



# Major Malfunction:

## Racial & Ethnic Disparities in What Students Study

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This analysis explores bachelor's degrees earned by race and ethnicity, broken down by area of study. We identify the majors and programs that produce the highest and lowest median incomes and probe for uneven distributions of African American and Latino<sup>1</sup> students. In general, we find these students disproportionately earn more degrees in the lower-paying majors, and fewer degrees in the higher paying ones. We hope to learn from students and the higher education community at large about factors driving these disparities. In the conclusion section of this brief, we share implications and recommendations for policymakers to address this issue, including improving our postsecondary data infrastructure.

In brief, this analysis finds:

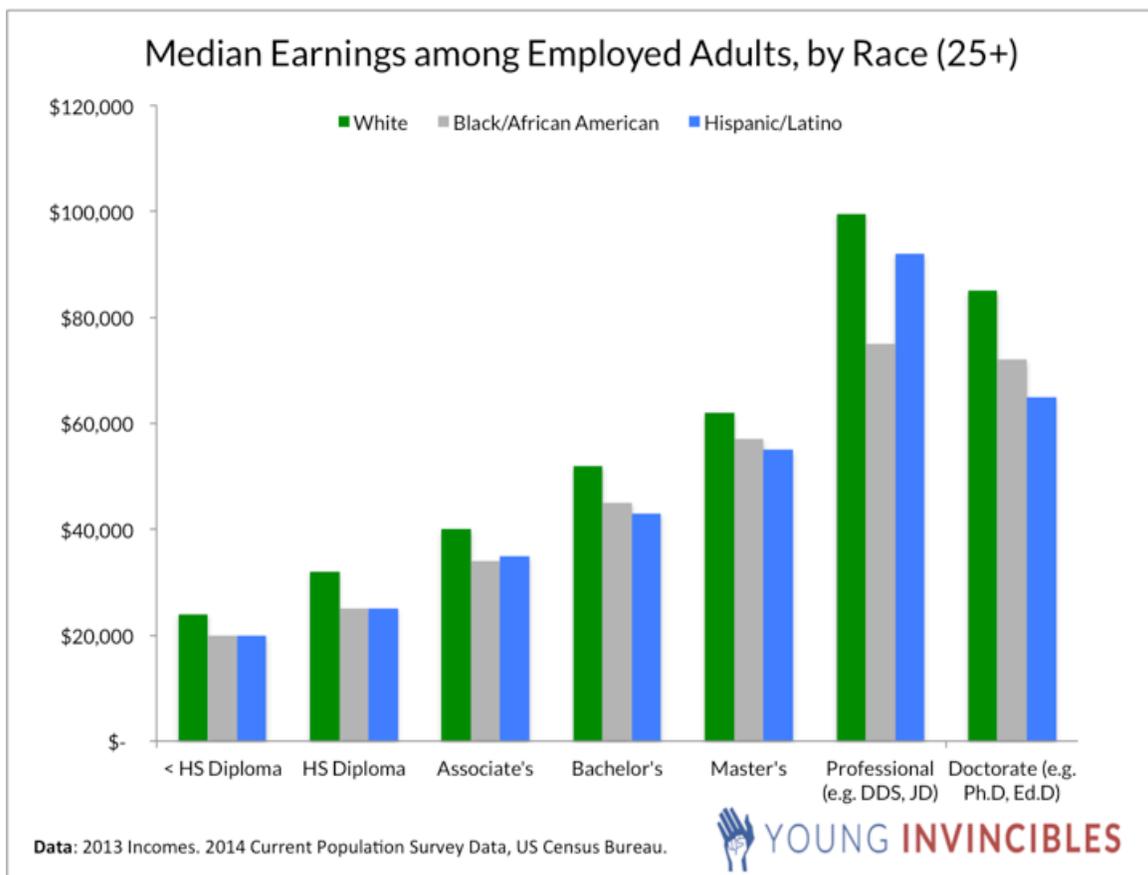
- The top seven highest paying majors, defined through starting and mid-career median salary, are:
  - Engineering
  - Computer & Information Sciences
  - Mathematics & Statistics
  - Engineering Technology
  - Health Professions
  - Business
  - Physical Science and Science Technologies
- The six majors with the lowest salaries are:
  - Family & Consumer Science
  - Education
  - Theology & Religion
  - Legal & Professional Studies
  - Homeland Security, Law Enforcement & Firefighting
  - Multi-Interdisciplinary Studies
- Latino students are underrepresented in almost all of the top majors identified.
- In 2013, African Americans earned mathematics & statistics, engineering, and physical sciences degrees at half the rate necessary to achieve an equal distribution of bachelor degrees overall.
- Out of the bottom six majors with the lowest median salaries, African American students are overrepresented in four of them. Latinos are similarly overrepresented in three of the six.

## Background

In the modern economy, dominated by technological advancement, globalization, and labor market competition, a college degree has become increasingly important for economic success. In fact, by 2020, 65 percent of job openings in the United States will require some sort of post-secondary credential.<sup>2</sup>

College-bound young adults overwhelmingly recognize that higher education provides a pathway to economic security, with around 90 percent of college students identifying better employment outcomes as their primary motivation for their choice to attend college.<sup>3</sup>

They are right. Higher education attainment is a significant predictor of better employment outcomes and higher median wages. Even more importantly, education is, broadly speaking, an equalizer. A 2014 Young Invincibles study found that, “while young African American unemployment is higher than whites at every educational level, the added value of each additional degree of educational attainment, in terms of employment opportunity as well as income, is much greater for young African Americans than young whites.”<sup>4</sup> Despite this, wage inequities persist: white bachelor degree holders earn \$7,000 more per year than black bachelor degree holders, and \$9,000 more than Hispanic bachelor degree holders.



While the value of higher education seems well established (97 percent of “good jobs” according to one study went to college graduates)<sup>5</sup>, the level of educational attainment does not tell the full story. In short, not all degrees are created equal.

STEM majors (science, technology, engineering, and mathematics) have, on average, higher starting and mid-career salaries than other majors.<sup>6</sup> Furthermore, STEM-related fields, such as healthcare, have seen the fastest growth and wage increases for young adults.<sup>7</sup>

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Much attention has been given to the gender gap in STEM, with women being much less likely to hold STEM positions or have STEM degrees.<sup>8</sup> Broadly, research has demonstrated a racial gap, as well, with African Americans and Hispanics being proportionately less likely to hold STEM positions.<sup>9</sup>

### Analysis

With these trends in mind, Young Invincibles set out to further examine racial disparities among the highest-paid college majors. By joining the Integrated Postsecondary Education Data (IPEDS)<sup>10</sup> with start-of-career and mid-career salary data sourced from PayScale, Inc. surveys, we are able to approximate which majors pay the most, and which pay the least – both right out of college, and 10 to 15 years later.<sup>11</sup> Furthermore, we are able to look at the racial and ethnic breakdown of these high- and low-paying majors in order to determine disparities and underrepresentation.

Approximately 10.4 percent of bachelor degrees were conferred to African American students, and another 10.1 percent were conferred Hispanic students.<sup>12</sup> Therefore, a major might be appropriately distributed if the percentage of degrees conferred in that major to either African Americans or Hispanics is at or near those enrollment rates.

Below is the list of majors, incomes, and degrees conferred by race, listed from highest starting salary to lowest:

Major	Starting Salary	Mid-Career Salary	White (%)	Black/African American (%)	Hispanic/Latino (%)
Engineering	\$64,483	\$106,042	65%	4%	8%
Computer & Information Sciences	\$56,450	\$94,875	62%	12%	9%
Mathematics and Statistics	\$53,350	\$100,975	65%	5%	7%
Engineering Technology	\$49,483	\$75,433	71%	10%	8%
Health Professions & Related Programs	\$46,900	\$71,100	69%	12%	8%
Business	\$45,690	\$76,840	62%	12%	10%
Physical Science & Science Technologies	\$45,080	\$81,820	70%	5%	7%
Communications Technologies	\$40,900	\$66,050	63%	12%	12%
Foreign Language, Literatures, Linguistics	\$40,667	\$69,500	65%	4%	19%
Biological & Biomedical Sciences	\$40,571	\$72,514	62%	8%	9%
Social Science	\$40,571	\$72,514	61%	11%	13%

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Architecture and Related Fields	\$40,050	\$69,000	64%	5%	13%
English Language, Literatures, Letters	\$39,750	\$68,300	74%	8%	10%
Agriculture	\$39,725	\$68,600	82%	3%	6%
History	\$39,333	\$66,333	79%	5%	9%
Public Administration and Social Services	\$38,400	\$65,140	56%	24%	13%
Communications/ Journalism/ Related Programs	\$37,988	\$68,038	70%	11%	10%
Liberal Arts and Sciences, General Studies, and Humanities	\$37,733	\$59,767	66%	14%	11%
Multi-Interdisciplinary Studies	\$37,600	\$53,400	64%	12%	14%
Parks, Recreation, Leisure, and Fitness Studies	\$37,390	\$56,680	74%	10%	9%
Philosophy and Religious Studies	\$37,300	\$68,100	72%	8%	9%
Visual and Performing Arts	\$36,700	\$58,775	70%	6%	10%
Psychology	\$36,300	\$60,700	63%	12%	13%
Homeland Security, Law Enforcement, and Firefighting	\$35,300	\$58,400	57%	20%	16%
Legal and Professional Studies	\$35,000	\$53,000	61%	17%	13%
Theology and Religious Vocations	\$34,700	\$51,500	82%	7%	5%
Education	\$34,575	\$51,600	80%	8%	7%
Family and Consumer Science/ Human Sciences	\$33,100	\$42,600	69%	13%	9%
Average:	\$41,253	\$68,128	66%	10%	10%

## STEM Degrees

The top four highest-paid groups of majors right out of college are all STEM subjects. Furthermore, “health professions” – a group of medical majors – is related to STEM subjects. Three of these subjects, with the exception of “health professions” and “engineering technology” (replaced by “physical sciences and science technologies” and “business”) remain in the top five majors for mid-career salaries, as well. Students majoring in these subjects can reasonably expect to be making over \$75,000 a year by the middle of their careers.

The good news is that among these seven subject areas, African Americans are actually well represented in four of them. The bad news is that African Americans are only represented in “engineering,” “mathematics and statistics,” and “physical sciences and science technologies” (#1, #2, and #4 on the list of highest mid-career salaries) at half the rate as should be expected, comprising only around 5 percent of the degrees awarded in each of these lucrative subject areas.

Worse, Hispanic and Latino students are proportionally underrepresented in six out of these top seven subject areas, with the only exception being in “business.” These results make it clear that extra attention should be given towards encouraging young African Americans and Latinos towards these subjects in order to close racial income gaps.

## The Lowest-Paying Degrees

Similar to the top degrees, degrees with the lowest starting salaries seem to predict the lowest mid-career salaries, with four out of the bottom five retaining their position. None of these positions offer mid-career annual salaries above \$55,000. “Multi-interdisciplinary studies,” joins the list for lowest mid-career salaries in place of “homeland security, law enforcement, and firefighting.”

Unfortunately, African Americans are overrepresented in four out of these six sets of majors, especially so in the “homeland security, law enforcement, and firefighting” grouping, and the “legal and professional Studies” grouping. Indeed, in “homeland security, etc.,” African Americans represent one fifth of all of the degrees awarded – a rate more than twice what would be proportionately expected. In “legal and professional studies,” a major offering a starting salary of \$35,000, African Americans comprise 17 percent of the degrees awarded.

Similarly, Hispanic and Latino students are overrepresented in three of these six lowest-paying majors. Of note, 16 percent of graduates with “homeland security, law enforcement, and firefighting” degrees are Hispanic or Latino. “Multi-interdisciplinary studies” is also popular among Hispanic and Latino students.

## Pubic Administration and Social Services

“Public administration and social services” majors, a notable outlier, average a nearly \$40,000 starting salary and can look forward to mid-career salaries over \$65,000. African Americans receive nearly a quarter of the degrees attained in this field (Hispanics and Latinos are overrepresented too, but only receive 13 percent of the degrees).

A driving force behind this trends may be that public administration and social services degrees provide pathways to traditionally secure, government jobs. The federal government is arguably the most racially unbiased (and gender unbiased) employer in the nation, featuring the smallest wage gaps between white

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and black workers.<sup>13</sup> Indeed, black workers are much more likely to be employed in the public sector than white or Hispanic workers,<sup>14</sup> at least partially because these jobs offer a secure pathway for upward economic mobility.<sup>15</sup> Unfortunately, with the government shedding jobs for the past three years due to sequestration, and projections suggesting it will continue to shrink by 13 percent by 2022, this major may not provide the economic security it once did.<sup>16</sup>

## Implications

Today's college students are making a significant investment in their future. With tuition at our nation's public universities increasing by 28 percent between 2007 and 2013, students must increasingly consider return on their investments.<sup>17</sup> Getting a financially secure job after college is even more important when students take out debt to fund their education – a reality for two-thirds of college students, and nearly 80 percent of African Americans.<sup>18</sup> Furthermore, African American students take out debt loads 15 percent higher than the average student, highlighting the importance of well-paid employment after college.<sup>19</sup> With lower incomes can come inability to repay their student loans (or even worse, default), resulting in long-term economic repercussions such as higher rates of bankruptcy, lower homeownership rates, and delaying family formation.

Income, however, is certainly not the only criteria that should inform decisions in what education and career paths to pursue. For instance, young workers value work-life balance, sometimes even more than salary and benefits. Young adults also prioritize collaborative and creative approaches to work, use of latest technology, and work contributing to positive social change, all aspects of jobs not taken into account here - partially because there is no good method to measure those aspects of a major or job in a standardized, objective manner.<sup>20</sup>

## Conclusion

Students of color already face many disadvantages accessing and completing postsecondary education, and as we have uncovered, lag behind in completing degrees with the greatest economic returns in the workforce. Understanding the roots of the disparities explored above is complicated, involving centuries of racial discrimination, uneven budgetary support for our K-12 education system, social and environmental conditions, and deficits in our academic advising and student support systems. Tracking and using robust and reliable education data can shed light on this complicated issue, but our current postsecondary data infrastructure is inadequate to do so.

A new data paradigm focused on students and outcomes would address issues in this brief. Under such a paradigm, we could map out which degrees and institutions are leading to certain salaries and careers, thus equipping students with more information on what institution and program to pursue. Perhaps more importantly, this would give the higher education community the ability to identify which institutions excel in serving low-income and first-generation students, as well as students of color. From there, other institutions looking to help their disadvantaged students succeed in difficult majors could then learn what tactics and strategies and adapt those best practices in their own programs. This can only be achieved by overhauling our postsecondary data systems and connecting them to workforce outcomes, and would be an important first step to addressing racial disparities in areas of study.

## Citations

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