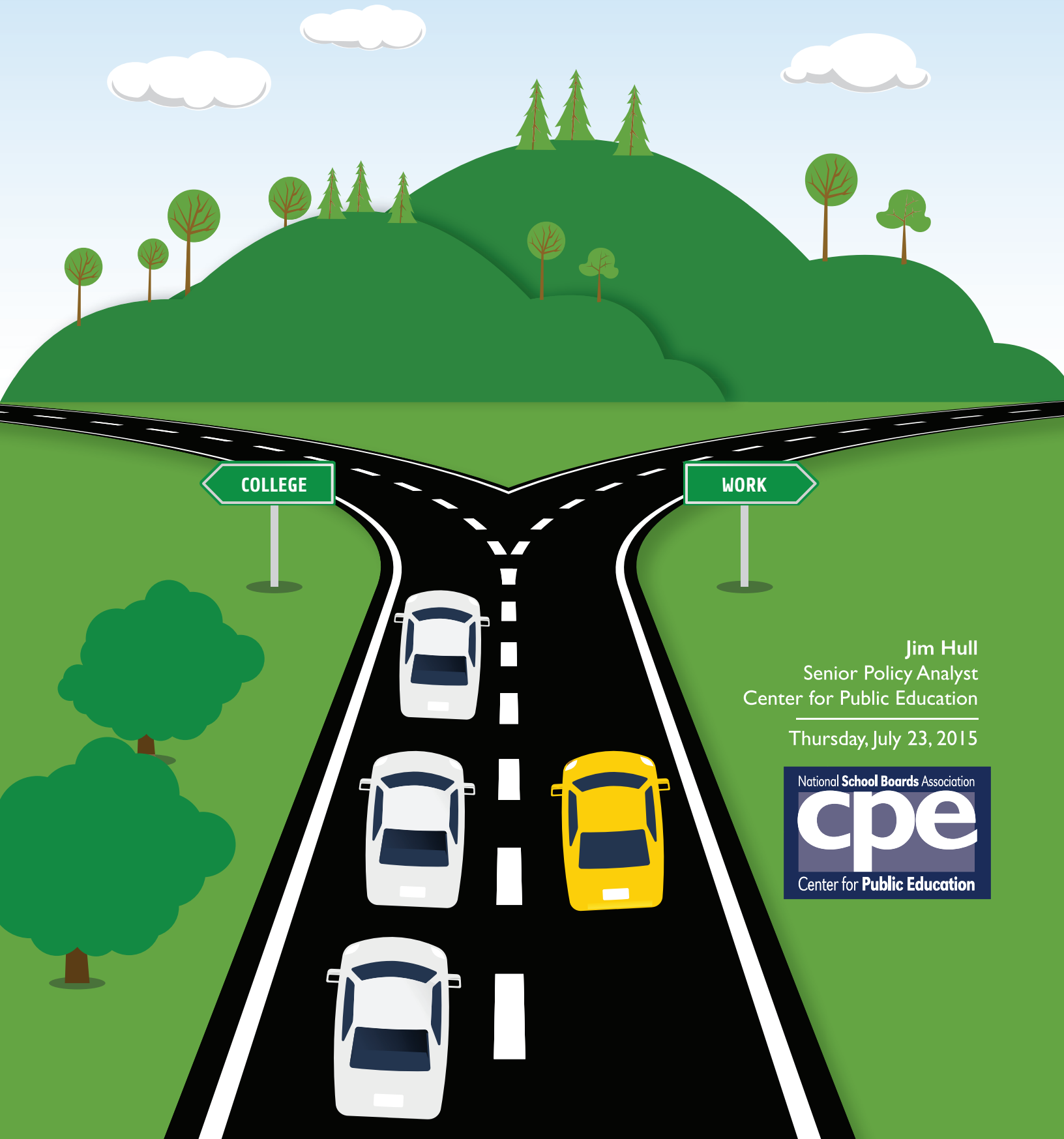
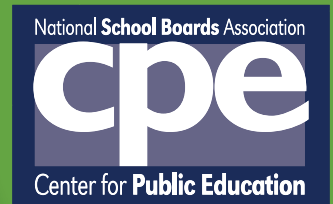


# The Path Least Taken II

## Preparing non-college goers for success



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Thursday, July 23, 2015



# **The Path Least Taken II**

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## Preparing non-college goers for success

New high school graduates are continuing their education in record numbers. By age 26, almost nine in 10 will have entered a two- or four-year institution ([Hull, 2014](#)). The reason is simple: College greatly increases the chances an individual will be successful later in life. But college is by no means the only path toward becoming a productive adult. For some graduates, taking the less traveled path straight into the workforce can make all the difference. What preparation do they need to be successful? And what role does high school play?

Much is known about the tools high school graduates need to do well in college ([Adelman, 1999](#) and [2006](#); [Hull, 2010](#); [Klepfer & Hull, 2012](#)). We know much less about the impact of high school on career readiness, however. In this series of studies, we look exclusively at the credentials and high school experiences of non-college going graduates in an attempt to identify those factors that relate to success after school in both work and life.

In [Part 1 of the Path Least Taken](#), we compared the characteristics of non-college going 2004 graduates to their college-going peers. The first finding was that just 12 percent of high school graduates had not enrolled in college by age 26. Even then, nearly a third of these non-college enrollees reported that they still expected to attend college sometime in the future. We also found that non-college enrollees are distinctly different from their college-going classmates. In high school, for example, they typically earned lower grades, took fewer academic courses, and did less homework than the college goers.

In this second study of the series, we explore various job-related and social outcomes of the non-college goers by age 26, and relate these to the preparation they had in school in order to gain insights into what defines “career readiness” for high school graduates.

In general, we found that:

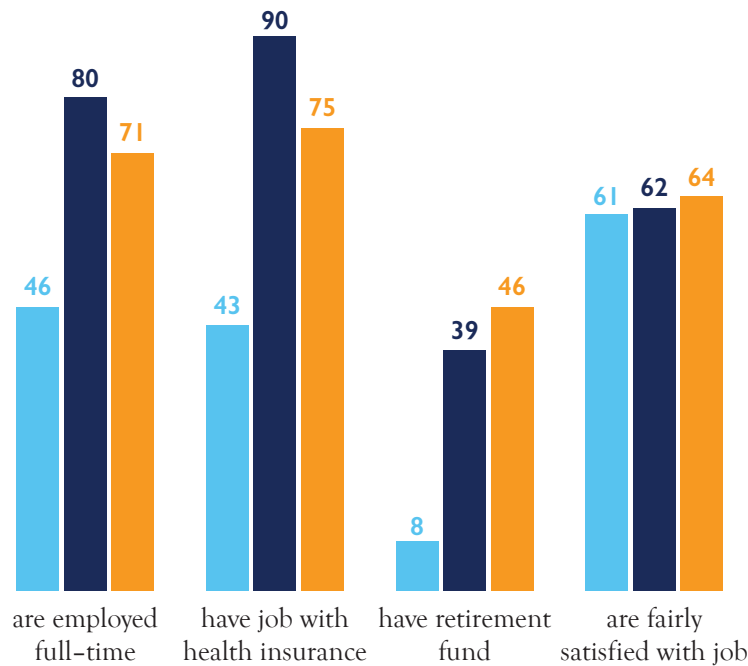
- At age 26, college goers, on average, are more likely than non-college goers to have a good job and engage in society. But a more rigorous high school preparation that includes high-level math and vocational courses in an occupational concentration improves those chances considerably for non-college goers. Add professional certification to the mix, and non-college goers are more likely to be employed and earn good wages than the average college goer, and they are as likely to vote.
- The positive impact of high-level courses and certificates is evident in non-college goers of all racial groups, but the benefits are not equally shared. Black non-college goers are less likely to be employed or earn the same wages as their similarly credentialed Hispanic and white peers. At the same time, better preparation has a greater impact on black graduates than on whites and Hispanics, showing that higher credentials can be an important factor in narrowing the employment and wage gap.
- Interestingly, black non-college goers are much more likely to vote and volunteer than similarly prepared white and Hispanic non-college enrollees as well as the average college enrollee.

We begin this report with a discussion of how we defined success for the study’s purposes, followed by an in-depth look at our findings, including the indicators that seem to have the most impact as well as those that had limited effect. We conclude with questions for school leaders to help guide their efforts to assure all of their students graduate ready for college and careers.

**CHART 1: Credentials matter for non-college goers**

Non-college goers with ‘high credentials’ – that is, a strong high school preparation plus professional certification–were more likely to be employed and have health insurance than college goers, although they were less likely to have a retirement fund.

Percent of 26-year-olds who report that they



■ no college - low credentials ■ no college - high credentials ■ college-goer

**Defining success**

Defining success for non-college enrollees is not as straightforward as it is for those who go to college. In our earlier study, [Chasing the College Acceptance Letter](#), success was defined as whether a student got into a selective college or not. In [High School Rigor and Good Advice](#), we defined it as persistence from the freshman to sophomore year of college. Other studies have looked at postsecondary completion rates (for example, Shapiro et al., 2015).

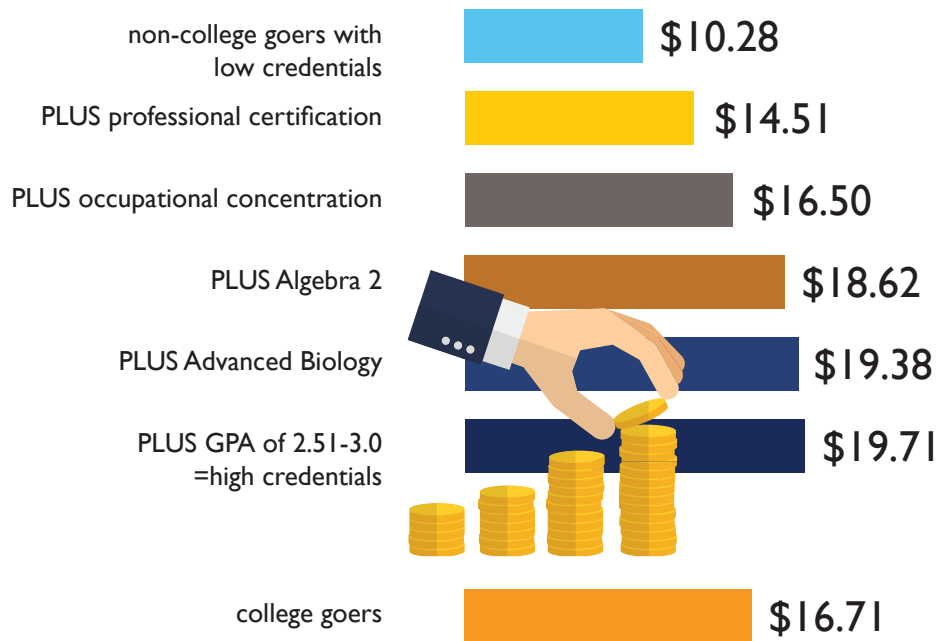
Because this report focuses on career readiness, we sought to examine outcomes related to success in the workplace. Yet there is no single way to define or measure job success. In the end, we settled

on several indicators of “good jobs,” that is, ones that would enable individuals to maintain a decent standard of living as an adult. These indicators include:

- Whether individuals work full-time.
- Whether they have been unemployed and if so, for how long.
- How much they are paid.
- Whether their employer offers medical and retirement benefits.
- Whether they supervise other employees.
- If they are satisfied with their job.
- Whether they earn enough to not require public assistance.

We were also interested to find out if high school preparation related to how much individuals contribute to society. Again, there is more than one way to evaluate good citizenship. For this report, we looked at whether non-college enrollees voted or volunteered in their communities.

**CHART 2: Average hourly wages of 26-year-olds by education and professional credentials**



*High school preparation can make a big difference for non-college goers, especially when combined with certification.*

*Each added credential increases average wages to the point that non-college goers with high credentials out earn the average college goer.*

## **Preparing students for future success**

The large body of research on college readiness is clear about the vital role high schools play in students' college success. These studies, including our own, consistently show that a student's chances to persist and complete college improve by taking higher-level math and science courses and by earning higher grades (see for example, Adelman, [1999](#) and [2006](#); Barth, 2003; [Hull](#), 2010; Radunzel & Noble, 2012; [Klepfer & Hull](#), 2012). This report examines whether these factors have a similar impact for non-college goers. We also expanded our search by looking at the relationship between high school vocational courses and better workplace outcomes.

Our definition of non-college goers was limited to the 12 percent of high school graduates who had not enrolled in a two- or four-year college by age 26. About one in four of this group took part in formal workplace training, either during high school or after graduation, that resulted in professional certification or license. The impact of these certificates will also be examined.

The indicators included in this report only scratch the surface of the knowledge and skills non-college enrollees need to increase their chances of getting a good job after high school. There are, of course, innumerable experiences that ultimately impact individuals' career choices and successes. Nonetheless, this report should provide valuable information about the effect of students' high school preparation on equipping graduates to be productive workers and engaged members of the community – lessons that we believe should benefit non-college goers and college goers alike.

### **A word about the data**

Data from the U.S. Department of Education's National Center for Education Statistics' Education Longitudinal Study of 2002 (ELS) was used to determine the impact high schools have on the employment success of their non-college enrollees. ELS is a longitudinal study that followed a nationally representative sample of high school sophomores in 2002 through 2012. Data from ELS was used to identify students who graduated high school in 2004 and had either enrolled in a two- or four-year college (college goers) or who had never enrolled in one (non-college goers) by 2012 when most respondents were 26 years old. "College goers" include individuals who enrolled but did not earn a degree. "College" does not include trade or technical schools, or programs of less than two years that result in a professional certificate or license.

For more on methodology, see page 17.

## College still pays

On most indicators, high school graduates who enrolled in college were overall doing better economically by age 26 than their non-college going peers. The exceptions: non-college goers were more likely to be in supervisory positions and to be satisfied with their current job.

<b>26-year-olds who reported they ...</b>	<b>Non-college goers</b>	<b>College goers</b>
<b>Had a full-time job (≥ 35 hrs/wk)</b>	66%	70%
<b>Had been unemployed at any time 2009-2012</b>		
<i>Ever unemployed</i>	40%	37%
<i>Unemployed more than 6 mos</i>	21%	16%
<b>Hourly wage most recent job</b>	\$13.42	\$16.71
<b>Current employer offers medical insurance</b>	70%	75%
<b>Had a retirement plan in 2012</b>	28%	46%
<b>Supervised other employees at most recent job</b>	43%	40%
<b>Are fairly satisfied with their job</b>	67%	64%
<b>Had ever received public assistance</b>	29%	14%

The average college goer also was more likely to be engaged in his or her community than non-college goers

<b>26-year-olds who reported they ...</b>	<b>Non-college goers</b>	<b>College goers</b>
<b>Registered to vote</b>	63%	81%
<b>Voted in a recent local, state, or national election</b>	25%	42%
<b>Performed volunteer work in the last 2 years</b>	24%	44%

In general, going to college is a better bet for young people than not going at all. Yet important distinctions are hidden in the averages. In the following sections, we will show that bypassing college can be economically and socially productive for individuals who earn the right credentials.

## How we defined ‘credentials’ for non-college goers

For the purposes of this analysis, “low” and “high” credentials are defined as follows:

### *Low-credentialed non-college goer*

- completed basic math and science courses in high school;
- earned a cumulative GPA under 1.5 on a 4-point scale;
- did not complete an occupational concentration in high school (three or more vocational courses in a specific labor market area); and
- did not earn a professional certification or license.

### *High-credentialed non-college goer*

- completed Algebra 2 as highest math course and advanced biology as highest science;
- earned a cumulative GPA between 2.51 and 3;
- completed an occupational concentration in high school (three or more vocational courses in a specific labor market area); and
- earned a professional certification or license.

Note that “high” credentialed is not “highest.” A small number of non-college goers had taken math courses higher than Algebra 2 or had earned a GPA greater than 3. However, the inclusion of these few high performers either skewed the results or did not produce reliable data, and so they do not appear in these categories. For more information, see methodology on page 17.

## Better high school preparation leads to better jobs

What students do in high school is as important for non-college goers as it is for college goers. For on-time graduates who did not go to college, we found that they did much better in the labor market if they had completed high-level math and science courses; earned higher grades; completed multiple vocational courses focusing on a specific labor market area (occupational concentration); and obtained a professional certification or license. While each of these factors had a positive effect most of the time, they were especially powerful in combination. Compared to their peers who lacked any of these characteristics, the “high credentialed” non-college goers were:

- More likely to have a full-time job.
- Less likely to be unemployed.
- Less likely to be unemployed for more than six months.
- More likely to work for an employer that offers medical insurance.
- More likely to have a retirement fund.
- More likely to supervise other employees.
- Less likely to receive public assistance.



High-credentialed non-college goers also performed better than the average college goer on several indicators, as shown in the table on page 4. Interestingly, neither credentials nor college-going seemed to make much difference in job satisfaction. All three groups reported being fairly satisfied with their job by comfortable margins.

<i>26-year-olds who reported they ...</i>	<b>No college Low credentials</b>	<b>No college High credentials</b>	<b>College goers</b>
<b><i>Had a full-time job (≥ 35 hrs/wk)</i></b>	46%	80%	70%
<b><i>Had been unemployed at any time 2009-12</i></b>			
<i>Ever unemployed</i>	55%	43%	37%
<i>Unemployed more than 6 mos</i>	36%	13%	16%
<b><i>Hourly wage most recent job</i></b>	\$10.28	\$19.71	\$16.71
<b><i>Current employer offers medical insurance</i></b>	43%	90%	75%
<b><i>Had a retirement plan in 2012</i></b>	8%	39%	46%
<b><i>Supervised other employees at most recent job</i></b>	29%	47%	40%
<b><i>Are fairly satisfied with their job</i></b>	61%	62%	64%
<b><i>Had ever received public assistance</i></b>	35%	24%	14%

### **Economic outcomes differ by race but gaps are narrower among high-credentialed, non-college goers**

Earning higher-level credentials in high school benefits all non-college enrollees but they are even more important for black students. Our analysis found that the employment gap was significant: black non-college enrollees with high-level credentials had the same chances of success on most employment outcomes as lower credentialed white and Hispanic non-college enrollees. When compared to similarly credentialed white and Hispanic peers, black non-college enrollees:

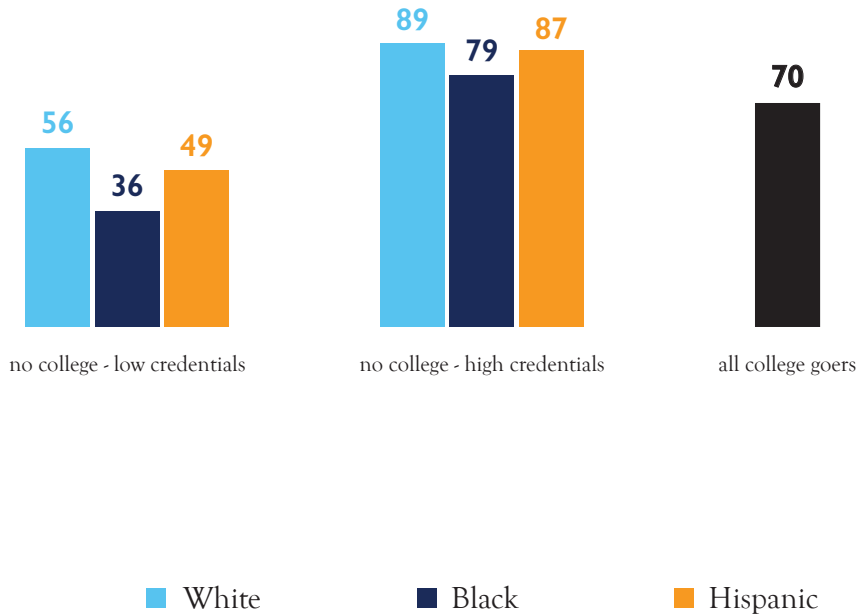
- Were more likely to be unemployed.
- Were less likely to work for an employer that offers medical insurance or a retirement fund.
- Earned lower wages.
- Were more likely to have been on public assistance.

However, we also found that these gaps were narrower among non-college goers with high credentials. In addition, high-credentialed black non-college enrollees were just as likely to get a good job as the average college enrollee. This indicates that a stronger high school preparation can help mitigate the impact of race on employment.

**CHART 3: The employment gap by race narrows as credentials increase**

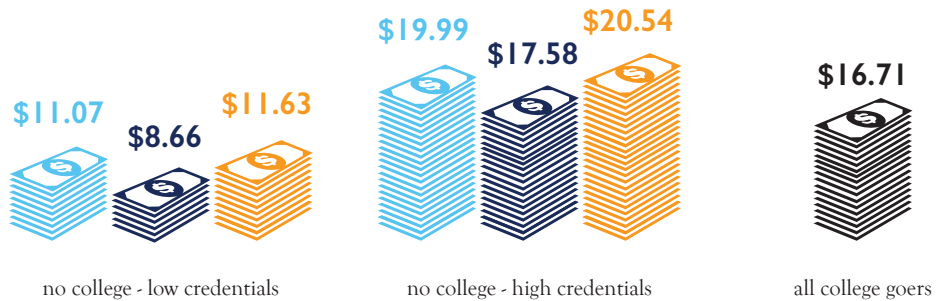
High-credentialed non-college goers of all racial groups are more likely to work full-time than the average college goer

Percent of 26-year-olds employed full-time, 2012



**CHART 4: High-credentialed non-college goers of all racial groups are more likely to earn more than the average college goers**

Hourly wages of 26-year-olds, 2012



## Socioeconomic status is not a major factor in getting a good job

The same gaps typically do not appear when comparing the chances for labor market success of non-college enrollees based on socioeconomic status (SES). While there are gaps between non-college enrollees from low and high-SES backgrounds in most employment outcomes, these differences aren't nearly as stark as the differences between black and white non-college enrollees.

## Better high school preparation leads to more social engagement

The ability to get a good job is important, but communities also want to develop individuals who contribute to society. Once again, we found that how well non-college goers are prepared in high school was related to the degree they were socially engaged as 26-year-olds.

Completing more rigorous math and science courses in high school was the single factor with the most effect. But a combination of credentials had an even greater impact. Non-college goers who took high-level math and science courses, earned higher grades, completed an occupational concentration, and obtained a professional certification or license were:

- More likely to register to vote.
- More likely to vote in a local, state, or national election.
- More likely to volunteer within their communities.

These high-credentialed non-college goers also performed as well or nearly as well as college goers when it comes to voting, although they lagged on volunteering.

<i>26-year-olds who reported they ...</i>	<b>No college Low credentials</b>	<b>No college High credentials</b>	<b>College goers</b>
<b>Registered to vote</b>	57%	82%	81%
<b>Voted in recent local, state, or national election</b>	29%	39%	42%
<b>Performed volunteer work in last two years</b>	18%	35%	44%

## Black non-college goers were more engaged in society than similarly credentialed white and Hispanic non-college goers

When it comes to racial gaps in terms of social engagement, a much different story emerges than that told by economic outcomes. In both sets of indicators, large gaps exist between black non-college enrollees and similarly prepared white and Hispanic non-college enrollees. Yet, when it comes to engaging and giving back to their communities, black non-college enrollees are much more likely to:

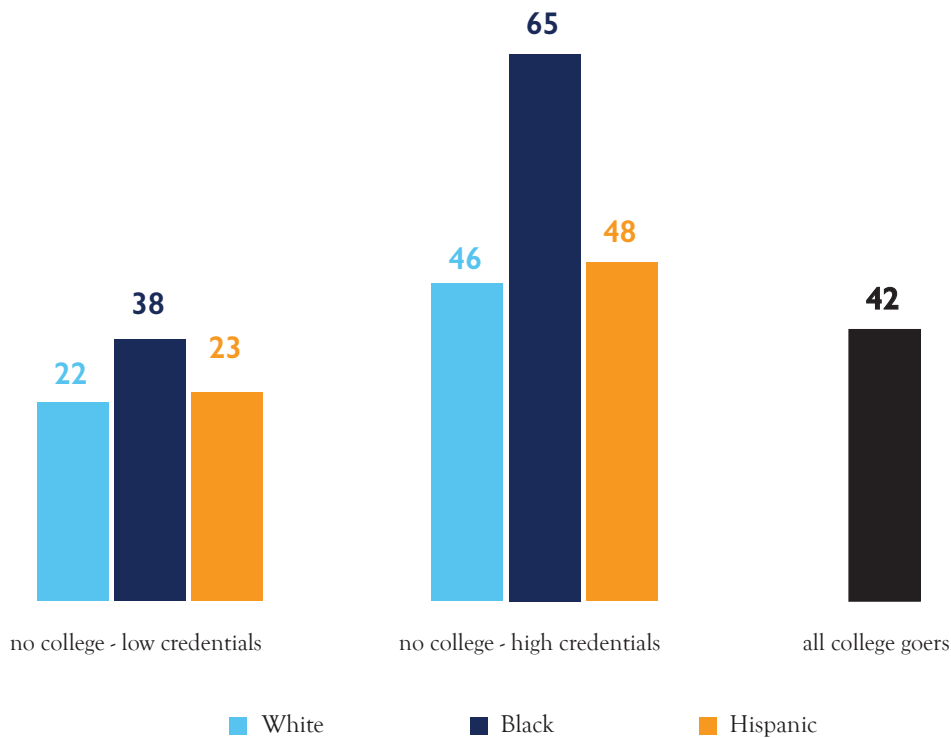
- Register to vote.
- Vote in a local, state, or national election.
- Volunteer in their communities.

And in most cases the differences were quite large.

### CHART 5: Black non-college goers are more engaged in their communities

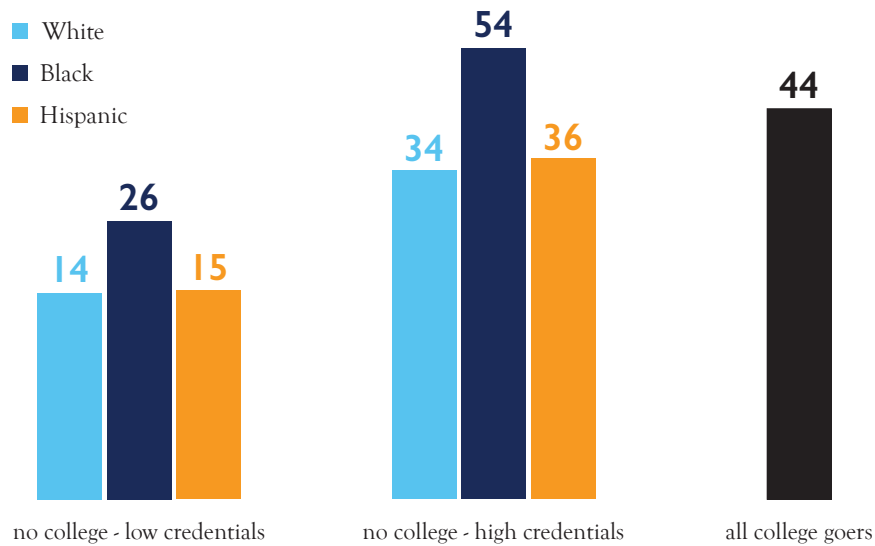
High-credentialed non-college goers of all racial groups are more likely to vote than the average college goers

Percent of 26-year-olds who voted in recent election



**CHART 6: Black non-college goers with high credentials are most likely to volunteer in their communities**

High credentials increase volunteerism among non-college goers of all races  
 Percent of 26-year-olds who volunteered within the last 2 years



**Socioeconomic status plays a greater role in engaging in society**

While there was little difference in economic outcomes between non-college goers based on socioeconomic status, it was a significant factor in their chances of engaging and contributing to society. Compared to more advantaged non-college goers, we found that economically disadvantaged non-college enrollees were:

- Less likely to register to vote.
- Less likely to vote in a local, state, or national election.
- Less likely to volunteer in their community.

The gaps were apparent even when they earned similar credentials.

It is important to keep in mind that no matter which outcome we examined for which group of non-college enrollees, those who were more prepared were much more likely to succeed than those who earned lower credentials. In fact, most high-credentialed non-college goers were more likely to perform well on most indicators of success than the average college enrollee.

## **High school indicators that did not show much effect**

Our analysis revealed seven indicators that had a strong relationship to future economic and social success for non-college goers. These are highest science course, highest math course, high school grades, professional license/certification, high school vocational preparation in a specific labor market area, student race/ethnicity, and student's socioeconomic status. But we also examined other indicators that we thought might have an impact. Possibly because of the limitations of the data or other reasons, in the end they did not show much effect on either employment or social engagement.

Absent among the positive indicators are courses in English Language Arts (ELA), social studies, the arts, and general vocational. This analysis examined ELS data that provides course titles and number of credits earned by the 2004 high school graduates. We examined highest course taken in math, science, and CTE. We also looked at the number of credits earned in the humanities and the arts. Almost universally, the number of credits earned in any of these courses did not significantly impact the quality of jobs non-college enrollees had after high school or their engagement in society. However, as we have shown, the combination of particular courses in math, science, and an occupational concentration had a significant impact. The same was not apparent for the other subjects.

Here's the problem: As other studies have found (eg., Adelman, 1999 and 2006), math and science course titles such as algebra, pre-calculus, etc., are good proxies for rigor. The ELS data also allowed us to distinguish an occupational concentration, which had a positive effect, from unsequenced vocational courses, which did not. Unlike math and science, course titles in the humanities and the arts don't reveal much about the level of challenge one should expect, which we believe may explain why we didn't see much impact from those courses. If it were possible to differentiate the rigor of English 4 courses, for example, it's possible that we would begin to see a relationship between these subjects and future success. But since the number of completed courses in these subjects provides no additional information, they were left out of this analysis.

Other indicators related to high school preparation such as the amount of time spent on homework and participation in extracurricular activities were also examined but did not typically show any significant impact on the future success of non-college enrollees. In addition, whether a non-college goer worked while in high school was examined and again typically provided no significant impact on their future employment outcomes.

Finally, an attempt was made to examine the impact a student's work ethic and their school's expectations had on their future success. Unfortunately, due to limitations in the data, these attributes could not be included in this analysis.

This is not to say that courses besides math and science don't matter or that homework and extracurricular activities are unimportant. However, in this analysis, their impact on a non-college enrollee's future outcomes was overshadowed by other experiences.

## **A career-ready agenda**

Recent research is clear that it takes more than a high school diploma to obtain a good job ([Jerald, 2009](#)). But this doesn't have to mean earning a four-year degree. In fact, it doesn't necessarily mean tomorrow's jobs will require a two-year degree. As this study has shown, training that leads to a professional license along with a strong academic high school program can translate into positive economic and social outcomes for young adults.

Our analysis points to professional licenses or certification as the credential with the most value for a non-college goer in terms of employment, wages, and social engagement. Interestingly, taking random vocational courses from different occupational disciplines had little effect. But taking at least three courses in a specific labor market area significantly increased the chances a non-college enrollee had a good job after high school, particularly if those vocational courses also led to a professional certification or license.

But this report also provides more evidence that the academic preparation that leads to college is important in the workplace, too. High schools that make sure all students take rigorous courses, particularly math, and provide access to vocational sequences in a specific labor market area will go far toward setting up graduates for success afterward even if they don't go to college.

Finally, it's important for schools to provide all students with knowledgeable college and career counseling, even beginning as early as middle school, in order to help students make informed decisions about their personal career and educational goals and help them develop plans that will get them there.

### **Personal Opportunity Plans for All Students**

Schools can do a lot to help students make informed personal plans for their future and keep them on track toward their goals. But doing so requires resources, especially staff, that may be hard to come by. The National School Boards Association released a guidebook in collaboration with other national organizations that shows school boards how to use community partnerships effectively to support students in this journey. [Partnerships, Not Pushouts: A Guide for School Board Members on Community Partnerships for Student Success](#) serves as a blueprint for school board members who wish to create a better coordinated system of supports for children and their families. The guidebook can be downloaded for free at [www.nsba.org](http://www.nsba.org).

## Questions for school leaders

### Where do our graduates go after high school?

- How many high school graduates in our district go immediately to college? How many go to college within two years? More than two years?
- Where are our graduates who don't go to college? How many are working?
- Are there differences in college-going/working by student group based on race, ethnicity, family income, home language, or special needs?

### Do we have enough trained counselors or mentors to help students set goals?

- Are all students well-informed about the range of post-graduation options, including college, training, and financial aid?
- Are students required to develop personal plans with the guidance of a counselor or mentor that includes a schedule for acquiring the credits needed to fulfill the plan?
- Does every student have a mentor to make sure they stay on track toward meeting their goals and receive appropriate support as needed?

### What opportunities do our high schools provide for career readiness?

- Do graduation requirements include Algebra 2 or its equivalent? Three courses of high-level science? Do we provide sufficient support for students who are struggling in these subjects?
- Do our high schools provide a variety of vocational programs? Do they include opportunities to complete at least three courses in a single occupational concentration? Do these programs lead to a professional certification or license?
- Are there opportunities in our community for intern programs/business partnerships to help equip all students for the workplace?

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## **Methodology**

Data from the U.S. Department of Education's National Center for Education Statistics' (NCES) Education Longitudinal Study of 2002 (ELS) was used to determine the impact high schools have on the employment success of their non-college enrollees. ELS is a longitudinal study that followed a nationally representative sample of high school sophomores in 2002 through 2012.

Data from ELS was used to identify those students who graduated high school in 2004 but had not enrolled in college by 2012 when most respondents were 26 years old. Information from student high school transcripts that were collected as a part of ELS were used to identify the highest level math and science course each student earned of at least a half a credit. The student transcript data also provided each student's Grade Point Average (GPA) which NCES standardized into 0.0 to 4.0 scale. We report the results for groups of non-college goers who earned either less than a cumulative 1.5 (low credentials) or between 2.51 and 3.00 (high credentials). A small number of individuals earned a higher GPA but they were so few that the results were not reliable and so were not included.

The report includes information about whether a respondent earned a professional certification or license by age 26 that was included in ELS when respondents were surveyed in 2012. The ELS variable Occupation Concentrator was included in the report. The variable was created by NCES to indicate whether or not the student had earned at least three credits in one specific labor market preparation area. Lastly, the report included the student demographic variables race/ethnicity and socioeconomic status as reported in the ELS dataset.

To measure the impact a non-college enrollee's preparation had on their postsecondary successes, a logistic regression was conducted using SPSS's Complex Sample module except for the Standard Hourly Wage outcome for which a general linear regression was conducted. For each outcome measure three logistic regression models were constructed: 1) baseline 2) race/ethnicity (race), and 3) socioeconomic status (SES). The baseline model included the variables highest math course, highest science course, GPA, professional certification/license, and occupation concentrator variables. Race and SES variables were added to the baseline variables in the race and SES models respectively. Results from each of the logistic regression models were used to calculate Predicted Probabilities, which is the output used throughout this report.

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