from the Wading Pool: Detoxifying Racist Psychological Waters While Submerged in Their Waves." *American Psychologist* 79 (4): 606.
- Andrus, J. (2025, November 7). *Disability rights and justice 50 years after Willowbrook*. New York State Bar Association. https://nysba.org/disability-rights-and-justice-50-years-after-willowbrook/?srsltid=AfmBOop1buDgCSFPijueLMKq_3w6-7WQjIpu4ru6bnOoGA
- Angrist, Joshua D., and Jonathan Guryan. 2004. "Teacher Testing, Teacher Education, and Teacher Characteristics." *American Economic Review* 94 (2): 241–246.
- Akbar, M., Kelly, J. F., Shullman, S. L., Jernigan, M., & Faye, C. (2024). A historic apology: The American Psychological Association's commitment to dismantling systemic racism and advancing racial equity in psychology. *The American psychologist*, 79(4), 660–673. <https://doi.org/10.1037/amp0001381>
- Aston, C., and D. L. Brown. 2021. "Progress or Setback: Revisiting the Current State of Assessment Practices of Black Children." *Contemporary School Psychology* 25 (2): 140–148.
- Au, Wayne. 2022. *Unequal by Design: High-Stakes Testing and the Standardization of Inequality*. New York: Routledge.
- Bailey, C. 2023. "'Neurodivergent Literacies': Exploring Autistic Adults' 'Ruling Passions' and Embracing Neurodiversity through Classroom Literacies." *Literacy* 57 (2): 120–131.
- Baron-Cohen, Simon. "Editorial Perspective: Neurodiversity—a revolutionary concept for autism and psychiatry." *Journal of child psychology and psychiatry* 58, no. 6 (2017): 744–747.
- Black, Edwin. 2012. *War Against the Weak: Eugenics and America's Campaign to Create a Master Race*. Washington, DC: Dialog Press.
- Bond, Horace Mann. 1924. "Intelligence Tests and Propaganda." *The Crisis* 28 (2): 61–64.
- Brigham, Carl C. 1922. *A Study of American Intelligence*. Princeton, NJ: Princeton University Press; London: Oxford University Press.
- Carnegie Corporation of New York. 2025. "Seven Things to Know About NAEP." Accessed May 22, 2025. <https://www.carnegie.org/our-work/article/seven-things-know-about-naep/>.
- Chapman, R. 2023. *Empire of Normality: Neurodiversity and Capitalism*. Pluto Press. <https://doi.org/10.2307/jj.8501594>.
- Cochran-Smith, M. (2020). Teacher education for justice and equity: 40 years of advocacy. *Action in teacher education*, 42(1), 49–59.
- Connor, D. J., and B. A. Ferri. 2005. "Race, Disability and (Re)segregated Education." *The Journal of African American History* 90: 12.
- Darling-Hammond, Linda. 2017. "Teacher education around the world: What can we learn from international practice?." *European journal of teacher education* 40, (3): 291–309.
- Davis, Lennard J. 1995. *Enforcing Normalcy: Disability, Deafness, and the Body*. London: Verso.
- Diana v. State Board of Education* is: *Diana v. State Bd. of Educ.*, No. C-70-37, (N.D. Cal. May 17, 1970)
- Dolmage, J. T. (2018). *Disabled upon arrival: Eugenics, immigration, and the construction of race and disability*. The Ohio State University Press.

- Downey, D. B. 2017. "'Detect Early; Protect Always': Philadelphia Physicians and the Gospel of Eugenics." *Pennsylvania Legacies* 17 (2): 12–19.
- Educational Testing Service. 2025. "About Us." Accessed February 11, 2025. <https://www.ets.org/about.html>.
- Feucht, C. 2025. "Self Diagnosis Goes Viral: Exploring the Impact of Social Media on Women's Mental Health Practices." Doctoral dissertation, The Ohio State University.
- Fiorentino, Christopher. 2023. "Recommendation for Action After Receiving Schmucker Committee Final Report." Accessed May 22, 2025. <https://www.wcupa.edu/president/documents/Schmucker%20Committee%20Final%20Report%20with%20initials.pdf>.
- Garrison, Joshua. 2012. "Academic Labor as Alienated Labor: Resisting Standardized Testing." *Counterpoints* 425: 13–26.
- Gould, Stephen Jay. 1988. *The Mismeasure of Man*. New York: W. W. Norton & Company.
- Graves, S., and A. Mitchell. 2011. "Is the Moratorium Over? African American Psychology Professionals' Views on Intelligence Testing in Response to Changes to Federal Policy." *Journal of Black Psychology* 37 (4): 407–425.
- Graves, S. L., L. V. Smith, and K. D. Nichols. 2021. "Is the WISC-V a Fair Test for Black Children? Factor Structure in an Urban Public School Sample." *Contemporary School Psychology* 25: 157–169.
- Grue, Jan, and Anne Heiberg. 2006. "Notes on the History of Normality: Reflections on the Work of Quetelet and Galton." *Scandinavian Journal of Disability Research* 8 (4): 232–246.
- Hanesworth, P., S. Bracken, and S. Elkington. 2019. "A Typology for a Social Justice Approach to Assessment." *Teaching in Higher Education* 24 (1): 98–114.
- Hendrix, N. 2024. "From Inner Chaos to Clarity: A Qualitative Study on the Role of Influencer Mental Health Content in the Self-Diagnosis of Neurodivergent Conditions and Its Implications for the Lived Experiences of Dutch Female Adolescents." Master's thesis.
- Hilliard III, A. G. 1983. "IQ and the Courts: Larry P. vs Wilson Riles and PASE vs Hannon." *Journal of Black Psychology* 10 (1): 1–18.
- Issacs, Eric D. 2020. "Statement on Eugenics Research." Accessed May 22, 2025. <https://carnegiescience.edu/about/history/statement-eugenics-research>.
- Larry P. v. Riles* is *Larry P. v. Riles*, 495 F. Supp. 926 (N.D. Cal. 1979)
- Lemann, Nicholas. 1996. "The Great Sorting." *The Atlantic*.
- Lemann, Nicholas. 2000. *The Big Test: The Secret History of the American Meritocracy*. New York: Macmillan.
- Lerner, Matthew D., Ava N. Gurba, and Dena L. Gassner. "A framework for neurodiversity-affirming interventions for autistic individuals." *Journal of consulting and clinical psychology* 91, no. 9 (2023): 503.
- Murdoch, Stephen. 2009. *IQ: A Smart History of a Failed Idea*. Nashville: Turner Publishing Company.
- National Association of State Directors of Teacher Education and Certification (NASDTEC). 2023. *Model Code of Ethics for Educators (MCEE), 2nd Edition*. Washington, DC: NASDTEC. https://cdn.ymaws.com/www.nasdtec.net/resource/resmgr/mcee/mcee_2nd_edition_print_versi.pdf.
- National Center for Educational Statistics. 2022. "Projections of Educational Statistics to 2030". Accessed November 11, 2025. <https://nces.ed.gov/programs/PES/section-2.asp#4>

- National Center for Learning Disabilities. 2023. "2020 NCLD Disproportionality: Trends and Actions for Impact." Accessed May 22, 2025. https://nclld.org/wp-content/uploads/2023/07/2020-NCLD-Disproportionality_Trends-and-Actions-for-Impact_FINAL-1.pdf.
- Paladino, Margaret. 2020. "Towards an Understanding of the Testing Opt-Out Movement: Why Parents Choose to Opt-Out or Opt-In." *Journal for Leadership and Instruction* 19 (2): 14–18.
- Morgan, Hani. 2014. "Review of Research: The Education System in Finland: A Success Story Other Countries Can Emulate." *Childhood Education* 90 (6): 453–457.
- Pastore, Nicholas. 1978. "The Army Intelligence Tests and Walter Lippmann." *Journal of the History of the Behavioral Sciences* 14 (4): 316–327.
- Pennsylvania State Education Association. 2017. "Gov. Wolf Announces Further Reductions to PSSAs in 2018–19 School Year." Press release, December 6, 2017. Accessed May 22, 2025. <https://www.psea.org>.
- ProPublica. "Educational Testing Service." Accessed February 11, 2025. <https://projects.propublica.org/nonprofits/organizations/210634479>.
- Nairn, Allan. 1980. *The Reign of ETS: The Corporation That Makes Up Minds*. Washington, DC: Ralph Nader.
- Najeeb, Palwasha, and Lisa Quadt. "Autistic well-being: A scoping review of scientific studies from a neurodiversity-affirmative perspective." *Neurodiversity* 2 (2024): 2754633024123 3088.
- Schambra, William A. 2013. "Philanthropy's Original Sin." *The New Atlantis* 38: 3–21.
- Sweetapple, C. 2022. "'Let Them Be Who They Are': Discovering Special Education Teachers' Perceptions of Oppressive Normativity and Their Practice of Celebrating Neurodiversity." Doctoral dissertation, Molloy University.
- Taylor, Catherine. 1994. "Assessment for Measurement or Standards: The Peril and Promise of Large-Scale Assessment Reform." *American Educational Research Journal* 31 (2): 231–262.
- Thomas, William B. 1982. "Black Intellectuals' Critique of Early Mental Testing: A Little-Known Saga of the 1920s." *American Journal of Education* 90 (3): 258–292.
- Triano, S. (2000). Categorical eligibility for special education: The enshrinement of the medical model in disability policy. *Disability Studies Quarterly*, 20(4).
- Ujifusa, Andrew. 2012. "Latest NCLB Waiver List Heavy on Race to Top States." *Education Week*, May 29, 2012. Accessed May 22, 2025.
- University College London. 2021. "UCL Makes Formal Public Apology for Its History and Legacy of Eugenics." Accessed May 22, 2025. <https://www.ucl.ac.uk/news/2021/jan/ucl-makes-formal-public-apology-its-history-and-legacy-eugenics>.
- Wade, Diane L. 1979. "Racial Discrimination in IQ Testing: Larry P. v. Riles." *DePaul Law Review* 29: 1193–1228.
- Walker, N. (2014). *Neurodiversity: Some basic terms & definitions*. Neuroqueer. <https://neuroqueer.com/neurodiversity-terms-and-definitions/>
- Warren, William Z. 2023. *An Illusion of Equity: The Legacy of Eugenics in Today's Education*. Lexington: University Press of Kentucky.
- Williams, R. 1974. "A History of the Association of Black Psychologists: Early Formation and Development." *Journal of Black Psychology* 1 (1): 9–24.

- Williams, W., W. Dotson, P. Don, and W. Williams. 1980. "The War Against Testing: A Current Status Report." *Journal of Negro Education* 49: 263–273.
- Wilkerson, Isabel. 2020. *Caste: The Origins of Our Discontents*. New York: Random House.
- Zenderland, Leila. 2001. *Measuring Minds: Henry Herbert Goddard and the Origins of American Intelligence Testing*. Cambridge: Cambridge University Press.
- Zheng, Yong, and Andrea Walton. 2024. "Carnegie Foundation for the Advancement of Teaching." *Encyclopedia Britannica*, November 22, 2024. <https://www.britannica.com/topic/Carnegie-Foundation-for-the-Advancement-of-Teaching>.
- Zuberi, T., & Bonilla-Silva, E., (Eds.) (2008). *White logic, white methods: Racism and methodology*. Lanham, MD: Rowman & Littlefield.

Benjamin P. Brumley is an Assistant Professor in the Department of Educational Foundations & Policy Studies at West Chester University (WCU). He earned a B.A. from University of North Carolina at Chapel Hill and a Ph.D. from the University of Pennsylvania. His work focuses on educational assessment and measurement, particularly identifying and addressing biases in assessment methods, advocating for child-centered, culturally responsive, and equitable practices. He also researches the historical intersections of eugenics, standardized testing, and how those affect marginalized children.

Lauren Brumley is an Assistant Professor of Psychology at WCU, with a Ph.D. from University of Pennsylvania. Her research examines how early-life adversity and trauma shape how adolescents and young adults envision their futures, as well as how factors like social support or poverty affect youth development and well-being. She leads the "Trauma & Development Lab," involving undergraduates and graduates in research that aims to inform policies and interventions around youth trauma and long-term outcomes.

Dana Morrison is an Associate Professor in the Department of Educational Foundations & Policy Studies at West Chester University of Pennsylvania (WCU). She holds a B.A. from WCU, an M.A. from Villanova University, and a Ph.D. in Education (Sociocultural and Community-Based Approaches) from University of Delaware. Her scholarship has focused on teacher activism, critical teacher education theory and practice, and the financialization of public higher education. Dr. Morrison is the current Vice President of ASPCUF-WCU and co-chairs the Teachers' Work/ Teachers Union SIG for the American Education Research Association (AERA).