High School Equivalency Students in Workforce Education: A Two-Year Study

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Outline

• Importance of high school education in the workforce
• Distinguishing high school equivalency (HSE) earners from traditional high school graduates
• HSE earners’ workforce education experiences
• HSE earners’ workforce experiences
• Employers’ skill expectations of high school-educated employees
Importance of High School Education in the Workforce

All U.S. Jobs

- High school diploma or equivalent: 42%
- Bachelor's Degree: 21%
- Associate's Degree: 6%
- Postsecondary nondegree award: 6%
- Master's degree: 4%
- Doctoral or professional degree: 8%
- Some college, no degree: <1%
- No formal educational credential: 13%

Importance of High School Education in the Workforce

30 Fastest Growing U.S. Jobs

- Doctoral or professional degree, 10%
- Master's degree, 20%
- Bachelor's Degree, 10%
- Associate's Degree, 7%
- Postsecondary nondegree award, 13%
- Some college, no degree, 0%
- High school diploma or equivalent, 27%
- No formal educational credential, 13%

Importance of High School Education in the Workforce

U.S. Population

- High School Diploma or Equivalency: 29%
- Some College, No Degree: 19%
- Associate's Degree: 10%
- Bachelor's Degree: 20%
- Graduate or Professional Degree: 11%
- Less than High School Diploma: 11%

Source: U.S. Census Bureau, 2017
High School Diploma vs. High School Equivalency (HSE)

High School Diploma
- ~18 years old
- Fewer family responsibilities
- Less work experience

High School Equivalency
- e.g., GED, HiSET, TASC, etc.
- Older individuals
- More family responsibilities
- More work experience
High School Equivalency Earners in Workforce Education

• Opinions/evidence for HSE’s value is mixed
  • Hartwig & Sitlington, 2008
  • Heckman et al., 2010
  • Jepsen et al., 2016
  • Patterson, 2013
  • Tuck, 2012
  • Tyler et al., 2003
Research Questions:

1. Who are HSE earners?

2. What postsecondary and workforce decisions do HSE earners make?

3. What challenges and improvements do HSE earners experience over time?

4. What are employers’ skill expectations for HSD/HSE employees?
Defining HSE Students Using the HiSET

- 28 states and territories
- 53,255 HiSET completers in 2018
- Students may receive a basic passing score or “College and Career Ready” designation
- Scores align with high school GPA, ACT scores (Klieger et al., in preparation)
Who are HSE Earners?
Who are HSE Earners?

Who are HSE Earners?

What are HSE Students’ Educational and Workplace Ambitions?

• Various reasons for taking HiSET

N = 30,292.
Our Study Sample

36,834 HiSET Passers

2,577 Replied

1,063 (41.2%) Seeking Postsecondary Education

1,514 (58.8%) Not Seeking Postsecondary Education
## Sample Demographics

<table>
<thead>
<tr>
<th>Age (Years)</th>
<th>Yes (N = 1,063)</th>
<th>No (N = 1,514)</th>
<th>Total (N = 2,577)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>5.1%</td>
<td>5.1%</td>
<td>5.2%</td>
</tr>
<tr>
<td>19-24</td>
<td>43.2%</td>
<td>41.1%</td>
<td>42.4%</td>
</tr>
<tr>
<td>25-29</td>
<td>19.2%</td>
<td>19.0%</td>
<td>19.3%</td>
</tr>
<tr>
<td>30-39</td>
<td>22.4%</td>
<td>22.5%</td>
<td>22.7%</td>
</tr>
<tr>
<td>40-49</td>
<td>8.0%</td>
<td>7.4%</td>
<td>7.7%</td>
</tr>
<tr>
<td>50+</td>
<td>2.1%</td>
<td>4.8%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>27.4%</td>
<td>38.4%</td>
<td>33.8%</td>
</tr>
<tr>
<td>Female</td>
<td>72.6%</td>
<td>61.6%</td>
<td>66.2%</td>
</tr>
</tbody>
</table>
## Sample Demographics

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Postsecondary Enrollment?</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes (N = 1,063)</td>
<td>No (N = 1,514)</td>
</tr>
<tr>
<td>African-American</td>
<td>19.4%</td>
<td>10.9%</td>
</tr>
<tr>
<td>Asian</td>
<td>2.6%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Latin-American</td>
<td>14.8%</td>
<td>15.4%</td>
</tr>
<tr>
<td>Native American</td>
<td>2.0%</td>
<td>1.7%</td>
</tr>
<tr>
<td>White</td>
<td>48.7%</td>
<td>60.2%</td>
</tr>
<tr>
<td>Multiracial</td>
<td>11.2%</td>
<td>9.6%</td>
</tr>
<tr>
<td>Other</td>
<td>1.4%</td>
<td>0.7%</td>
</tr>
</tbody>
</table>
HSE Students’ Academic Knowledge

<table>
<thead>
<tr>
<th>Subject</th>
<th>Basic Pass</th>
<th>CCR</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCIAL STUDIES</td>
<td>36%</td>
<td>64%</td>
</tr>
<tr>
<td>READING</td>
<td>43%</td>
<td>57%</td>
</tr>
<tr>
<td>SCIENCE</td>
<td>48%</td>
<td>52%</td>
</tr>
<tr>
<td>MATH</td>
<td>57%</td>
<td>43%</td>
</tr>
<tr>
<td>WRITING</td>
<td>84%</td>
<td>16%</td>
</tr>
<tr>
<td>WRITING - ESSAY</td>
<td>80%</td>
<td>20%</td>
</tr>
<tr>
<td>WRITING - MC</td>
<td>61%</td>
<td>39%</td>
</tr>
</tbody>
</table>

Basic Pass vs. CCR
HSE Earners’ Vocational Interests

• Interests predict job performance, training performance, fewer turnover intentions and less actual turnover
  • e.g., Van Iddekinge et al., 2011

• May be stereotypes that the HSE population has a restricted set of vocational interests (e.g., “blue collar” jobs)

• Do workforce education and job opportunities match HSE earners’ interests?
RIASEC Interests Model

- **Realistic**: Practical, “hands-on”
- **Investigative**: Scholarly, scientific
- **Artistic**: Creative, unconventional
- **Social**: Teaching, caregiving
- **Enterprising**: Influential, entrepreneurial
- **Conventional**: Structured, routine

e.g., Holland (1997).
RIASEC:
HSE vs. Community Norms

Note. HSE $N = 1,516$; Community $N = 574$ (Rounds et al., 2016; Sample 2).

** = $p < .01$, * = $p < .05$. 
HSE Students’ Personality

- Personality predicts academic and workplace success (e.g., Barrick & Mount, 1991)
- Surveys show employers value certain personality traits (e.g., initiative, work ethic; NACE, 2018)
- Some researchers argue that high school dropouts score lower on desirable certain personality traits and related behaviors (e.g., conscientiousness, study skills; Heckman et al., 2010)
- Employers may have stereotypes about HSE earners’ personalities
### HEXACO Personality Model

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honesty-Humility</td>
<td>Sincere, loyal, modest</td>
</tr>
<tr>
<td>Emotionality</td>
<td>Oversensitive, sentimental, anxious</td>
</tr>
<tr>
<td>Extraversion</td>
<td>Outgoing, sociable, active</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>Patient, tolerant, lenient</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>Organized, diligent, precise</td>
</tr>
<tr>
<td>Openness to Experience</td>
<td>Intellectual, creative, innovative</td>
</tr>
</tbody>
</table>

E.g., Ashton & Lee, 2007; 2009
Note. HSE $N = 1,516$; College $N = 1,126$ (hexaco.org).

** = medium difference, * = small difference, -- = no difference (Cohen, 1988).
Empowering HSE Earners

HSE earners reported that they developed various academic and personal skills simply by preparing for and writing the HSE test:

Top skills include:
- Everyday Math – 68%
- Goal Setting/Aspirations – 68%
- Planning When Writing – 64%
- Reading Speed/Fluency – 61%
- Adaptability – 59%
- Problem Solving – 59%
HSE Earners’ Experiences: Postsecondary Workforce Education
Which Postsecondary Paths are HSE Passers Choosing?

Of those passers seeking post-secondary education:

- Community College: 74%
- 4-year College: 12%
- CTE (Non-Associate's): 14%

N = 1,063.
What Programs are HSE Students Choosing?

- HEALTH AND RELATED PROFESSIONS: 30%
- BUSINESS, MANAGEMENT, AND MARKETING: 13%
- COMPUTER AND INFORMATION SCIENCES: 6%
- PSYCHOLOGY: 6%
- UNDECIDED: 6%

N ≈ 787.
Year 2 Postsecondary Persistence Rates

- Enrolled in Postsecondary Institution: 31%
- Enrolled and Employed: 43%
- Employed: 18%
- Not Enrolled or Employed: 8%

$N \approx 787$. 
Why are HSE Students Dropping Out of Postsecondary Institutions?

- Family or personal problems: 58%
- Work conflicts: 53%
- Couldn’t afford school: 33%
- Needed a break from school: 20%
- Financial aid issues: 18%
- Lack of childcare: 17%
- Poor access to programs: 10%
- Changed career plans: 10%
HSE Earners’ Experiences: Workplace
What about HSE Students who Don’t Enroll in Postsecondary Institutions?

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wanted to work</td>
<td>34%</td>
</tr>
<tr>
<td>Family responsibilities</td>
<td>30%</td>
</tr>
<tr>
<td>Too expensive</td>
<td>29%</td>
</tr>
<tr>
<td>No interest</td>
<td>9%</td>
</tr>
<tr>
<td>Didn’t see value</td>
<td>7%</td>
</tr>
<tr>
<td>Not admitted</td>
<td>&lt; 1%</td>
</tr>
</tbody>
</table>

N = 1,514.
HSE Earners Who Did Not Enroll in Postsecondary Institutions

- Employed: 58%
- Unemployed/Looking for Employment: 20%
- Unemployed/Not Looking for Employment: 13%
- Student: 4%
- Other: 5%

N = 1,514.
HSE Earners’ Employment Industries

<table>
<thead>
<tr>
<th>Industry</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales and Related</td>
<td>17%</td>
</tr>
<tr>
<td>Office and Administrative Support</td>
<td>14%</td>
</tr>
<tr>
<td>Food Preparation and Serving Related</td>
<td>13%</td>
</tr>
<tr>
<td>Healthcare Support</td>
<td>8%</td>
</tr>
<tr>
<td>Transportation and Material Moving</td>
<td>6%</td>
</tr>
<tr>
<td>Personal Care and Service</td>
<td>6%</td>
</tr>
<tr>
<td>Production</td>
<td>6%</td>
</tr>
<tr>
<td>Construction and Extraction</td>
<td>4%</td>
</tr>
<tr>
<td>Management</td>
<td>4%</td>
</tr>
<tr>
<td>Building and Grounds Cleaning/Maintenance</td>
<td>4%</td>
</tr>
</tbody>
</table>

\[ N = 1,398. \]
HSE Earners’ Job Outlook

- Bright Outlook Job: 72%
- Other Job: 28%

$N = 1,375$. 
Financial Benefits of Obtaining HSE

- 26.4% of participants reporting an overall increase in household income after obtaining their HSE

<table>
<thead>
<tr>
<th>Before Earning HSE to Year 1</th>
<th>Year 1 to Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1.35</td>
<td>$1.67</td>
</tr>
<tr>
<td>$3.02</td>
<td></td>
</tr>
</tbody>
</table>

Participation in Public Assistance

National Average: 21.3%

- Before Obtaining HSE
- Post-HSE Year 1: 21.3%
- Post-HSE Year 2: 19.9%
Improvements in Job Characteristics after Obtaining HSE

- Overall: 64%
- Pay: 60%
- Work Environment: 53%
- Use of my Experience/Education: 51%
- Hours: 50%
- Benefits: 46%
- Location: 41%

N ≈ 1,349.
Employers’ Expectations of High School Graduates and HSE Earners
Identifying Employer Expectations

- Researchers often use surveys (e.g., NACE, 2018)
- Criticisms:
  - Small sample size
  - Low response rates
  - Self-selection bias
  - Non-representative
  - Subjective
- Response: Webscraping online job advertisements
  - Larger sample
  - More representative
  - Reflects actual recruitment practice
Webscraping Study

- Collected over 400,000 online job ads (e.g., Careerbuilder.com)
- Identified jobs that require a high school diploma or equivalency
- Research Questions:
  1. What skills do employers expect of individuals with a high school education?
  2. How do these skills compare to those expected of college graduates?
Employer Expectations: Results

Note. # of Job Postings: HS = 68,505; Postsecondary = 141,941. Postsecondary results source: Rios et al. (in press).
Employer Expectations: Results

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Employer Expectations: Results

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Conclusions and Future Directions
Conclusions

• HSE earners:
  • Are older than traditional HS grads
  • May need support with writing skills
  • Have diverse vocational interests
  • Score high on measures of Honesty-Humility, Conscientiousness
  • Report various skill gains over time

• Postsecondary workforce education:
  • Gravitate towards community college; healthcare programs
  • High persistence rates
  • Occupational, family obligations
Conclusions

• Workplace experiences:
  • Diverse employment industries
  • Optimistic job outlooks
  • Financial, job satisfaction gains

• Employer expectations of HS grads:
  • Fewer soft skill expectations overall
  • Professionalism, customer service skills most highly valued
Future Directions

• Additional HSE assessments
• Alternative vocational interest models
• Training efficacy studies
  • e.g., pre-post changes; experimental designs
• High school diploma vs. HSE:
  • Direct comparisons (personality, interests, demographics, etc.)
  • Employer expectations, biases
• “Professionalism” is...???
  • How is professionalism assessed/taught?
  • K-12/Adult education implications
• Additional noncognitive skills?
References


References


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