Research Report

Validating *HiSET*® Tests as High School Equivalency Tests That Improve Educational, Vocational, and Quality-of-Life Outcomes

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RESEARCH REPORT

Validating *HiSET*® Tests as High School Equivalency Tests That Improve Educational, Vocational, and Quality-of-Life Outcomes

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ETS, Princeton, NJ

Results from two studies provided strong evidence for the validity of the *HiSET*® tests, thereby demonstrating that HiSET is a well-developed battery of tests with passing and college and career readiness (CCR) standards that, when met, provide a pathway to post-secondary education, better employment opportunities and wages, and a better quality of life to those who are unable to experience a traditional high school education. Positive relationships exist between HiSET scores and both high school grades and ACT scores, including high levels of agreement between HiSET CCR indicators and ACT CCR indicators. Therefore, evidence supports the claim that HiSET scores are measures of high school equivalency, preparedness for middle skills jobs, and college readiness. Furthermore, there is evidence that passing the HiSET provides value to stakeholders. Passing the HiSET battery is associated with gaining academic and personal skills, college enrollment, employment gains (e.g., obtaining employment, obtaining more full-time employment, wage increases, and improvement in a job or position), and quality-of-life improvements.

Keywords *HiSET*® tests; high school equivalency; general equivalency; credential; diploma; academic skills; academic knowledge; academic proficiency; college and career readiness; validity; utility; efficacy; educational attainment; educational outcomes; employment outcomes; vocational outcomes; wage; income; salary; quality of life; ACT; GED

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For a variety of reasons, many in the United States are unable to complete a traditional U.S. high school education (Bridgeland et al., 2006; National Center for Education Statistics [NCES], 2016a). Of those who were ninth graders in 2009, 9.5% were unable to remain continuously in high school by the time they typically would be expected to be high school seniors in 2012 (NCES, 2016b). Ninety-two percent of jobs in the United States require at least a high school diploma or equivalency (U.S. Bureau of Labor Statistics [BLS], 2019). Obtaining a high school diploma is associated with higher earnings as well as greater current and projected employment rates (BLS, 2021, tables 5.1 and 5.2). A high school diploma or equivalency credential, such as that obtained by passing the *HiSET*® test battery, is required to obtain living wage employment directly or through opportunities to pursue postsecondary training and education (Carnevale et al., 2013; Symonds et al., 2011).

The HiSET battery was designed to measure the core knowledge and skills taught and evaluated in high school (i.e., language arts — reading, language arts — writing, mathematics, science, and social studies). It was developed as a pathway to a high school equivalency credential for those who do not obtain a traditional high school diploma. Passing the HiSET battery is intended to provide value to stakeholders, such as (a) HiSET test takers seeking to improve their educational and vocational opportunities and quality of life; (b) U.S. states and territories endeavoring to enhance educational and vocational opportunities for their citizens; (c) postsecondary institutions and career technical education (CTE) programs whose mission it is to educate those with prerequisite knowledge, skill, and promise; and (d) employers who require that employees possess the knowledge and skills associated with at least a high school-level diploma or equivalency credential. Diagrammatically, the trajectories of HiSET passers are intended to follow at least a segment of one of the pathways illustrated in Figure 1.

HiSET takers, U.S. educational and employment state regulators, adult educators, postsecondary institutions and CTE programs, and employers rely on the HiSET test battery pass indicator(s), and, in some cases, the college and career

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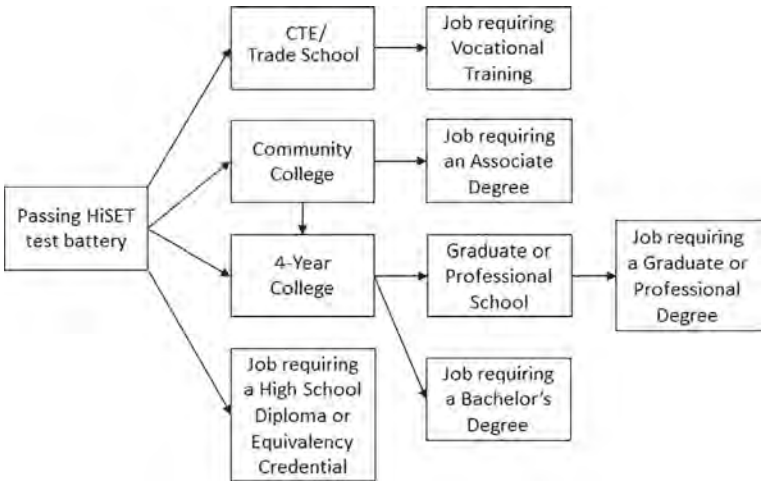

Figure 1 Postsecondary educational and career pathways for passers of the HiSET battery.

readiness (CCR) score thresholds, to make consequential decisions. Therefore, they expect evidence that HiSET success indicators are valid for their purported interpretations and uses. HiSET takers invest a great deal of time, hope, and financial resources into preparing for HiSET, with the goal of becoming more employable, eligible, and prepared to seek and succeed in postsecondary education and training and thus better able to financially support themselves and their dependents in the future. U.S. educational and employment state regulators expend considerable resources to help individuals gain skills that make them more employable and qualified for postsecondary education; adult educators are accountable for helping individuals achieve those improvements in employability and postsecondary readiness; postsecondary institutions and CTE programs admit, educate, and train HiSET passers in the belief that the high school equivalency credential that applicants received by passing HiSET indicates readiness for postsecondary education and training; and employers rely on the HiSET high school equivalency credential as an indicator of greater preparedness for success in jobs.

The two research studies described in this report provide evidence that supports validity-based claims about the value and positive impact of HiSET in preparing HiSET takers with, and helping them to demonstrate, high school-level academic knowledge and skills (convergent validation) and indications of when HiSET takers possess requisite knowledge and skill levels that lead to further academic, vocational, and quality-of-life success (criterion-related validation). This evidence supports the HiSET program in a competitive marketplace in which other high school equivalency programs are either making research-based claims or failing to do so, thereby providing the HiSET program with the opportunity to meet and exceed professional standards for high school equivalency testing.

Study 1

Introduction

Several states award high school equivalency credentials to individuals who pass the HiSET battery under the assumption that the HiSET battery measures subject area knowledge and skills acquired in high school, that is, language arts—reading, language arts—writing, mathematics, science, and social studies. The HiSET website states, "Passing the *HiSET*® exam proves you have the same academic knowledge and proficiency as a high school graduate. Once you pass, your state will issue you a high school equivalency credential. The credential helps you move your life in a whole new direction!" (ETS, n.d.). Therefore, a fundamental assumption underlying the HiSET battery is that it is a series of high school equivalency tests. Because this assumption is so important, we sought statistical evidence to support it. High school equivalency can be established by showing a relationship between scores on HiSET tests and high school grades as well as between scores on HiSET tests and performance on high school exit tests and other tests that assess knowledge expected to be acquired through high school participation. One such test is the ACT, which is sometimes used as a high school exit test and is sometimes mandatorily taken by all high school students within a state for other purposes (see, e.g., Kentucky Department of Education, 2022; Wisconsin Department of Public Instruction, 2021).[1] To provide evidence for the claim that the HiSET battery is in fact a series of high school equivalency tests, we addressed the following research questions:

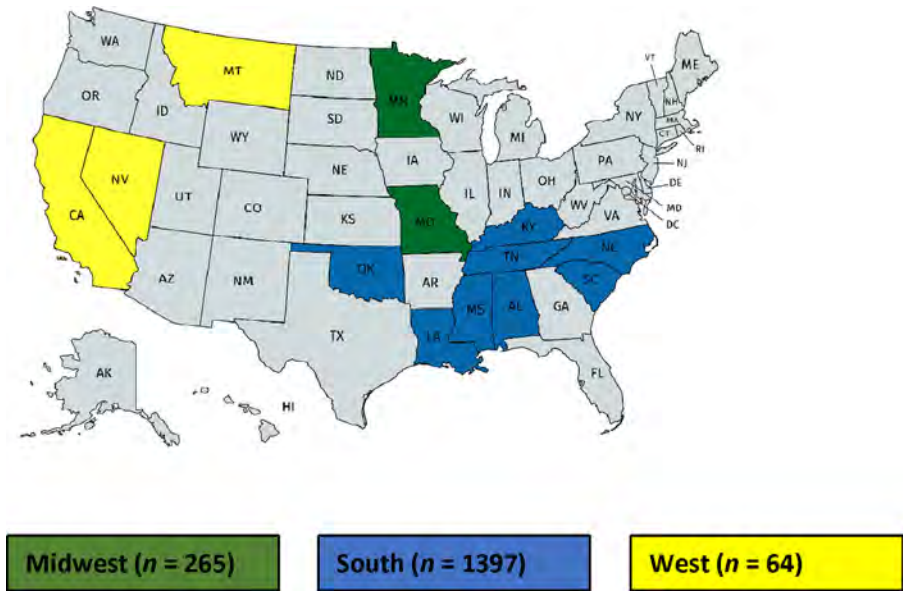

Figure 2 States with participating high schools.

1 To what extent is performance on the HiSET tests related to performance in a traditional high school program?
2 To what extent is it related to performance on the ACT?

Our research included looking at HiSET test performance generally as well as HiSET performance as an indicator that a test taker is college and career ready (i.e., ready to succeed in a middle-skills job and/or postsecondary education, such as CTE, a 2-year community college, and/or a 4-year college).[2]

Methods

Participant Sample

Participants consisted of 1,726 high school juniors and seniors from 32 high schools across 13 U.S. states that differ from each other geographically, culturally, and economically. Only schools that could provide a sufficient range of ACT scores were included. Participating schools represented the midwestern, southern, and western regions of the country (see Figure 2). They also reflected urban, suburban, and rural geographic locales.

We tried to make the sample as nationally representative as possible. At the same time, we sought to collect a broad distribution of ACT scores so that all academic skill levels of HiSET takers would be represented. Not every high school student eventually takes the ACT, and we hypothesized that those who themselves paid to take the ACT would tend to possess stronger academic skills. Therefore, to obtain a sufficient number and distribution of ACT scores, we focused our recruitment efforts on the 15 states that encouraged or paid for their high school students to take the ACT in 2017, when we were collecting data. Few individual school districts and schools outside of these states required their students to take the ACT. In fact, we were able to obtain participation from only one such school, in California.

A description of the student sample is found in Table 1. The majority of students self-reported that they were female (53%). Most students were of non-Hispanic ethnicity (85%). The largest racial groups self-reported as being White (58% across Hispanic and non-Hispanic ethnicity groups) and Black or African American (20%). Approximately 7% were multiracial. Students were able to select as many race categories as they wanted.

So that our claims in this study are applicable to HiSET test takers who are trying to improve their academic knowledge and skills, we attempted to ensure that we represented individuals with the challenges of many HiSET test takers but whose academic performance reflected that of high school students generally. The overall high school grade point average (GPA) of U.S. high school students tends to be in the B range (approximately 3.0 on a scale where 0 is an F and 4.0 is an A; Nord et al., 2011), and it is much higher than the typical GPA of high school equivalency credential recipients who left school after 9th or 10th grade (Malkus & Sen, 2011). To make it more likely that our study sample represented aspects

Table 1 Participant Sample Characteristics

	N	Percent
Gender		
Female	919	53
Male	775	45
Other	32	2
Race, Hispanic ethnicity	132	8
American Indian/Alaskan Native	5	<1
Asian or Asian American	1	<1
Black or African American	5	<1
Pacific Islander	–	–
White	27	1
Multiracial	2	<1
Indicated Hispanic ethnicity but no race	91	6
No response at all to Hispanic ethnicity or racial group membership	–	–
Other	1	<1
Race, non-Hispanic ethnicity	1,470	85
American Indian/Alaskan Native	14	<1
Asian or Asian American	24	1
Black or African American	342	20
Pacific Islander	1	<1
White	982	57
Multiracial	86	5
No response at all to racial group membership	12	<1
Other	9	<1
Parental education (SES)	1,601	92.8
Middle school or less	45	2.6
Some high school	86	5.0
High school diploma	295	17.1
High school equivalency[a]	58	3.4
Some college/university	306	17.7
Associate's degree[b]	178	10.3
Bachelor's degree[c]	355	20.6
Some graduate or professional school or a graduate or professional degree[d]	161	9.3
I do not know	100	5.8
Other	17	1.0

Note. $n = 1{,}726$. SES = socioeconomic status. [a]For example, credential received after passing HiSET or GED tests. [b]For example, AA, AS. [c]For example, BA, BS. [d]For example, MA, PhD, MBA, MD.

of the HiSET population, we first asked high schools to recruit "at-risk" students, where "at-risk" could include students experiencing academic, attendance-related, behavioral, personal, and/or medical challenges. Then, to ensure that our study was focused on "high school equivalency" standards that represent performance by a broad high school population, we asked high schools to recruit beyond "at-risk" students.

Test Materials and Administration

The 2016 paper versions of each of the five HiSET tests were used in this study. Standard test administration time was employed as follows: mathematics, 90 min; language arts—reading, 65 min; language arts—writing, 75 min; science, 80 min; and social studies, 70 min. All students received identical test forms within each subject; that is, all students who took the mathematics test responded to the same set of questions, all students who took the science test responded to the same set of questions, and so on. Owing to the logistics and costs associated with recruitment, administration, and scoring for essays, the multiple choice (MC) portion but not the essay portion of the writing test was used in this study.

Each student completed a paper version of two of the five HiSET tests. Tests were proctored by a high school teacher or staff member according to the HiSET paper-based administration guide. To increase motivation for the students, a monetary incentive was introduced. All students received a $100 gift card if they completed two tests. In addition, they were instructed that there would be a raffle for an additional $50 gift card after their high schools completed testing. For each percentage point correct, they would receive one raffle ticket, with higher test scores leading to a greater probability of winning the raffle.

Table 2 HiSET Average Scores and Pass Rates

Test	*N*	Sample average	Sample *SD*	Pass rate (%)	CCR (%)
Mathematics	727	13.3	4.9	87	45
Reading	768	10.4	5.7	64	30
Writing (MC)[a]	888	8.2	3.8	N/A	N/A
Science	764	11.1	5.5	66	34
Social studies	788	12.8	5.4	79	45

Note. The writing test essay was not administered as a part of this study, so it was not possible to determine which test takers in the study attained the pass or college and career readiness benchmarks for the writing test. CCR = college and career readiness; MC = multiple choice; N/A = not applicable. [a]The multiple choice portion of the HiSET Writing test counts for 14 out of 20 total points.

In addition to taking two HiSET tests, students completed a background information questionnaire that included a section in which they self-reported their average letter grades overall and in the following subject areas: English literature, English composition, mathematics, science, and social studies. After each HiSET subject test, students self-rated their amount of effort expended, while proctors recorded students' start and completion times. Schools provided ACT scores and high school transcripts for each student. Transcript courses were coded into the following set of subjects: math, English language arts (ELA),[3] science, and social studies. Ultimately, we had enough transcripts so that we did not need to rely on self-reported grades to conduct analyses.

Results and Discussion

HiSET Test Performance

Table 2 displays students' HiSET scores and pass rates. The HiSET tests have a scaled score range of 1 to 20 in one-point increments. Performance on each HiSET test is benchmarked by two scores. A score of 8 or higher is required to pass each of the tests. To pass the entire test battery, one must achieve a score of 8 or higher on each test and a total score of 45 or higher across all tests (Tannenbaum & Reese, 2014).[4] Test takers who score 15 or higher on a HiSET test achieve a CCR level of performance. The psychometric processes and rationales for arriving at the passing and CCR score thresholds are described in a HiSET technical manual published by ETS (2018, pp. 57–60).

High School Performance

Figure 3 shows the school-reported GPAs across four subject areas. Each cluster of bars represents grades for 1,726 participants. The grades are directly from the high school transcripts that high schools provided to us. GPA includes honors and *Advanced Placement*® (*AP*®) course grades, which can include a bonus grade point so that the course GPA can be as high as 5.0 (where 4.0 = A). ELA includes English composition (i.e., writing) and English literature. There were not enough writing grades to include findings for writing. Also, transcripts reported English grades without enough clarity as to whether they were for reading, writing, or both.

Relationship Between HiSET Performance and High School Grades

Figure 4 shows the average HiSET scores in relation to transcript subject area grades. Results show that HiSET performance was consistently related to high school performance. High school performance was measured using official high school transcripts, separating courses to align with the HiSET subject areas. Across all five tests, students with an A or B average in their high school grades performed better on HiSET tests than did those with a C, D, or F average.

HiSET performance levels were related to high school grades (Figure 5). High school GPA was determined using official high school transcripts, separating courses to align with the HiSET subject areas. Across all five tests, students who passed HiSET achieved better high school grades than did those who did not pass at all. Those who scored at the CCR level achieved better high school grades than did those who passed but did not score at the CCR level.

For each HiSET test, better HiSET performance was associated with higher grades in relevant high school courses (Table 3). Correlations between the HiSET tests and transcript grades may be interpreted as medium or large in size (Cohen, 1988).

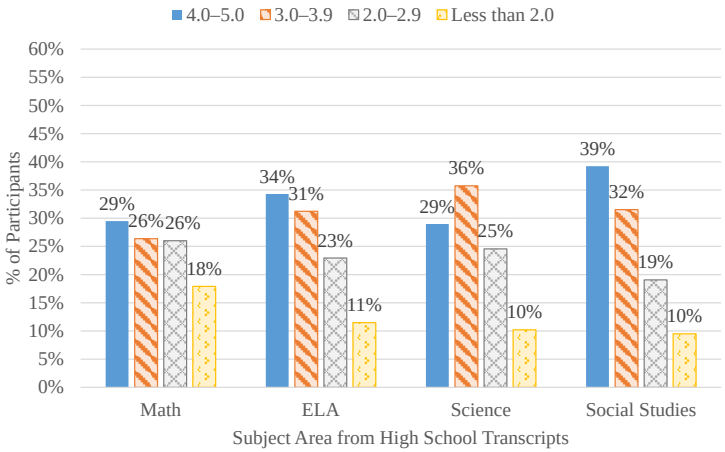

Figure 3 School-reported grade point average by subject area.

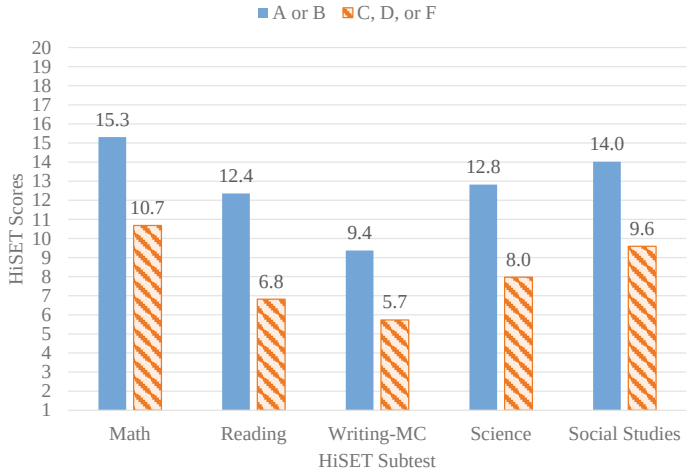

Figure 4 HiSET scores by transcript subject area grades. This chart reflects a 5-point scale ranging from 4 (*A*) to 0 (*F*), and an additional point can be awarded for honors and advanced placement courses. A or B = grade point averages >2.7. C, D, or F = grade point averages <2.7. MC = multiple choice. Error bars represent 95% confidence interval estimates of the means.

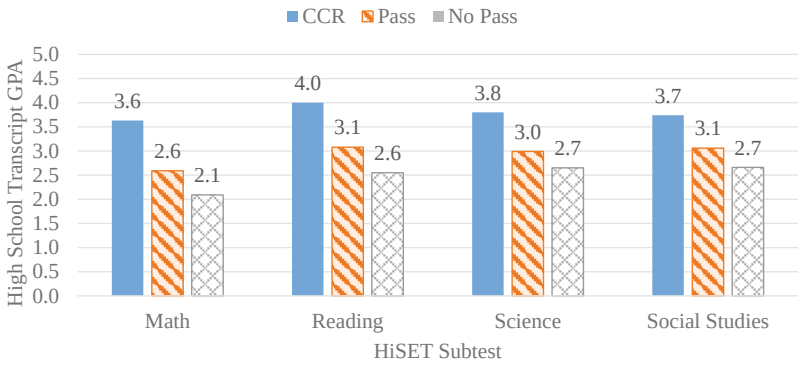

Figure 5 Average high school grade point average by HiSET pass levels. The writing test essay was not administered as part of this study, so it was not possible to determine which test takers in the study attained the pass or college and career readiness benchmarks for the writing test. Error bars represent 95% confidence interval estimates of the means.

Table 3 Correlations Between HiSET Scores and High School Transcript Grade Point Average

HiSET test	*N*	Correlation	95% CI	
			Lower	Upper
Mathematics	725	.54	.43	.65
Reading	677	.58	.49	.67
Writing (MC)	887	.59	.53	.64
Science	758	.49	.41	.56
Social Studies	779	.51	.41	.61

Note. HiSET Reading and Writing are both compared to English language arts courses. MC = multiple choice. 95% CI = 95% confidence interval around the correlation value. The interval not containing 0 is equivalent to a *p*-value lower than .05 and thus a finding of statistical significance.

Table 4 Correlation Between HiSET Scores and Corresponding ACT Subject Area

HiSET test	*N*	Correlation	95% CI	
			Lower	Upper
Mathematics	712	.72	.68	.75
Reading	662	.57	.51	.62
Writing (MC)	869	.72	.68	.75
Science	756	.67	.62	.70
Social Studies	775	.62	.58	.67

Note. HiSET Social Studies is compared to ACT Reading, which has a social studies section. HiSET Writing (MC) is compared to ACT English. MC = multiple choice. 95% CI = 95% confidence interval around the correlation value. The interval not containing 0 is equivalent to a *p*-value lower than .05 and thus a finding of statistical significance.

Table 5 Percentage Agreement for College and Career Readiness Rates Between Comparable HiSET and ACT Subject Areas

HiSET test	*N*	% Agreement
Mathematics	712	77
Reading	662	82
Science	756	80
Social studies	775	75

Note. The writing test essay was not administered as a part of this study, so it was not possible to determine which test takers in the study attained the college and career readiness benchmark.

Relationship Between HiSET Performance and High School Exit Test (ACT) Performance

For each HiSET test, greater HiSET performance was associated with greater ACT performance (Table 4).[5] Correlations between HiSET scores and ACT scores may be interpreted as medium to large (Cohen, 1988).

HiSET and ACT CCR Agreement Rates

In a GED study involving ACT scores from 1,200 North Dakota students who took the GED, 71% of those who scored at the GED CCR level on the GED Math test also scored ACT college ready; for GED English Reasoning Through Language Arts (RLA), there was 77% agreement with the ACT indicator of CCR (GED Testing Service, 2019).

Using their respective scoring criteria, the HiSET Science, Reading, Math, and Social Studies tests were compared to their ACT counterpart tests to determine how often each test agrees that a student is college and career ready. For the four tests, the HiSET and ACT agreed about students' CCR status between 75% and 82% of the time (Table 5). On average, for these four tests, the HiSET and ACT agreed 78% of the time.

Conclusions

To provide evidence for the claim that the HiSET battery is in fact a series of high school equivalency tests, we addressed the following research questions:

1. To what extent is performance on the HiSET tests related to performance in a traditional high school program?
2. To what extent is it related to performance on a high school exit measure of high school-level knowledge or of CCR, here the ACT?

Our research included looking at HiSET test performance generally as well as HiSET test performance as an indicator that a test taker is college and career ready. This HiSET validity study provides important empirical evidence that HiSET performance is associated with high school performance (grades from transcripts) across all HiSET subject areas as well as performance on a high school exit test, the ACT. For example, observed correlations between HiSET performance and high school grades were strong and statistically significant, $p < .05$, ranging from .49 to .58. Even larger statistically significant, $p < .05$, correlations were observed for the relationship between HiSET performance and ACT scores, with correlations ranging from .57 to .72. Agreement between HiSET and ACT in identifying who is and is not college and career ready also was high, ranging from 75% to 82%. The statistical evidence supports the claim that HiSET measures well the skills taught and evaluated in high school, which is the fundamental claim underlying the validity of the HiSET test battery.

Study 2

Introduction

The utility of a test comes from its ability to provide future value for its stakeholders. It is important that stakeholders, based on HiSET takers passing or achieving the CCR standard for HiSET tests, be able to make valid inferences about whether that value will materialize for HiSET takers. To provide evidence to support the validity of making inferences based on passing and achieving CCR for the HiSET battery, we conducted a 3-year longitudinal survey-based study to answer the following research question: To what extent is passing the HiSET battery associated with improvement in passers' educational, vocational, and quality-of-life outcomes?

Methods

Participant Sample

The first-year survey was designed to ask baseline questions about HiSET battery passers' lives (e.g., education, employment, and quality of life) prior to passing and then receiving their high school equivalency credentials, in addition to collecting data about their lives in the first year after passing and then earning their credentials. Using internal ETS records to identify HiSET passers, 2,510 participants were recruited in Year 1 based on a stratified sample of HiSET test takers who passed the battery in 2016. Stratification was based on location, gender, race/ethnicity, age, and HiSET pass type (pass vs. college and career ready). Figure 6 maps the states (darker, in red) in which participants lived when they passed the HiSET battery. States are located in several regions across the United States.

The study participants varied in terms of race/ethnicity, gender, age, and last grade completed. These categories were defined by current U.S.-based definitions of these demographic categories. In Year 1, the largest racial/ethnic group reported as "White" (56%). Black individuals and Hispanic individuals (non-White and White) were represented in the participant pool (14% and 20%, respectively). Hispanic individuals exclusively responded to the race question as "White," "multiracial," or "other" and so were sorted into "Hispanic, White," and "Hispanic, non-White." There were more female participants than male participants in the sample (66% vs. 34%). Participants were mainly between the ages of 18 and 34 years, with the largest group reporting ages between 19 and 24 years. For logistical reasons, we recruited only those who could provide legal consent to participate (i.e., those at least 18 years of age). Most participants attended at least some high school, with 43% of the total sample completing their freshman or sophomore year and 47% of the total sample completing their junior or part of their senior year. Changes in the demographic composition of the participants responding to the second-year and third-year surveys were very small (see Table 6). With attrition year to year (2,313 – 1,484 – 1,265), the race, gender, and age distributions of the participants did not change appreciably ($\leq$2% net).

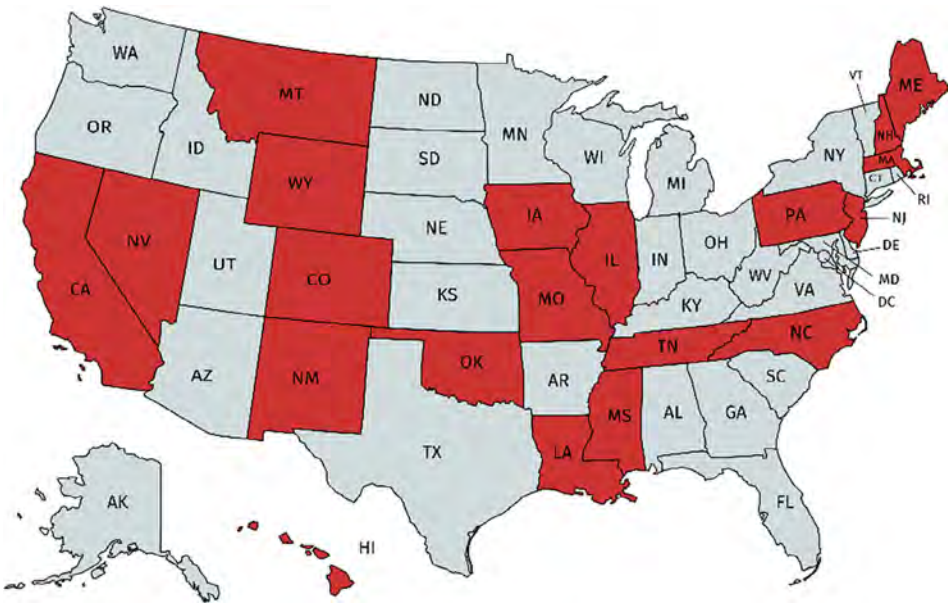

Figure 6 States targeted and included in the sample.

Table 6 Participant Sample Characteristics

	Year 1		Year 2		Year 3		% Change	
	N	Percent	*N*	Percent	*N*	Percent	Year 2 – Year 1	Year 3 – Year 2
Race/ethnicity								
Hispanic, non-White	282	11	170	11	141	11	0	0
American Indian/Alaskan Native	48	2	27	2	23	2	0	0
Asian	56	2	39	3	33	3	+1	0
Black	362	14	213	14	180	14	0	0
Pacific Islander/Hawaiian Native	9	< 1	7	< 1	5	< 1	0	0
Hispanic, White	218	9	125	8	109	8	−1	0
White	1,397	56	863	57	738	57	+1	0
Multiracial	128	5	75	5	65	5	0	0
Total	2,500	100	1,519	100	1,294	100		
Gender								
Male	859	34	489	32	374	32	−2	0
Female	1,651	66	1,033	68	786	68	+2	0
Total	2,510	100	1,522	100	1,160	100		
Age[a] (years)								
18	381	15	204	13	176	14	−2	+1
19 – 24	857	34	525	34	452	35	0	+1
25 – 29	484	19	295	19	253	20	0	+1
30 – 34	313	12	197	13	168	13	+1	0
35 – 39	213	8	138	9	112	9	+1	0
40 – 49	181	7	112	7	91	7	0	0
50 – 59	67	3	44	3	36	3	0	0
>60	14	1	7	<1	6	<1	−0.5	0
Total	2,510	100	1,522	100	1,294	100		
Last grade completed								
Before high school	228	10	153	10	127	10	0	0
Freshman or sophomore	995	43	629	42	538	43	−1	+1
Junior or part of senior	1,090	47	702	47	600	47	0	0
Total	2,313	100	1,484	100	1,265	100		

Note. $N = 2{,}510$ in Year 1; $N = 1{,}522$ in Year 2; $N = 1{,}294$ in Year 3. [a] At time of passing HiSET.

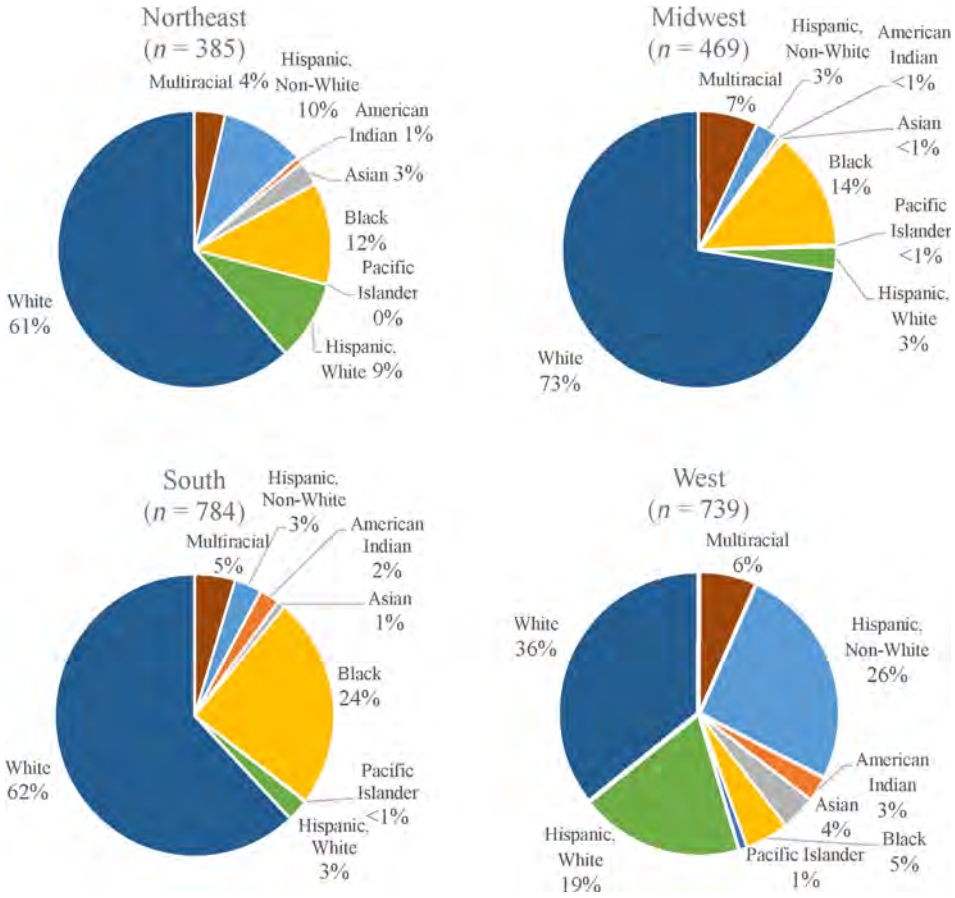

Figure 7 Participant race/ethnicity by region in the first year after passing HiSET.

Racial and ethnic groups varied in size across U.S. regions in expected ways given the way they vary within the U.S. national population (Figure 7). On the basis of the participants' self-reports, the region with the largest proportion of White participants was the Midwest. The South was the region with the largest proportion of Black participants. The largest Hispanic group was in the West. The largest proportion of Asian participants was in the West. These trends continued into Year 3, with the largest proportion of White participants being in the Midwest (69.3%), the South region having the greatest proportion of Black participants (22%), and Hispanic participants (18.6%) and Asian participants (4.4%) having the greatest proportional representation in the West.

Gender of the participant pool did not vary much across regions, ranging from 61% to 69% female (Figure 8). The trends largely continued, with the exception of a drop in the proportion of male participants from the Midwest (27%) and South (26%) by Year 3.

The Northeast had a larger group of 18- to 24-year-old participants than did the other regions (over 60%, compared to less than 50% for other regions; Figure 9). Overall, there was most stability in percentages in Year 3 by region in participation among those aged 30 years and older, with some volatility in percentages for those aged under 30 years. For example, the percentage of those who were 18 years old at the time of HiSET testing dropped everywhere but in the Midwest (Northeast, 17%; Midwest, 20%; South, 8%; and West, 13%). However, the Midwest was the only region to see declining participation in the 19–24 age group (Northeast, 46%; Midwest, 28%; South, 37%; West, 35%). By Year 3, we saw a decline in participation from those in the 25–29 age range at time of testing in the Northeast (12%), but not in other regions. Another deviation was that the 40–49 age range in the Midwest dropped to 5% from 7% of the sample.

The Northeast and South had larger groups of participants dropping out before high school than did the other regions (11% and 13%, respectively, compared to 9% in the Midwest and 7% in the West; Figure 10). The percentages and trends did not vary by the time of the Year 3 survey.

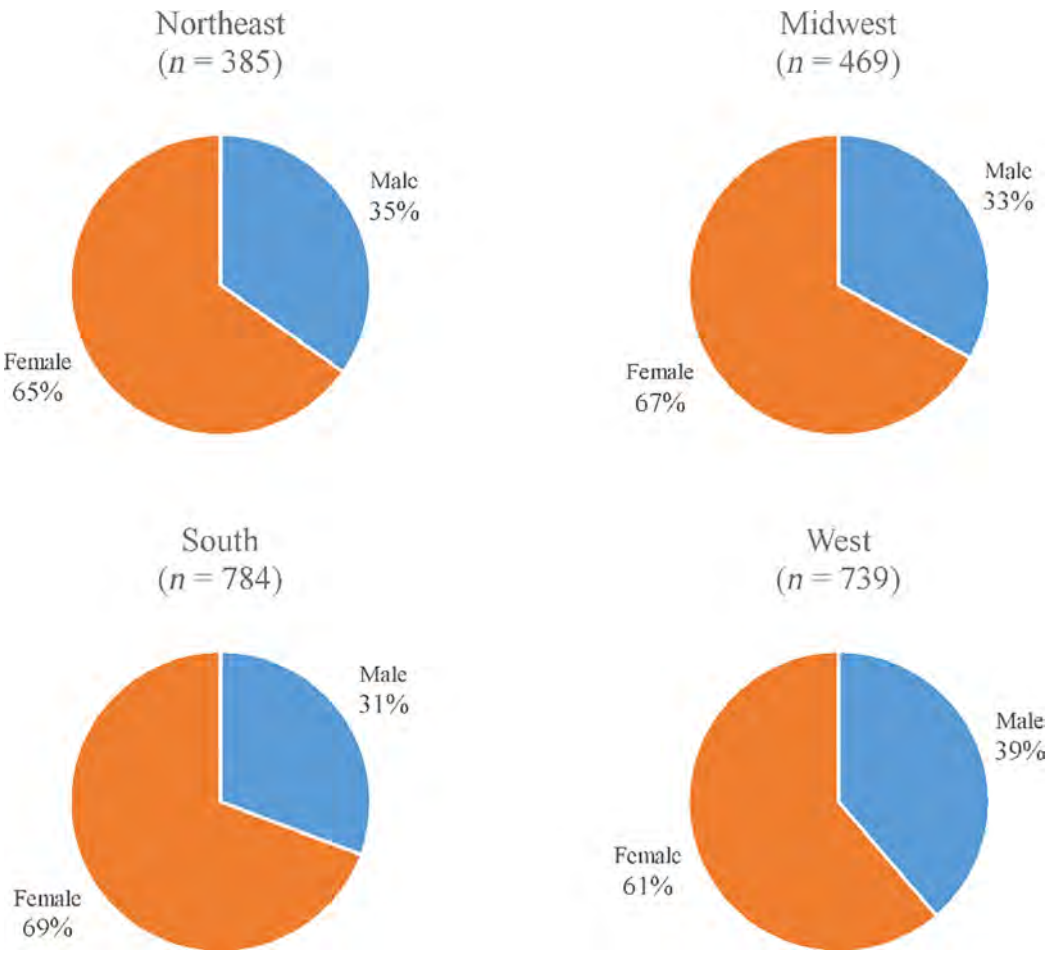

Figure 8 Participant gender by region in the first year after passing HiSET.

Figure 11 breaks down HiSET score areas into the percentage of passers in the sample who achieved the CCR standard and the percentage who did not. Each adjacent pair of bars totals 100% of the passers for the HiSET battery of tests in this study. At least 10% of passers achieved the CCR standard for every HiSET subject area. The majority of passers of the social studies, reading, and science tests achieved the CCR standard. For math, and especially for writing, a minority of passers achieved that standard. Passers were more likely to achieve CCR for the MC section than for the essay section of the writing test.

Participants took the HiSET for multiple reasons. In Figure 12, those reasons are analyzed separately for those who passed the HiSET battery at a passing level (solid, blue bars) and those whose scores reached the higher CCR benchmarks (striped, orange bars). For both groups, the most commonly cited reasons for taking the HiSET battery were educational in nature, followed by personal reasons, then employment reasons, and finally governmental/legal reasons.

Survey Administration

We administered, by email, links to three consecutive annual Qualtrics surveys to the participants to ascertain their academic, vocational, and quality-of-life trajectories after they passed the HiSET test battery and then obtained a high school equivalency credential. All participation was completely voluntary, and those who made good-faith efforts to complete a survey were compensated with a gift card for their time and effort. The Year 1 survey was administered 1 year after the survey participants passed the HiSET battery, and each subsequent survey (Year 2 and Year 3) was administered 1 year after the other. The 1-year time period immediately before the passing of the HiSET battery is sometimes referred to as Year 0.

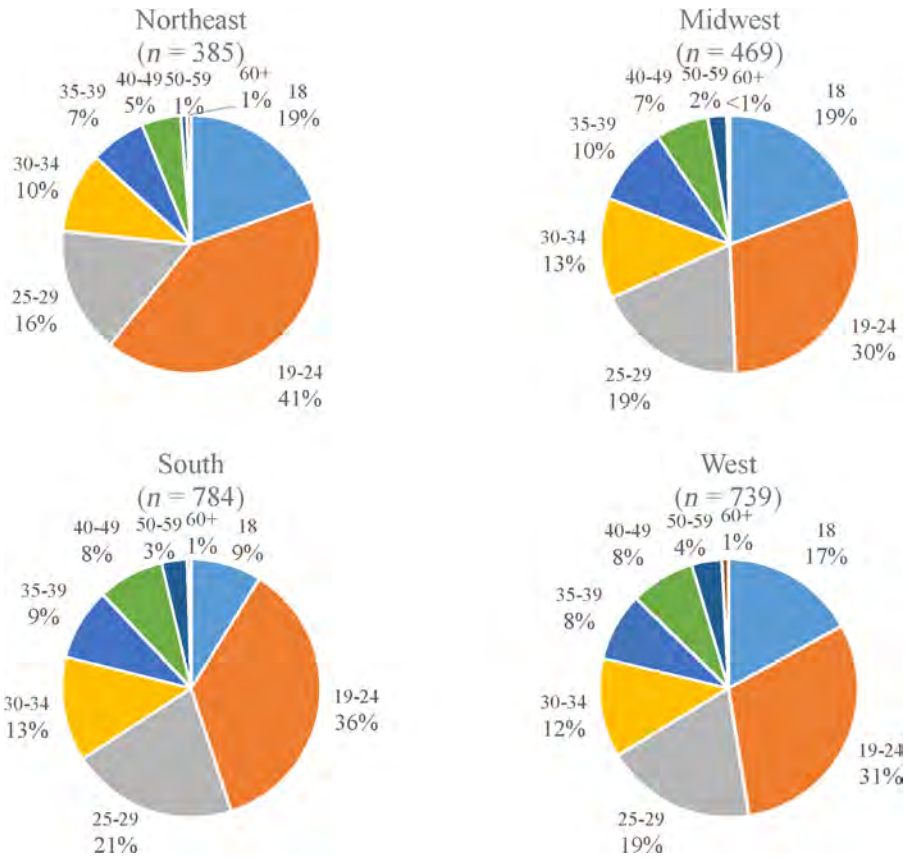

Figure 9 Participant age by region in the first year after passing HiSET.

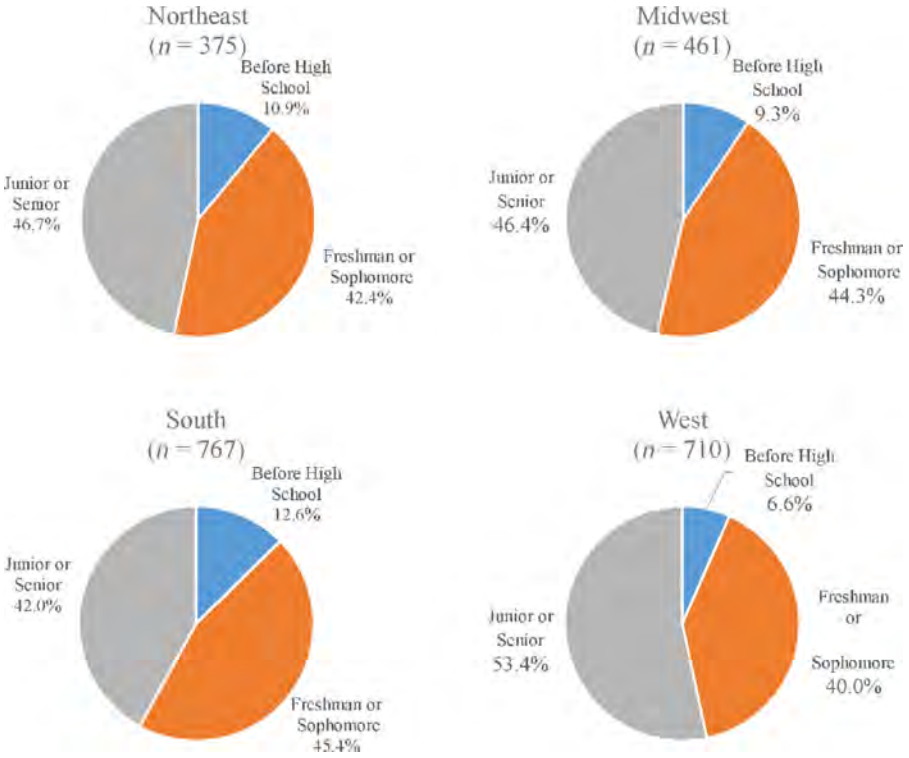

Figure 10 Participant last grade completed by region in the first year after passing HiSET.

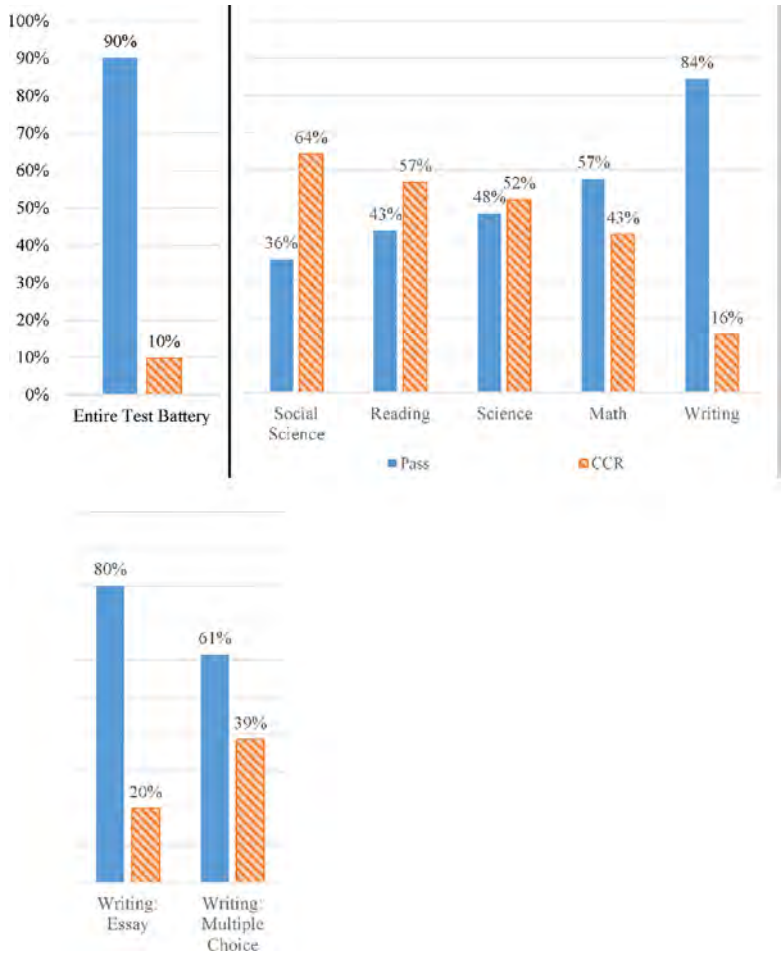

Figure 11 Participant HiSET pass rate compared to college and career readiness rate ($N = 2{,}510$).

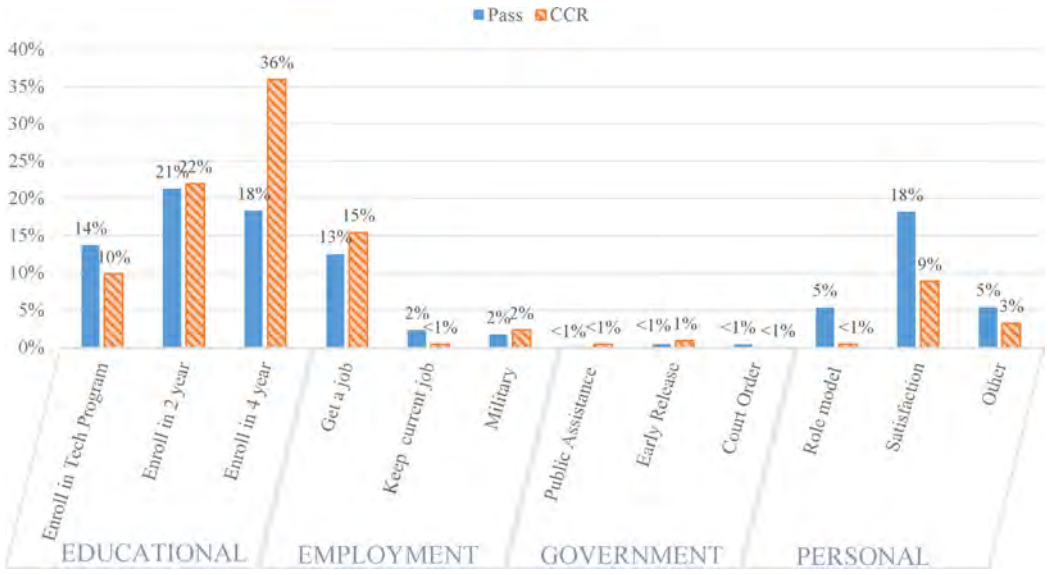

Figure 12 Primary reason for taking the HiSET series of tests by pass or college and career readiness rate ($N = 2{,}080$).

Results and Discussion

Educational Advancements

Across the 3 years of this study, participants reported several educationally related improvements in their lives.

Self-Reported Skill Gains

One year after passing HiSET, more than three-fourths of participants indicated that preparing for the HiSET tests caused them to develop academic and personal skills, whereas another 10% were unsure (Figure 13). According to the 76% of participants who reported gaining academic and/or personal skills, the top skills gained were (a) everyday math, 68%; (b) goal setting/aspirations, 68%; (c) planning when writing, 64%; (d) reading speed/fluency, 61%; (e) adaptability, 59%; and (f) problem solving, 59%. Each of the gained skills is described by topical area in Table 7.

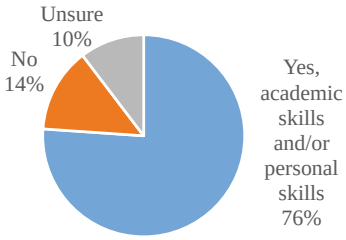

Figure 13 Participant reported skills gained by preparing for HiSET ($N = 2{,}510$).

Table 7 Skills Gained by Preparing for HiSET

	N	Percent
Math skills		
Everyday math skills	1,717	68
Business/work math skills	1,242	49
Statistics and data skills	1,122	45
Reading skills		
Reading speed	1,528	61
Understanding books/papers	1,453	58
Writing skills		
Planning when writing	1,611	64
Spelling/grammar	1,444	58
Building sentences/paragraphs	1,429	57
Persuasive/debating skills	1,278	51
Social science skills		
Understanding whether to trust sources of information	1,410	56
Knowing the difference between fact and opinion	1,344	54
Understanding economics	1,219	49
Science skills		
Understanding scientific graphs/charts	1,350	54
Interpreting scientific results	1,277	51
The scientific method	1,224	49
Personal skills		
Goal setting/aspirations	1,718	68
Ability to adapt to new situations	1,477	59
Problem solving	1,473	59
Math confidence	1,467	58
Writing confidence	1,457	58
Time management	1,427	57
Reading confidence	1,396	56
Initiative	1,388	55
Responsibility and work ethic	1,348	54
Perseverance/"grit"	1,297	52

Over the 3 years after having passed HiSET, the percentage of passers who were employed increased, including those who were not enrolled in postsecondary education (i.e., employed only), from 35% in Year 1 to 51% in Year 3. Those who were simultaneously enrolled in postsecondary education and employed increased between Year 1 (21%) and Year 2 (24%) but declined in Year 3 (18%). The percentage of those enrolled only (unemployed) also declined over the years, dropping from 20% in Year 1 to 15% in Year 2 and dropping again to 11% in Year 3. The percentage of those unemployed and unenrolled declined from 24% in Year 1 to 18% in Year 2 but increased to 21% of the sample in Year 3. Many of these trends — the growing percentage of employed only, the decline in those dually enrolled and employed and those enrolled only — may be due to participants completing CTE programs and 2-year colleges and moving into the workforce. We could also speculate that the unemployed and unenrolled category grew for this reason; that is, individuals may have graduated and are now seeking employment.

Postsecondary Enrollment

One would anticipate that passing HiSET would result in greater opportunities to pursue postsecondary education. A 2011 study reported that historically, approximately 43% of GED passers enrolled in postsecondary education, approximately 26% of the enrollees persisted through postsecondary education, and approximately 12% of the enrollees graduated (Zhang et al., 2011). A subsequent research report (GED Testing Service, 2017) stated that 24% of the 2004 cohort of GED passers who took the pre-2014 version of the GED pursued postsecondary education within 1 year of receiving their high school equivalency credentials. That percentage was 34% in a later study with the National Student Clearinghouse involving passers of the 2014 revised GED (GED Testing Service, 2017). Of the enrollees, 76% enrolled in 2-year institutions and 24% in 4-year institutions (GED Testing Service, 2019). The 2004 cohort took 6 years after receiving their equivalency credentials to reach a postsecondary enrollment continuation rate of 43%, and in a 2016 follow-up study, the enrollment continuation was 41% within 2 years (GED Testing Service, 2017). A study of 2015 GED passers reported that 32% had enrolled in postsecondary education within a year of receiving their equivalency credentials, similar to the results for the 2014 GED passers (GED Testing Service, 2017). GED reported in 2015 that, of a sample of 10,000 enrollees in postsecondary education, 70% enrolled in a 2-year institution and 29% in a 4-year institution (possibly excluding consideration of enrollment in CTE); in another potentially overlapping sample, 17% of survey respondents said that they had enrolled in a job training or skill-based certificate program (GED Testing Service, 2019).

In this HiSET study, a total of 41% of HiSET passers enrolled in postsecondary education in the first year after passing the HiSET battery (Figure 14). As Figure 15 shows, of this 41%, 74% ($n = 745$) enrolled at a 2-year college after passing HiSET, 12% ($n = 120$) enrolled at a 4-year college, and 14% ($n = 146$) enrolled in CTE. By the second year, of the 39% who were enrolled in postsecondary education, 72% ($n = 406$) were enrolled in a 2-year college, 21% ($n = 118$) were enrolled in a 4-year college, and 7% ($n = 40$) were enrolled in CTE. By the third year, of the 29% who were enrolled in postsecondary education, 61% ($n = 218$) were enrolled in a 2-year college, 34% ($n = 120$) were enrolled in a 4-year college, and 5% ($n = 17$) were enrolled in CTE.

Passers gave a number of reasons for not enrolling in postsecondary education, and they were unrelated to the value of passing the HiSET battery. Most commonly, it was due to a desire to work in the first year after passing HiSET (Figure 16). As shown previously, many passers took the HiSET because of more immediate employment objectives rather than educational objectives. Some jobs require workers to possess a high school diploma or equivalency credential. Only six of

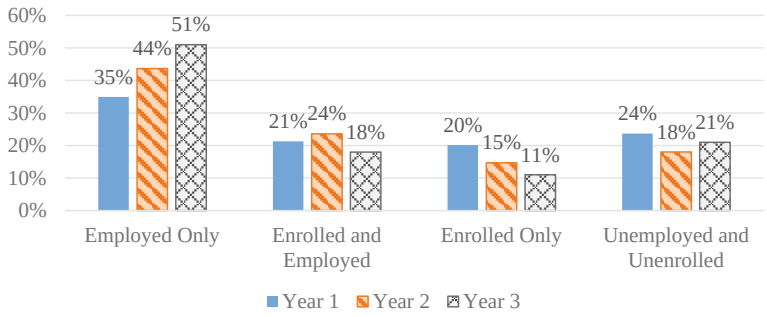

Figure 14 Postsecondary employment and enrollment of HiSET passers (Year 1, $N = 2{,}510$; Year 2, $N = 1{,}516$; Year 3, $N = 1{,}278$)

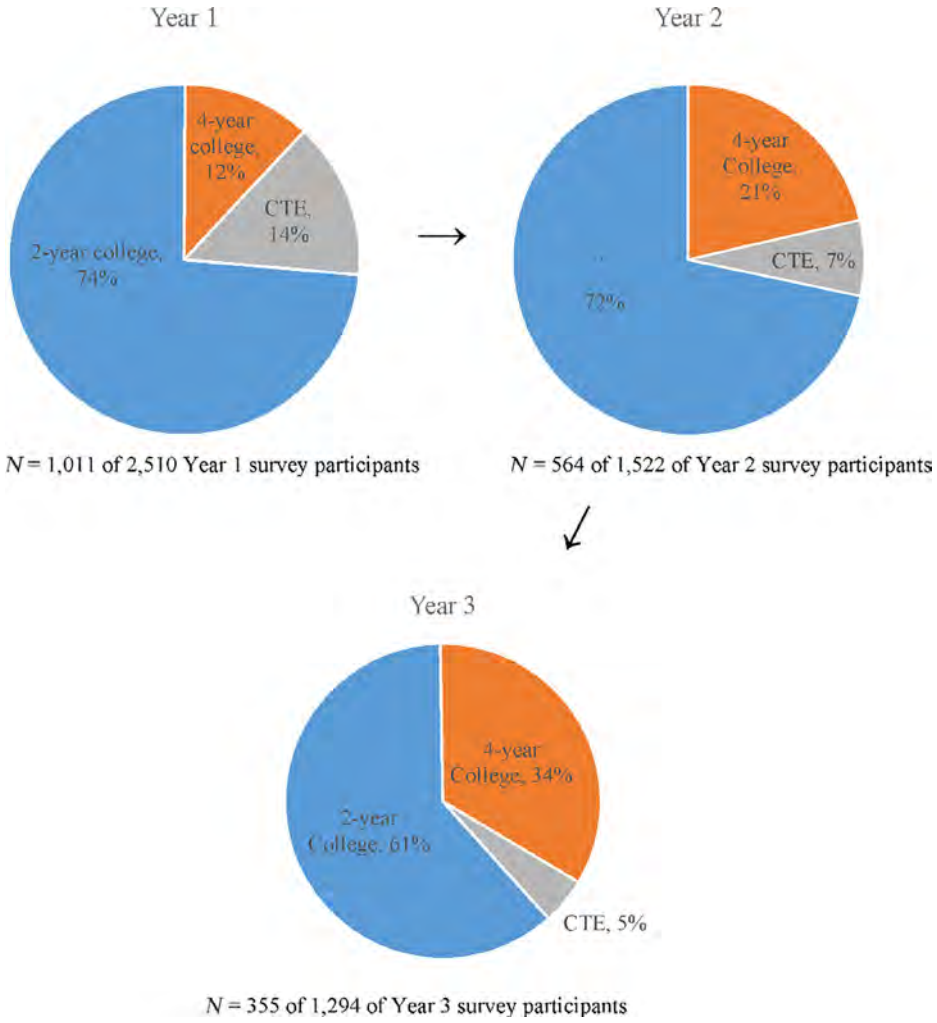

Figure 15 Types of postsecondary enrollment after passing HiSET.

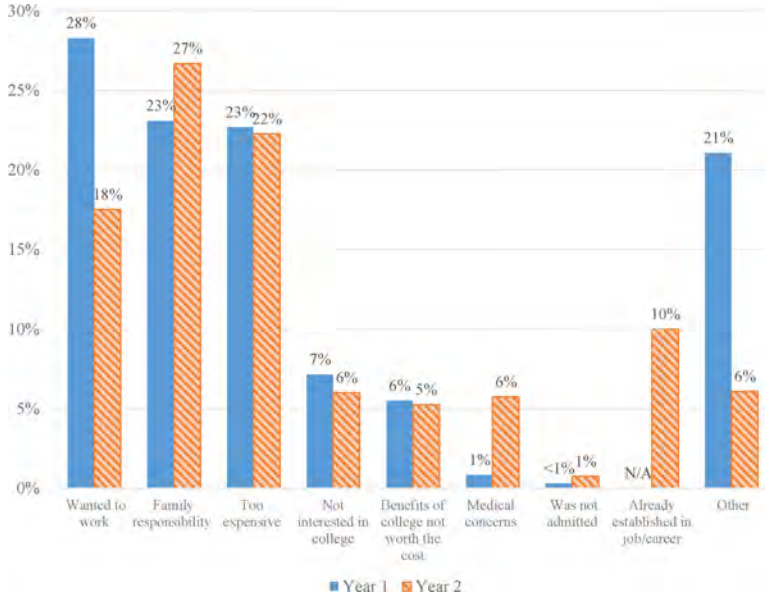

Figure 16 If you did not enroll in school after you passed the HiSET, for which of the following reasons did you not enroll?

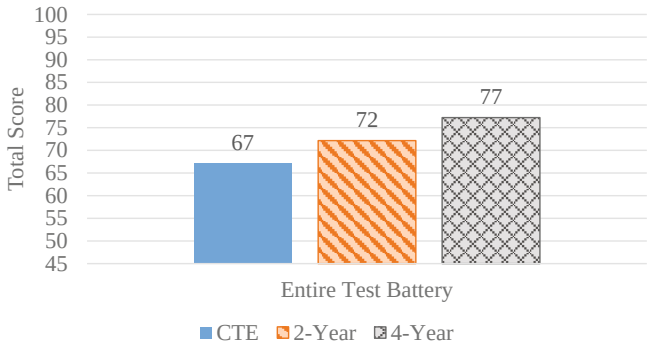

Figure 17 HiSET average battery scaled score by postsecondary education type over the 3 years after passing HiSET. The five HiSET individual tests are scored on a 1–20 scale, with the overall passing score for the HiSET battery being 45 and a maximum possible total battery score of 100.

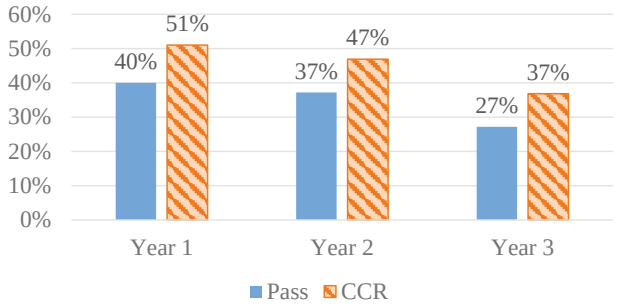

Figure 18 Postsecondary enrollment by HiSET pass versus college and career readiness.

those who passed HiSET and were not attending college listed "not admitted" as a reason for not attending in the first year, suggesting that passing HiSET removed a significant barrier to postsecondary enrollment. In the second year, family responsibility was the most commonly given reason for not attending college. This question was not asked in the Year 3 survey, as it was assumed that those participants who had not entered college at this phase had already provided a response to this question in Year 1 or Year 2.

As one might expect, on average, passers attending 4-year colleges ($n = 253$) achieved higher scores on the HiSET battery than did those attending 2-year colleges ($n = 793$), and passers attending 2-year colleges achieved higher scores on the HiSET battery than did those attending CTE programs ($n = 130$; Figure 17). These findings might be attributable to differences, on average, in the HiSET-tested skills among these three groups. They might also reflect differences in HiSET test-taking motivations among these three groups given generally known differences in admission requirements between 4-year colleges, 2-year colleges, and CTE programs.

Of those passers who attended CTE or a 2-year or 4-year college, a higher proportion met the CCR benchmark (Figure 18, striped orange bar) than did not meet it. Forty percent of HiSET passers (solid, blue bar) who did not achieve a CCR level enrolled in a 2- or 4-year college or CTE program after passing HiSET in the first year, whereas 51% of HiSET passers who reached the higher CCR threshold enrolled in a 2-year or 4-year college or CTE program after passing (Figure 18). This is further evidence that the difference between the passing standard and the CCR benchmark is a meaningful one. In Years 2 and 3, a similar pattern continued. The percentages are slightly lower, as the data indicate that some students may be transitioning from school into the workforce.

When one breaks out postsecondary attendance by postsecondary educational type (CTE, 2-year, and 4-year), one observes that in the first 2 years after having passed HiSET, CTE seekers tended not to be college and career ready, but a slight majority of those in CTE were college and career ready 3 years after passing HiSET (Figure 19). We expected that those seeking CTE would be less likely to be college and career ready than those seeking college education, because CTE could be a better fit for their skills. One sees that the proportion attending 2-year college declined over time regardless of whether passers were college and career ready, but by Year 3, a higher proportion of attendees were not college and

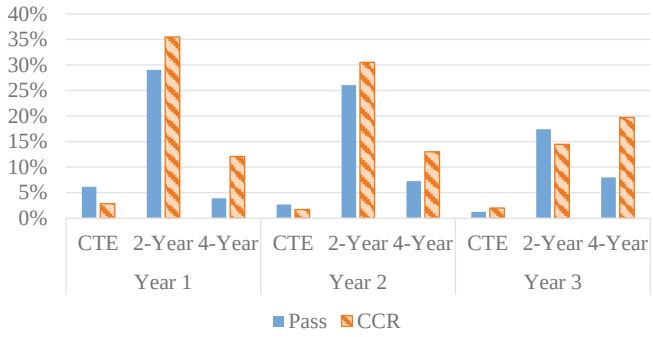

Figure 19 Postsecondary enrollment by HiSET pass versus college and career readiness and college type.

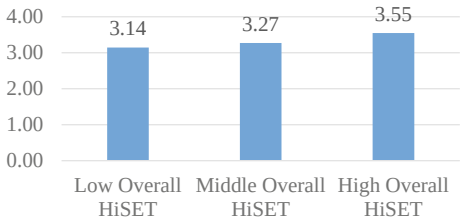

Figure 20 Postsecondary grade point average by HiSET battery scaled score ($N = 317$).

career ready. The overall decline was expected as attendees finish their academic programs, and we believe that the lower proportion in Year 3 for attendees who are college and career ready reflects stronger academic skills leading to program completion. Four-year college attendance trended upward over time, with passers who were college and career ready attending 4-year college at a higher rate than those who were not college and career ready. We assume that many HiSET passers require time to transition into 4-year colleges, sometimes via the 2-year college route. It did not surprise us that attendees tended to be college and career ready, as admission to and success in 4-year college requires that students possess stronger academic skills than HiSET tests measure.

Postsecondary Performance

In a study involving 1,200 takers of the GED in North Dakota, it was determined that postsecondary GPAs for first-year courses were 2.032 for students with math scores below the GED CCR threshold, 2.363 for math scores at the threshold, and 2.771 for math scores at a higher threshold. Postsecondary GPAs for first-year courses were 1.986 for students with English (RLA) scores below the CCR threshold, 2.436 for English (RLA) scores at the threshold, and 3.022 for scores at a higher threshold (GRE Testing Service, 2019).

After splitting the HiSET total scores into three equal groups (each containing 33% of our sample) and comparing college GPAs, people who scored higher on the HiSET did better in college (Figure 20). The overall average college GPA of passers of the HiSET test battery, which was self-reported, was 3.34. The GPA scale here ranges from 0 (average grade of F) to 4.0 (average grade of A).

Employment Advancements

Across the 3 years of this study, participants reported several employment-related improvements in their lives.

Obtaining a Job or Promotion

In Figure 21, the blue solid bar represents the obstacles or barriers that HiSET passers encountered before passing HiSET ($N = 619$), while the striped orange bar represents 1 year after passing HiSET ($N = 858$), the gray hashed bar represents 2 years out from passing HiSET ($N = 332$), and the yellow outlined bar is 3 years after passing HiSET ($N = 276$). Before passing HiSET, the greatest obstacle to finding employment was a lack of a high school diploma (60%). However, that was

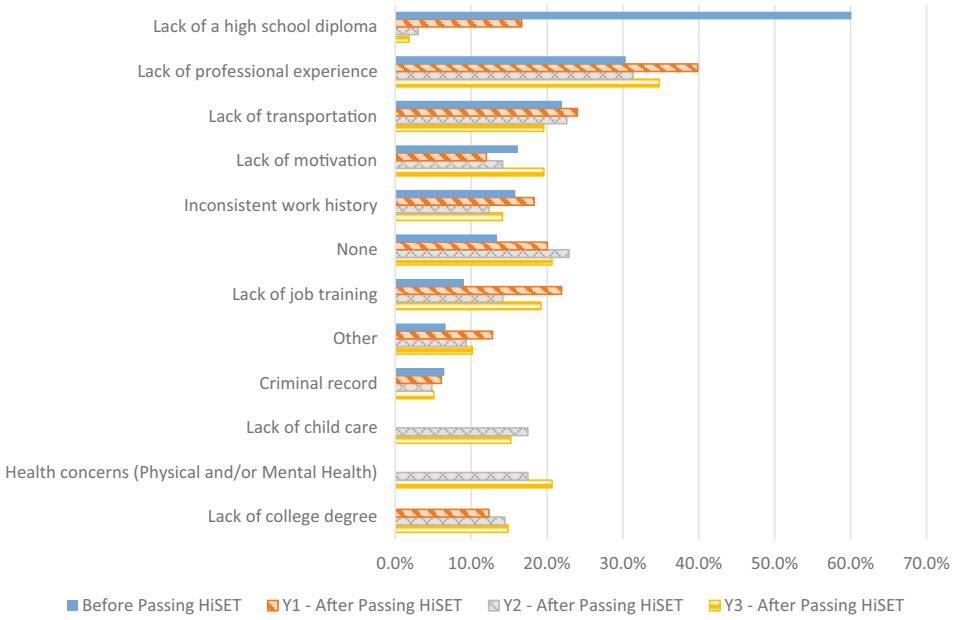

Figure 21 Obstacles to finding employment before and after passing HiSET. Response options were added in subsequent years, so the bottom three response options along the vertical axis lack bars for years when those options were unavailable.

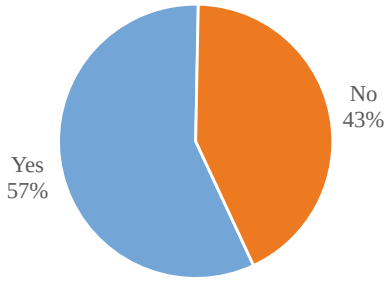

Figure 22 Role of HiSET in obtaining a job or promotion.

no longer the main issue after passing HiSET (17% in Year 1), and it continued to decrease as the years passed (3% in Year 2 and 2% in Year 3). After passing HiSET, the largest issues that participants faced involved either a lack of professional experience (Year 1, 40%; Year 2, 31%; Year 3, 35%), transportation (Year 1, 24%; Year 2, 23%; Year 3, 20%), or a lack of job training (Year 1, 22%; Year 2, 14%; Year 3, 19%). Other issues included inconsistent work history (Year 1, 18%; Year 2, 12%; Year 3, 14%), lack of motivation (Year 1, 12%; Year 2, 14%; Year 3, 20%), or a lack of a college degree (Year 1, 12%; Year 2, 14%; Year 3, 15%). In Years 2 and 3, we added lack of childcare and health concerns to the question, and 15% to −20% of the sample endorsed these as obstacles to gaining employment in those years.

On the basis of the question "Do you think that the HiSET helped you get a job or promotion?" nearly three in five (57%) of HiSET passers from the Year 1 survey attributed getting a job or promotion to passing the HiSET tests ($N = 1{,}373$; Figure 22).

Nearly 70% of the 785 Year 1 participants who responded to the question about the importance of HiSET in obtaining a job or position change stated that passing the HiSET was "very important" in helping them get a new job or new position (Figure 23; 1,725 of the 2,510 Year 1 survey participants did not respond to this question).

Employment rates of participants were higher for Year 3 than for Years 1 and 2 and were higher for Year 1 than prior to passing the HiSET (Figure 24). Rates of unemployment for those looking for a job declined in Years 1 and 2 but remained relatively stable in Year 3.

Approximately 2.5 times as many individuals gained new employment in the 3 years after passing HiSET than individuals who lost employment during that time period after passing HiSET[6] (Figure 25). Additional statistics (e.g., employment

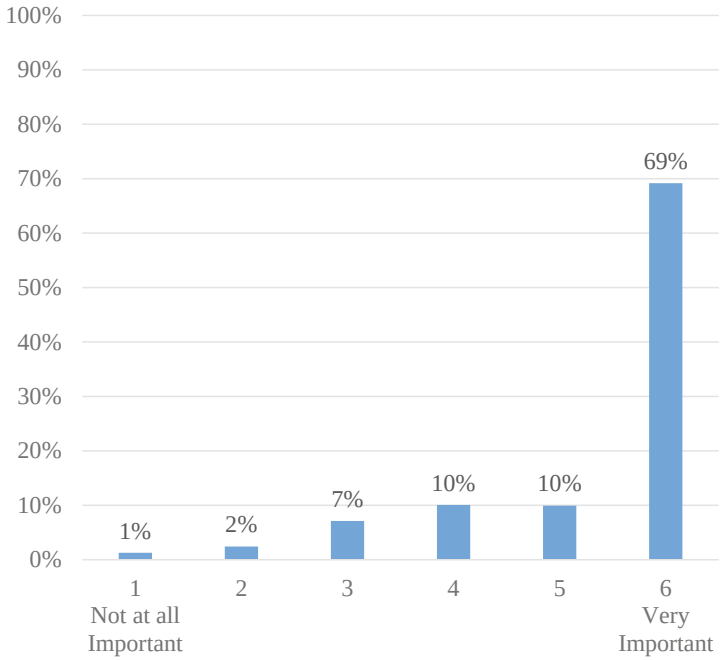

Figure 23 Importance of HiSET in obtaining a job or position change.

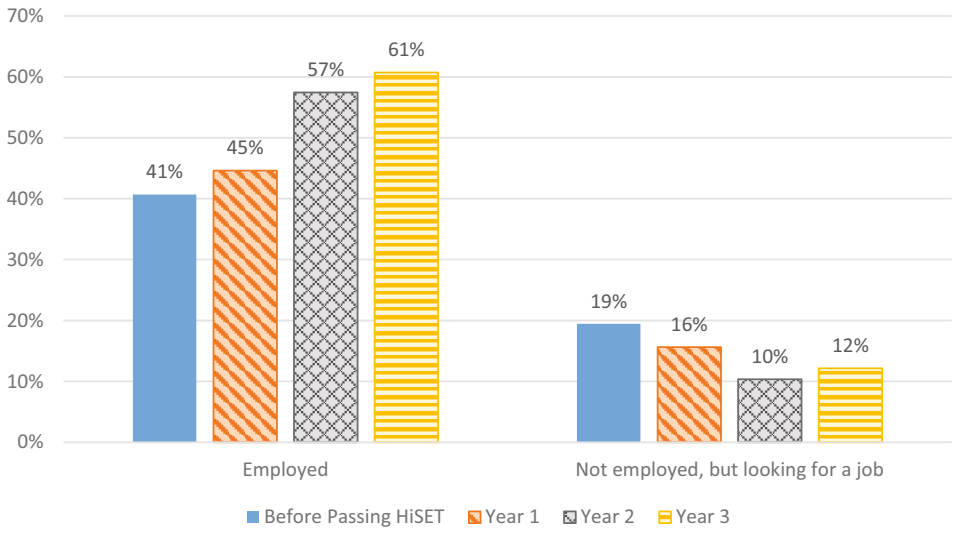

Figure 24 Employment status in the first 3 years after passing HiSET compared to the status before passing HiSET (Year 0 and Year 1, *N*s = 2,507; Year 2, *N* = 1,513; Year 3, *N* = 1,293).

status) indicate that at least some of the individuals who were no longer employed after passing HiSET took the tests to attend college or CTE programs.

Among individuals who were employed both before and after passing HiSET (i.e., from Year 0 to Year 3), the number of those who moved from part-time to full-time employment (21%; *n* = 104) was 12% greater than the number of those who moved from full-time to part-time employment (9%; *n* = 46; Figure 26). The pattern of more passers moving from part-time into full-time than full-time into part-time held each year. Movement from part-time to full-time employment typically represents an improvement in financial standing and greater occupational stability. Among those who moved from full-time to part-time employment, 57% (*n* = 26) began attending college or CTE programs within 3 years after passing HiSET, which may indicate a long-term investment in the future at the short-term expense of full-time employment.

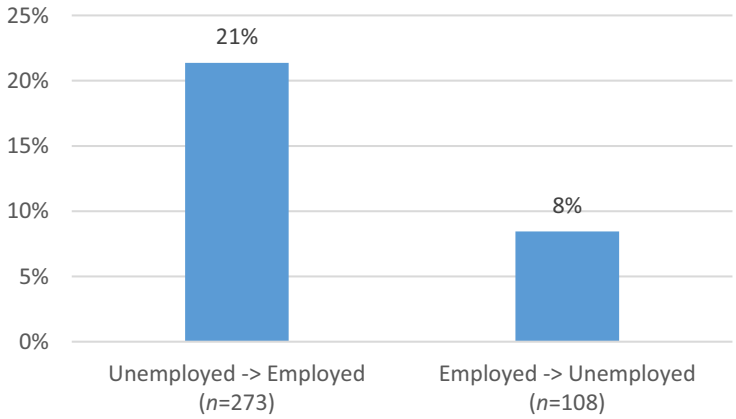

Figure 25 Employment change in the 3 years after passing HiSET. The figure does not display bars for those who were unemployed before passing HiSET and continued to be unemployed 3 years later or for those who were employed before passing HiSET and continued to be employed 3 years later.

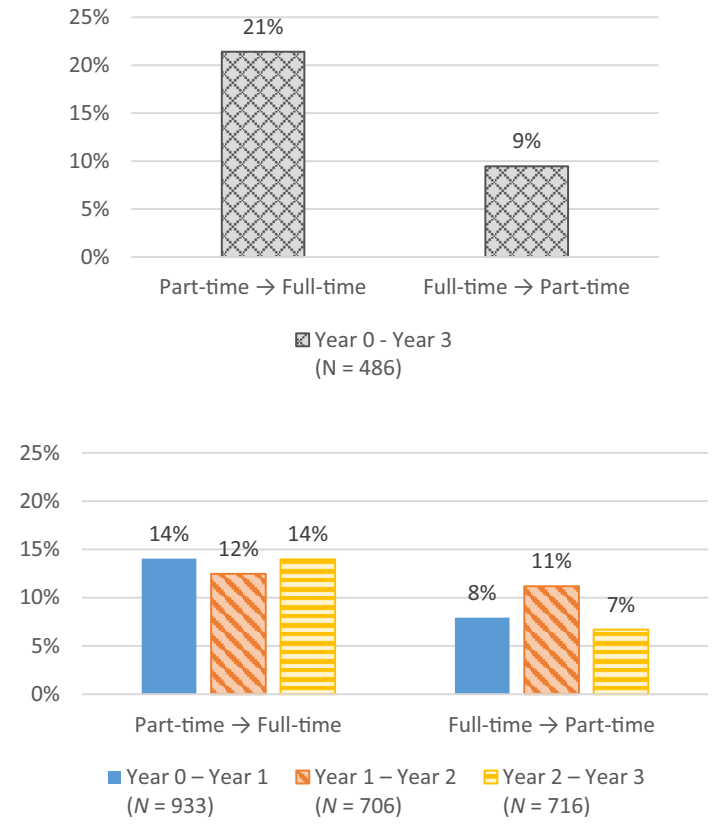

Figure 26 Full-time versus part-time employment change in the 3 years after passing HiSET.

HiSET Performance and Employment/Enrollment Status

Scores on the HiSET battery were slightly higher among individuals who were enrolled only (in either a 2-year or 4-year college or a CTE program) when compared to those individuals who were either enrolled and employed or employed only. Those who were unemployed and unenrolled had the lowest scores (Figure 27). Assuming that full-time commitment to postsecondary training and study requires the highest levels of those skills measured by HiSET, the highest average total score for those who were enrolled only is what one would expect.

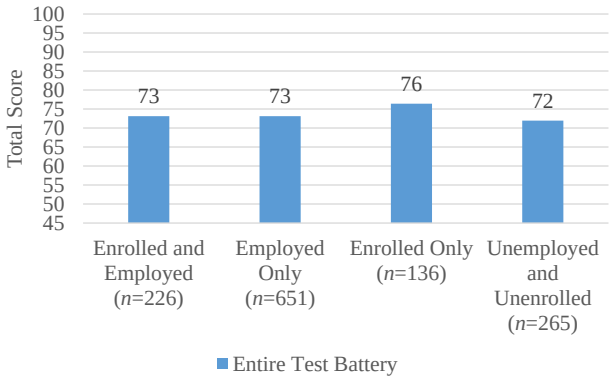

Figure 27 HiSET average total scaled scores by employment type 3 years after passing HiSET.

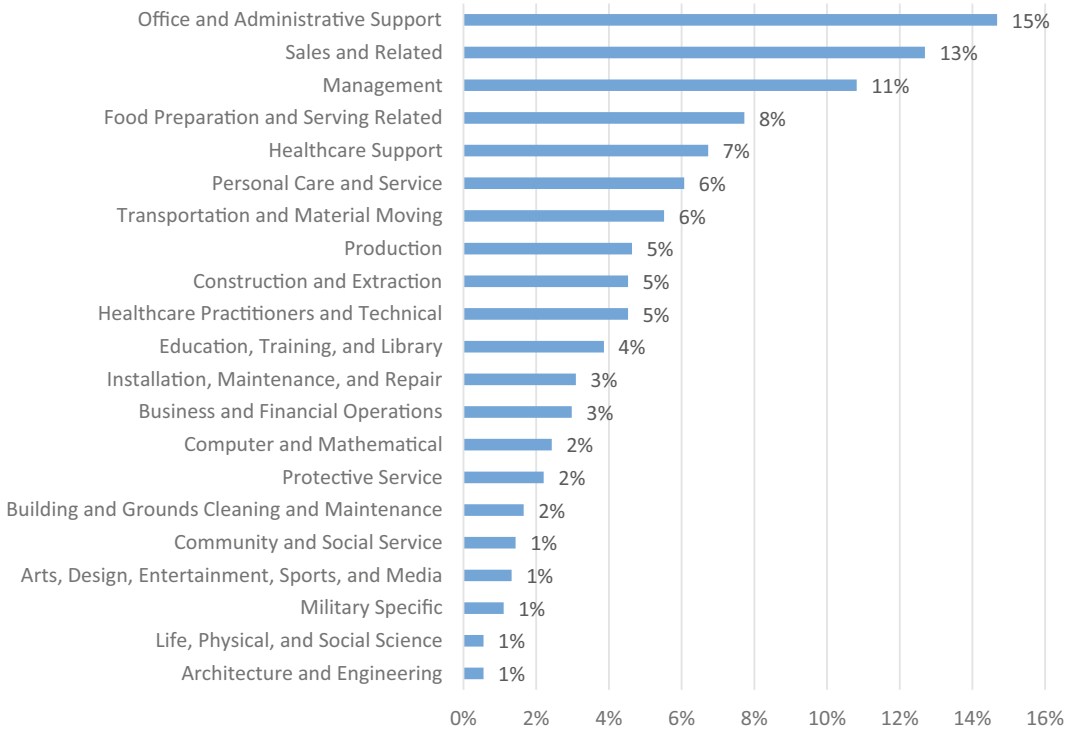

Figure 28 Participants' current employment by industry in the 3 years after passing HiSET.

Employment by Industry and Job Outlook

HiSET passers (N = 906) currently work in a diverse set of industries, as described using categories provided by the Occupational Information Network (O*NET)[7] (Figure 28). The most common industries were office and administrative support (e.g., receptionists and information clerks, tellers, stock clerks, dispatchers); sales and related (e.g., insurance sales agents, retail salespersons, real estate sales agents, cashiers); management (e.g., food services managers, general and operations managers, sales managers, education administrators); food preparation and serving related (e.g., baristas, bartenders, waiters and waitresses, cooks); and health care support (e.g., medical assistants, nursing assistants, orderlies, veterinary assistants and laboratory animal caretakers). Two of the O*NET categories—Farming, Fishing, and Forestry and Legal—had fewer than five individuals and therefore are not included in Figure 28. A more complete list of sample job titles, by industry, for HiSET passers is displayed in Table 8.

After passing HiSET, there was virtually no change in the extent to which participants were in jobs with a bright outlook. The O*NET job database, sponsored by the U.S. Department of Labor, describes *bright outlook* jobs as those that are

Table 8 Sample Job Titles by Industry

Industry	Job titles
Architecture and engineering	Automotive engineering technicians;[a] civil drafters;[a] electronic drafters[a]
Arts, design, entertainment, sports, and media	Actors; floral designers; singers[a]
Building and grounds cleaning and maintenance	Maids and housekeeping cleaners; tree trimmers and pruners; pest control workers
Business and financial operations	Insurance appraisers, auto damage;[a] licensing examiners and inspectors;[a] loan officers[a]
Community and social service	Child, family, and school social workers;[b] community health workers;[b] health educators[b]
Computer and mathematical	Computer network support specialists;[b] video game designers;[b] data warehouse specialists[b]
Construction and extraction	Carpet installers; fence erectors; roofers
Education, training, and library	Preschool teachers, except special education;[a] library technicians;[a] self-enrichment education teachers[a]
Farming, fishing, and forestry	Farmworkers, farm, ranch, and aquacultural animals; nursery workers; animal breeders
Food preparation and serving related	Waiters and waitresses; cooks; hosts and hostesses
Health care practitioners and technical	Pharmacy technicians;[a] surgical assistants;[a] veterinary technologists and technicians[a]
Health care support	Home health aides; orderlies; pharmacy aides
Installation, maintenance, and repair	Bike repairers; tire repairers and changers; locksmith and safe repairers
Legal	Title examiners, abstractors, and searchers; paralegals and legal assistants;[a] court recorders[a]
Life, physical, and social science	Agricultural technicians;[a] quality control analysts;[a] food science technicians[a]
Management	Postmasters and mail superintendents; nursery and greenhouse managers;[a] gaming managers[a]
Military-specific[c]	Air crew members; infantry; special forces
Office and administrative support	Receptionists and information clerks; tellers; dispatchers, except police, fire, and ambulance
Personal care and service	Personal care aides; shampooers; childcare workers
Production	Cabinetmakers and bench carpenters; team assemblers; food cooking machine operators and tenders
Protective service	Security guards; lifeguards, ski patrol, and other recreational protective service workers; parking enforcement workers
Sales and related	Cashiers; retail salespersons; telemarketers
Transportation and material moving	Bus drivers; driver/sales workers; refuse and recyclable material collectors

Note. The Occupational Information Network groups occupations into one of five categories based on levels of education, experience, and training necessary to perform in an occupation. Most of the occupations listed are from Zone 2. Zone 2 jobs usually require a high school diploma as well as some previous work-related skill, knowledge, or experience. [a]Occupation from Zone 3. Zone 3 jobs require a medium amount of preparation, namely, some training in a vocational school, an associate's degree, or on-the-job experience. To succeed in Zone 3 occupations, it is expected that employees will need approximately 1 – 2 years of training comprising on-the-job experience, training, and interactions with more experienced workers. [b]Job that typically requires a bachelor's degree and/or extensive knowledge and experience in the field. This Zone 4 occupation usually requires several years of work-related training and experience. [c]The Occupational Information Network does not collect information on military occupations.

projected to (a) grow faster than average (employment increase of 7% or more) between 2018 and 2028 and/or (b) have 100,000 or more job postings over this same period. Over twice as many individuals were employed in bright outlook jobs as in other jobs both before and after passing HiSET (Figure 29). These numbers have remained stable over the years.

Increases in Income

GED research from 2008 reported that, in comparison to those with less than a high school diploma, those who passed the GED could earn an additional $115 per week ($3,500 in annual income), the same weekly wages as high school graduates, but $1,590 less in annual income than high school graduates (Song & Hsu, 2008). A 2011 study reported that, as of 2008,

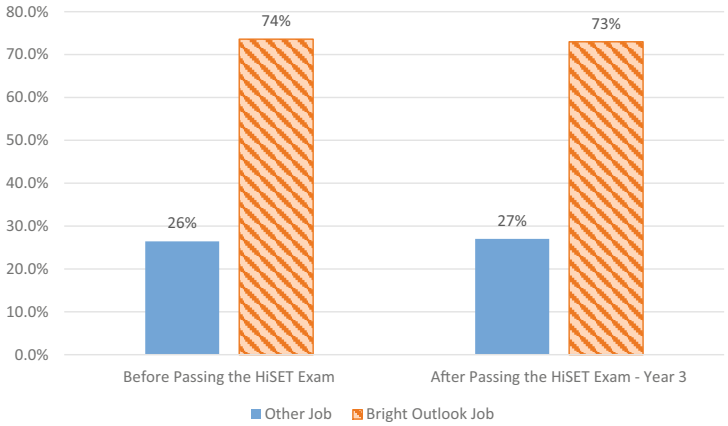

Figure 29 Of participants who were employed, number of participants in bright outlook or other jobs before and 3 years after passing HiSET ($n = 896$).

Figure 30 Average hourly income increase after passing HiSET ($N = 216$).

for each year after earning a GED test credential, the hourly wages of GED passers increased by 2.0% beyond increases in wages of uncredentialed high school dropouts with the same level of work experience (Song, 2011).

For HiSET participants in this study, at Year 0, the mean wage for those who were employed was $11.62 (median, $11.00). Individuals who were employed in hourly-paid jobs both before and after passing the HiSET battery reported an average wage increase of $1.34 per hour after passing HiSET, representing a 12% increase 1 year after passing HiSET (Figure 30). In the second year after passing HiSET, pay increased another $1.60, bringing the total gains over 2 years to $2.94 (a 25% increase). In Year 3, there was an average gain of $1.29, with a 3-year total increase of $4.24 (a 36% increase). This $4.24 total increase is the result of rounding to the second decimal place after adding together the annual dollar increases measured to a greater level of precision. While many hourly-wage employees do not work 52 weeks per year or 40 hr per week, if hourly-wage employees who passed HiSET did work on that basis, then the $4.24 total increase is equivalent to $8,819.20 annually prior to any taxes or withholding.

Wage increases were reported by employed individuals regardless of whether they were simultaneously attending post-secondary education. In Year 3, individuals who were enrolled in college or CTE programs reported an increase of $4.69 per hour (44% increase; average pay before passing HiSET was $10.67) after passing HiSET, whereas individuals who were not enrolled in college or CTE programs reported an increase of $4.20 per hour (35% increase; average pay before passing HiSET was $11.97; Figure 31).

Figure 31 Average hourly income increase by employment and education status.

Some variation was observed when comparing average post-HiSET wage increases across job industries (Figure 32). The largest increases were reported by individuals in the following industries: construction and extraction, architecture and engineering, and transportation and material moving (see Table 8 for example, jobs per industry).

Twenty-two percent of respondents reported an increase in household income after passing HiSET (Year 0 to Year 3; Figure 33). The percentage of those individuals who reported a post-HiSET decrease in household income was 14%. Nearly half of those surveyed (48%) reported that their household income remained the same. When broken out by years, more HiSET passers saw an increase in household income 1 year after passing (50%), while 8% saw a decrease. Between Year 1 and Year 2 after passing HiSET, 30% saw an increase, while 17% saw a decrease compared to their Year 1 household income. Finally, in Year 3, 34% had an increase over their Year 2 household income, while 21% had a decrease. Again, it is possible that at least some of the individuals who reported a decrease are those who voluntarily left their jobs completely or part-time to attend college or CTE programs or who moved out of a multi-income household (e.g., living with parents).

Job Satisfaction

The first year this survey was administered, 1,349 employed respondents, some of whom were attending 2-year or 4-year colleges or CTE programs outside of colleges, reported that they started a new job or position the year after passing

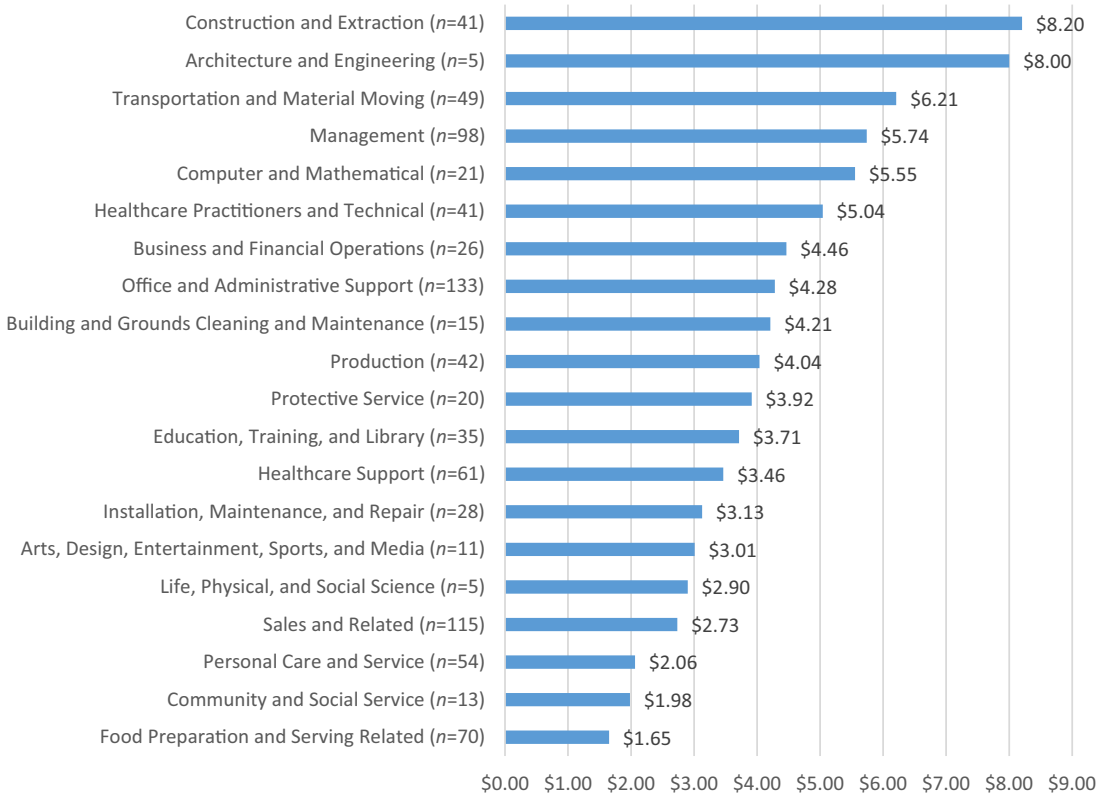

Figure 32 Mean hourly income increase over 3 years after passing HiSET by current industry ($N = 1{,}050$).

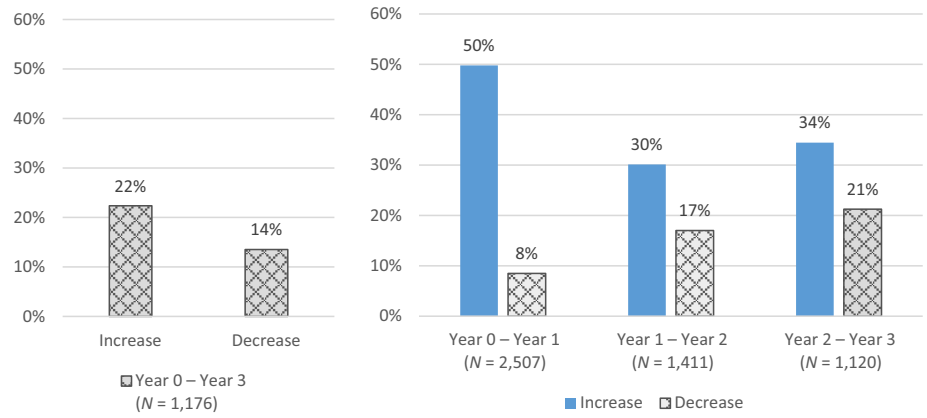

Figure 33 Changes in household income 3 years after passing HiSET ($N = 1{,}413$).

HiSET. At that time, these individuals were far more likely to report that their new job/position was better overall (64%) than worse (2%) compared to their job/position prior to passing the HiSET battery. Specific areas in which respondents felt their new job/position improved varied widely, including pay, work environment, and use of their experience and/or education, among others.

Similarly, between the first and second years after passing HiSET, respondents reported being more satisfied with their jobs in multiple ways, including, pay, work environment, hours, and use of their experience and/or education. Respondents also reported that the locations and benefits of their new jobs were considerably better than in their previous jobs.

As seen in Figure 34, the previous findings are echoed between the second and third years after passing HiSET, with respondents reporting that they were more satisfied with their jobs in multiple ways.[8]

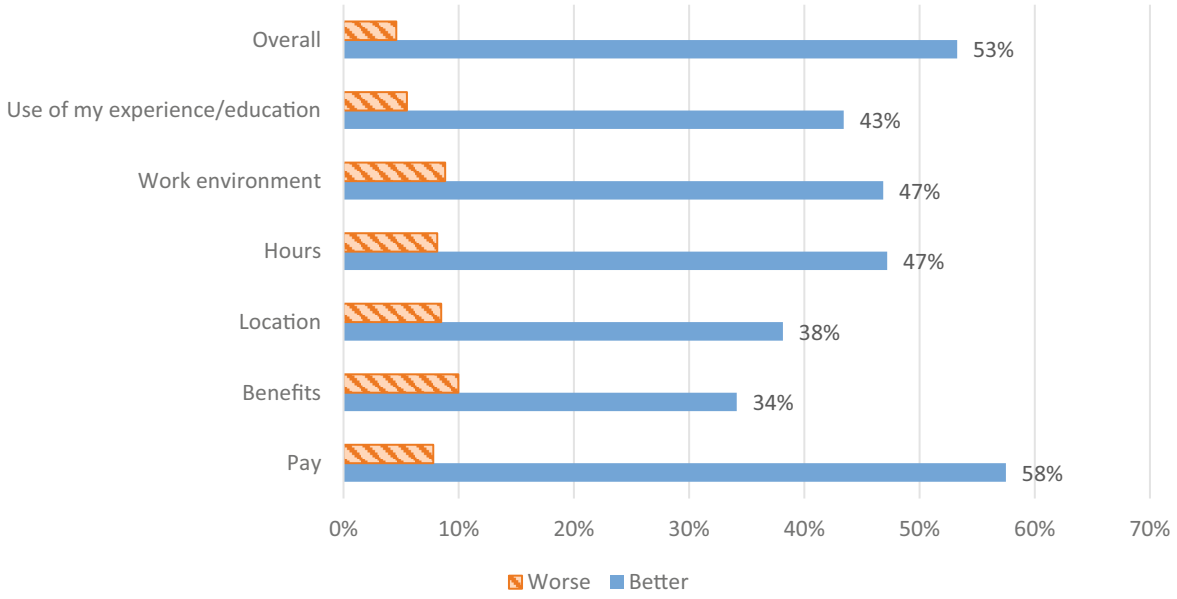

Figure 34 Changes in attributes related to job satisfaction 3 years after passing HiSET ($n = 873$).

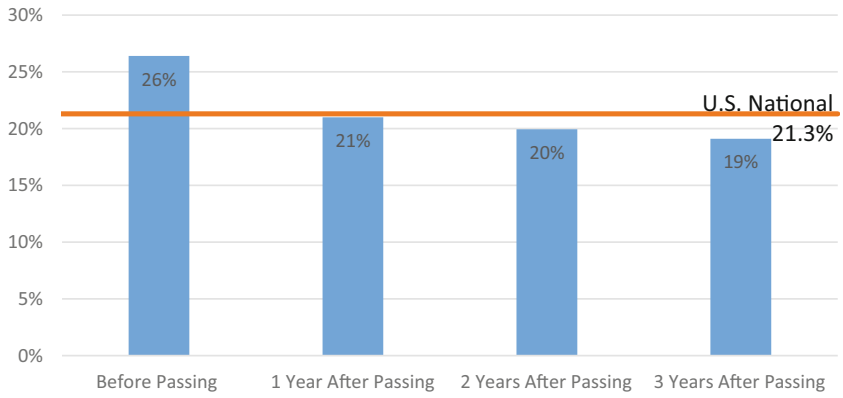

Figure 35 Percentage of HiSET passers on public assistance compared to the U.S. national rate before and after passing. $N = 2,507$ (before passing and Year 1), 1,519 (Year 2), and 1,292 (Year 3).

Lesser Reliance on Public Assistance

The economic and psychological benefits of passing HiSET were also reflected in the proportion of individuals who reported decreases in reliance on public assistance, such as the Supplemental Nutrition Assistance Program (SNAP or "food stamps"), Supplemental Security Income (SSI), Supplemental Nutrition Program for Women, Infants, and Children (WIC), and welfare. This proportion decreased from 26.4% ($n = 661$) before passing HiSET to 21% ($n = 526$) 1 year after passing HiSET (Figure 35). By 2 years after passing HiSET, only 19.9% ($n = 303$) reported reliance on public assistance programs, and by 3 years, only 19.1% ($n = 247$) reported income from public assistance. The post-HiSET rate was slightly lower than the U.S. national rate (21.3%; U.S. Census Bureau, 2015).

Improvements in Quality of Life

Improvements in quality of life are a reasonable expectation for those who have passed HiSET. For example, in a 2008 study, GED passers reported being in "excellent or good" health more than adults with less than a high school education or equivalent but less than adults with traditional high school diplomas, and GED passers obtained information about health issues more frequently than did adults without a high school education or equivalent and at the same

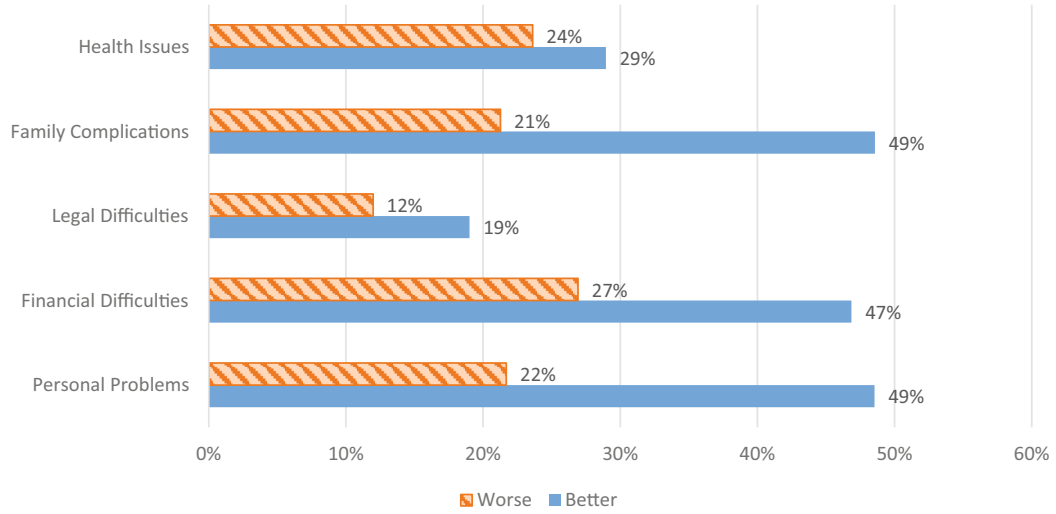

Figure 36 Life stressors in the third year after passing HiSET as compared to the year before passing HiSET ($n = 1{,}011 - 1{,}028$).

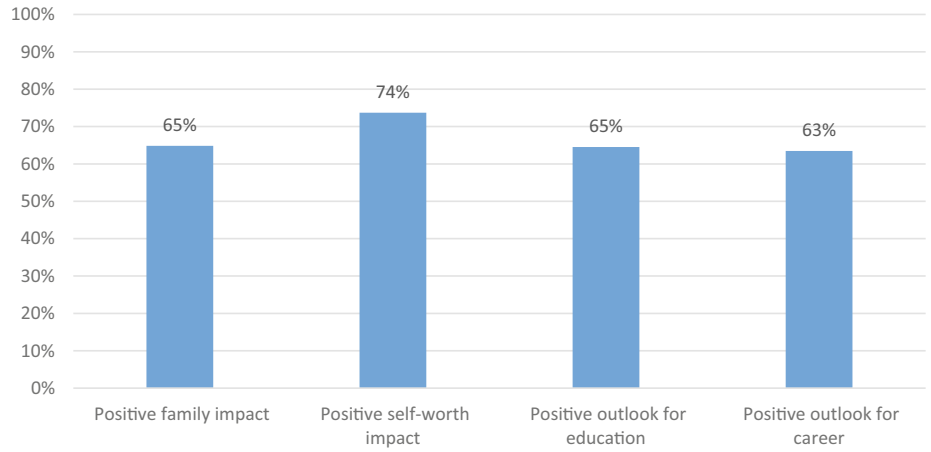

Figure 37 Positive impact of HiSET on the lives of passers ($N = 1{,}240$).

rate as adults with traditional high school diplomas (Song & Hsu, 2008). Across the 3 years of this study, participants reported several improvements in the quality of their lives. Participants in our study described whether a wide variety of life stressors had improved in the 3 years since they passed HiSET compared to the year before they passed HiSET. In all five of these areas, participants were more likely to report that their situation had improved rather than worsened, with the largest differences reported for family complications, personal problems, and financial difficulties (Figure 36).

A majority of respondents indicated that passing HiSET made a positive impact on the quality of their lives in multiple ways (Figure 37).

An open-ended survey question asked participants to describe their perceptions of the positive impact that HiSET has had on their lives. Figure 38 summarizes the terms that 2,209 respondents used in the first of the surveys, with font size representing the frequency with which these terms were used (i.e., words in larger fonts were used more often). "Attend college," "job opportunities," and "move forward" were among the most common responses.

Another open-ended survey question ask participants to describe anything they felt they had gained by preparing for the HiSET. Figure 39 summarizes the terms that 687 respondents used in the first of the surveys, with font size representing the frequency with which these terms were used. "Confidence" was by far the most frequent reply. These results indicate that the positive impact of preparing for the HiSET was experienced by respondents beyond gaining knowledge and skills and improving educational and career opportunities.

Figure 38 Positive perceptions of the impact of HiSET on test takers' lives ($n = 2{,}209$).

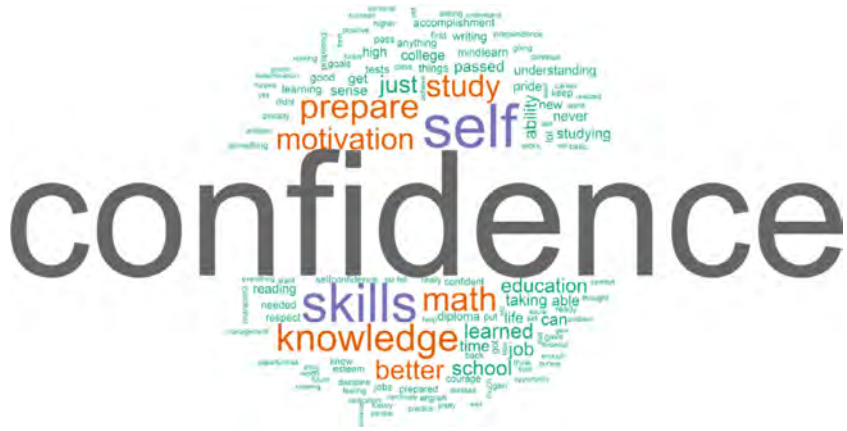

Figure 39 Test takers' perceptions of what they have gained from HiSET preparation ($N = 687$).

Conclusions

Study 2 provided empirical evidence of the educational, vocational, and quality-of-life advancements among the participants taking the HiSET battery. Specifically, study results suggest that passing the HiSET is associated with improvements like academic skills, personal skills, college enrollment, employment gains, lesser reliance on public assistance, fewer life stressors, and other positive psychological benefits.

These results suggest that the potential benefits of obtaining a high school equivalence credential through HiSET might be far-reaching. This study did not employ an experimental design, because recruitment of those who never passed HiSET

(or otherwise obtained a high school equivalency credential) was prohibitively difficult. Without an experimental design, causation cannot be determined.

In Study 1, results show that the HiSET battery is in fact a series of high school equivalency tests. HiSET test performance is related to high school performance and performance on standardized assessments of high school knowledge or CCR (e.g., ACT). The statistical evidence supports the claim that HiSET measures well the skills taught and evaluated in high school, which is the fundamental claim underlying the validity of the HiSET test battery.

Taken together, Study 1 and Study 2 provide evidence that HiSET fulfills its fundamental purpose of preparing individuals with high school-level academic skills that lead to academic, vocational, and quality-of-life successes.

Notes

1 Validity evidence regarding use of the ACT to indicate college readiness is described in Allen et al. (2017), Radunzel et al. (2017), and Sawyer (1996).
2 *College and career readiness* is best defined by particular performance standards for different areas of knowledge and skill (e.g., English language arts, mathematics). We refer the reader interested in these standards to Pimentel (2013).
3 Most students took only a variation of English 1, English 2, and so on in high school, and therefore transcripts did not have enough information to distinguish between grades for reading and writing.
4 When the writing exam essay is administered, which it was not in this study, one must score at least a 2 to pass.
5 For each exam, HiSET test takers who score 15 or higher (out of 20) achieve the CCR benchmark. ACT subject area CCR benchmarks are as follows: English, 18; reading, 22; mathematics, 22; science, 23. The highest possible score for all ACT subject areas is 36.
6 This includes those who gained and lost employment during the first 3 years after passing HiSET.
7 In this study, job families from O*NET were used. These occupational categories align with those listed in the Standard Occupational Classification system. Job families refer to groups of related occupations (e.g., those having similar work requirements, skills, education, training, and credentials).
8 There are no data for the time period between before passing HiSET and Year 2.

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