

Blame the Programs, Not the Participants

June 26, 2017

For more than a decade, thousands of females all over New York City have been finding mathematics an almost insurmountable barrier to obtaining a high school equivalency diploma, the first step on the journey to finding gainful employment, entering occupational-training programs, or pursuing a college degree.

From February 2, 2002 through December 31, 2013, the high school equivalency test used in New York State was the 2002 Series GED, a battery of five subtests. During those 12 years the failure rate of New York City females for the Mathematics subtest was 52%. (The failure rates for other tests were: Reading, 17%; Science, 28%; Social Studies, 25%; and Writing, 31%.) The mean scores of all the subtests—*except* the Mathematics subtest—were well above the pass score of 410; the mean score of the Mathematics subtest was 409. As of December 31, 2013, 43,671 females (out of a total of 124,263 females who tested during the 12-year period) still needed to pass the GED Mathematics subtest.

On January 1, 2014, the Test Assessing Secondary Completion (TASC) replaced the GED in New York State. The same five subtests comprise the TASC; but now, aligned with rigorous Common Core Standards, they are significantly more difficult. Despite claims at the time to the contrary, the 2002 Series GED was an assessment of middle school level knowledge and skills; the TASC is a much more accurate assessment of examinees' high school abilities. (To be clear: the 2014 series GED is just as hard as the TASC; New York State did not continue to use the new GED after 2013 because it is, exclusively, a computer-based test and New York State did not want to spend the money to retrofit all the testing centers with the necessary computers.)

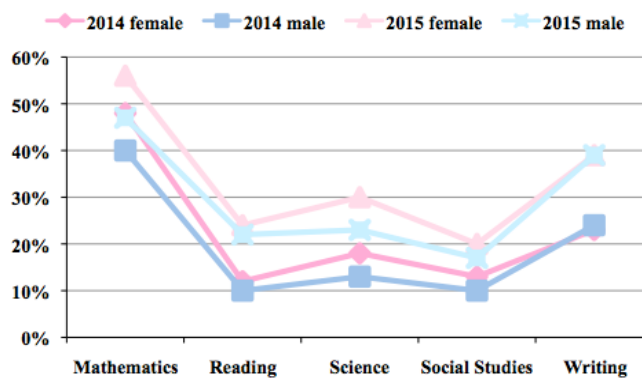
Data obtained from the New York State Education Department and analyzed[‡] by Helicon, Inc. (*the* Mathematics Resource and Support Center for Females) show that, during the first year of TASC testing, 8,113 New York City females took a total of 42,192 subtests (Mathematics, 9,186; Reading, 8,095; Science, 8,501; Social Studies, 8,168; and Writing, 8,242). The Mathematics subtest was taken most frequently and failed most frequently (4,437 times)—for a failure rate of 48%. By comparison, the failure rates for the other four subtests were: Reading, 12%; Science, 18%; Social Studies, 13%; and Writing, 23%. In 2015, the second year of TASC testing, 6,268 New York City females took a total of 32,989 subtests (Mathematics, 8,311; Reading, 5,870; Science, 6,415; Social Studies, 6,517; and Writing, 6,517). The failure rates for

the subtests in 2015 were, respectively: 56%, 24%, 30%, 20%, and 39%. When failing just one subtest prevented female test takers from getting a TASC Diploma in 2014, 70% of the time that subtest was Mathematics (compared with 4% for Reading, 9% for Science, 5% for Social Studies, and 13% for Writing); in 2015, the single subtest failure rates were: Mathematics, 59%; Reading, 6%, Science, 14%; Social Studies, 4%; and Writing, 18%.

One might be tempted to conclude that, as bad as these results are, they're not unexpectedly shocking—after all, females are supposed to be bad at math, aren't they? The validity of that supposition, at least in this context, is irrelevant because the situation is almost as bad for males.

The TASC Mathematics subtest failure rate for New York City males was 40% in 2014 (compared with 10% for Reading, 13% for Science, 10 % for Social Studies, and 24 % for Writing); and 47% in 2015 (compared with 22% for Reading, 23% for Science, 17% for Social Studies, and 39% for Writing). The male single subtest failure rate for Mathematics was 63% in 2014 (compared with 5% for Reading, 7% for Science, 4% for Social Studies, and 21% for Writing); and 52% in 2015) compared with 8% for Reading, 12% for Science, 4% for Social Studies, and 25% for Writing).

TASC Subtest Failure Rates



The New York Times used the word “trapped” to describe the predicament of these people—85% of whom are people of color—in an [October 12, 2009 article](#); the New York Daily News used the word “stranded” in an [article earlier this year](#). Both news media criticized state Education Department policy makers and elected officials for the ineffective high school

equivalency test preparation programs that result in a statewide pass rate that is the lowest in the nation (53%). In New York City, only 3,912 females (48%) and 3,400 males (54%) received TASC Diplomas in 2014 and only 2,087 females (33%) and 1,930 males (39%) received TASC diplomas in 2015.

An inability to pass the Mathematics subtest is the primary reason for these low pass rates. Math is difficult—but not impossible—to learn...unless, of course, it is taught badly or barely at all. High school equivalency test preparation programs in New York City (funded and overseen by state and city officials to whom all the data cited previously *cannot* be unknown) concentrate heavily on literacy and lightly—if at all—on numeracy. A logical, if misguided, rationale for the apportionment of class time to subtest content seems to be: if four (of five) subtests of the TASC are reading-based, 80% of class time should be spent on these subjects and the remaining 20% on mathematics. Another reason for the literacy focus is that these programs are staffed by low-paid instructors who (like elementary school teachers, generalists with minimal mathematics proficiency) much prefer to concentrate on the reading-based subject matter with which they are far more conversant and comfortable. Consequently, the hour or so of class time each week that is, typically, devoted to math instruction is woefully inadequate for anyone who has passed the four reading-based subtests (which, as the data reveal, happens pretty much on the first try for a majority of examinees) and who needs to concentrate *only* on mathematics. Furthermore, there is not one program anywhere in the City with an exclusive focus on mathematics where people can get help from an instructor who *really* knows the mathematics that will be on the subtest (polynomials, rational expressions, equations and inequalities, linear and quadratic functions, Euclidean and Cartesian Geometry, Probability and Statistics, etc.) *and* can teach it effectively.

Almost 100,000 persons (50,000 females, 40,000 males) in New York City desperately need such a *free*, comprehensive mathematics program that will enable them “do the math” and improve their prospects for employment, occupational-training, or higher education.

‡*Analysis of Data: Test Assessing Secondary Completion*, 2017, Helicon, Inc. Press; available on request at www.heliconinc.org