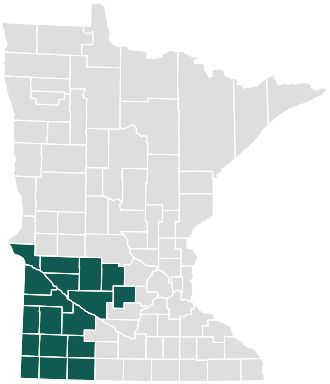
CENTER for RURAL POLICY & DEVELOPMENT

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Pathways After High School in Southwest Minnesota

Understanding Where Graduates Go After High School

NOVEMBER 2026



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Pathways After High School

in Southwest Minnesota

Every year, students graduate from high schools across Greater Minnesota, beginning the transition to adulthood. Some continue on to college, others enter the workforce directly, and many move between education and work in the years that follow. Over time, these early transitions shape not only the individuals' careers but also the region's labor force, economic stability, and long-term population trends.

To better understand this important point in young people's lives, we undertook the project of examining what happens to Minnesota's high school graduates after they leave the K–12 system. Rather than focusing on a single point in time, however, we used data to follow graduates for more than a decade after high school. We did this to see if we could identify large patterns in how postsecondary education, workforce participation, and geographic mobility unfold over time and to see if we could discern decisions that put people on particular pathways. The goal was not to explain individual decisions or assign cause, but to gain insight into how education systems and workforce systems intersect in practice.

This report looks at high school graduates from Southwest Minnesota who graduated between 2008 and 2023. During our analysis, three broad patterns, or "pathways," emerged from the data.

- **The Postsecondary Credential Earner Pathway:** More than half of high school graduates (56%) completed some kind of postsecondary credential. Among these "credential earners," a majority of them went on to stable, consistent workforce participation. Where they earned that credential was strongly associated with whether they stayed in or returned to their home region or went elsewhere for work. Fewer than a third earned their credential at a college in the region.
- **The Workforce-First Pathway:** Others entered the workforce directly without earning a credential; five years after high school, 43% of these non-credential earners had sustained employment. Among these students, Career and Technical Education programs in high school were the clearest differentiator between those who found consistent, stable employment within the region and those who didn't.
- **The Disconnected Pathway:** A third group, 57% of non-credential earners five years after high school, had unstable work or no Minnesota employment record at all. For many, this disconnection did not resolve on its own and was associated with barriers that began well before high school graduation, though in Southwest Minnesota some of those without an employment record were likely working across the state line or for themselves.

Understanding that these distinct pathways exist — and what they mean — matters for regional planning and workforce development. Treating where students go after high school as if each were on a random, unique path that started the day after graduation hides the fact that there are a few large-scale patterns that connect high school to the workforce. Looking instead at the pathways students actually grouped into gives a clearer picture of how they ended up where they did.

About the Data

This analysis draws on linked administrative data provided by the state. Using anonymized records, we were able to connect data across systems, creating a longitudinal view of educational pathways and employment outcomes after high school that wasn't visible before. Three primary data sources were used:

High School Records. Courses taken; participation in CTE; Minnesota Comprehensive Assessment and ACT test scores; and indicators for special populations such as students of color, students in special education, or those qualifying for free or reduced-price lunch. Together, these records described students' academic preparation and learning experiences prior to graduation.

Postsecondary Records. Enrollment, persistence, and completion data were drawn from Minnesota's public higher education systems and the National Student Clearinghouse. These records capture both in-state and out-of-state attendance and identify the types and locations of institutions students attended.

Employment Records. Wage and employment records from the Minnesota Department of Employment and Economic Development (DEED) captured employment within Minnesota, including hours worked, employer attachment, and indicators of job stability. Employment outside Minnesota was not directly observed.

Note: The findings in this report should be interpreted as *associations* only and not *causes.* The analysis highlights *where outcomes tended to cluster,* offering context for regional planning, but we are not able to say definitively that the presence of a certain characteristic *caused* an outcome, only the degree to which it made that outcome more likely. Read the "Limitations" section in the Appendix for a more thorough discussion on how we use "predictability" and "likelihood" in this report.

The entire dataset was split into individuals who graduated from five distinct regions. This report focuses on the Southwest region: the 18 counties of Economic Development Regions 6E, 6W and 8, which are Big Stone, Chippewa, Cottonwood, Jackson, Kandiyohi, Lac qui Parle, Lincoln, Lyon, McLeod, Meeker, Murray, Nobles, Pipestone, Redwood, Renville, Rock, Swift and Yellow Medicine. This analysis examined 38,154 individuals who graduated from school districts within this region from 2008 to 2023.

Research regions by number of individuals in dataset

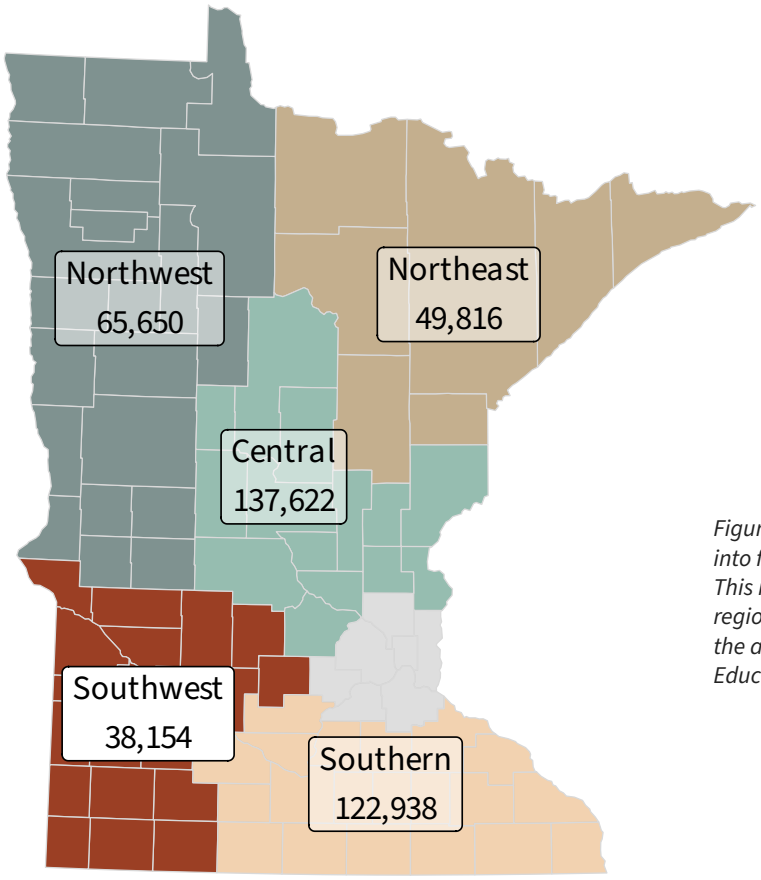


Figure 1: The full dataset was split into five regions during the analysis. This report focuses on the Southwest region which had 38,154 individuals in the analysis. Data: MN Office of Higher Education, SLEDS

Data: MN Office of Higher Education - SLEDS
Analysis: Center for Rural Policy and Development

Tracking Outcomes Over Time

Each graduate's workforce and/or education status was assessed every year after high school. Rather than looking at a single point in time, we tracked patterns across multiple years after high school graduation, with particular attention to outcomes at Year 1 (short-term transition), Year 5 (mid-term attachment to an employer or career), and Year 10 (longer-term employment patterns). This reduced the influence of short-term fluctuations and highlighted relationships that held up over time.

Each year, individuals were assigned to one of five mutually exclusive categories, based on their situation at the time:

Sustained Workforce Participation—Southwest (Regional Employment). Worked 1,000 hours or more that year with a single employer in the Southwest Minnesota region — stable, in-region employment. This is the employment situation *most directly tied to the region's own economy:* it represents a graduate's labor and skills directly benefiting Southwest Minnesota.

Sustained Workforce Participation—MN. Worked 1,000 or more hours that year with a single employer elsewhere in Minnesota — stable employment, but outside the region. This category reflects a "leakage" of workforce investment: the graduate is stably employed, but the region isn't the one benefiting. It's central to understanding regional retention.

Non-sustained Workforce Participation. Had a record of Minnesota employment but fell short of the sustained threshold of 1,000 hours and wasn't enrolled in postsecondary education. They typically worked part-time or intermittently. While it may have been by choice, this can signal underemployment or economic instability, which matters for workforce development planning.

Attending Postsecondary. Enrolled in postsecondary education without meeting the sustained employment threshold — often full-time students or those newly transitioning out of high school. This category represents continued investment in education rather than disengagement since many move into the workforce categories in later years.

No Minnesota Employment Record, Not Attending Postsecondary. No observed MN employment or enrollment record for the year. Includes people working in other states, in the military or other federal employment, the self-employed, a stay-at-home parent, or someone otherwise outside the labor force. This category mixes very different situations — an out-of-state career move looks the same in the data as true disconnection from work and school — so it needs to be interpreted carefully rather than treated as a single "disconnected" outcome.

The Findings: Paths Taken by High School Graduates

Finding 1: Where students went after high school

Figure 2 charts how many Southwest Minnesota students ended up in each of the five categories each year after high school.

For many students, the first step was further education. In the first year after graduation, more than half (57%) of Southwest Minnesota's graduates enrolled in a postsecondary institution, whether a local community college, a technical program, or a four-year university. Another 16% were in the non-sustained workforce category, not surprising for recent high school graduates; 13% had sustained employment in the region, while 4% had sustained employment somewhere else in Minnesota, and 10% had no Minnesota employment record.

These percentages shift over time, however. At Year 5, most high school graduates had completed their postsecondary journeys and settled into more stable employment patterns. The distribution in Southwest Minnesota was approximately 24% in sustained workforce participation within the

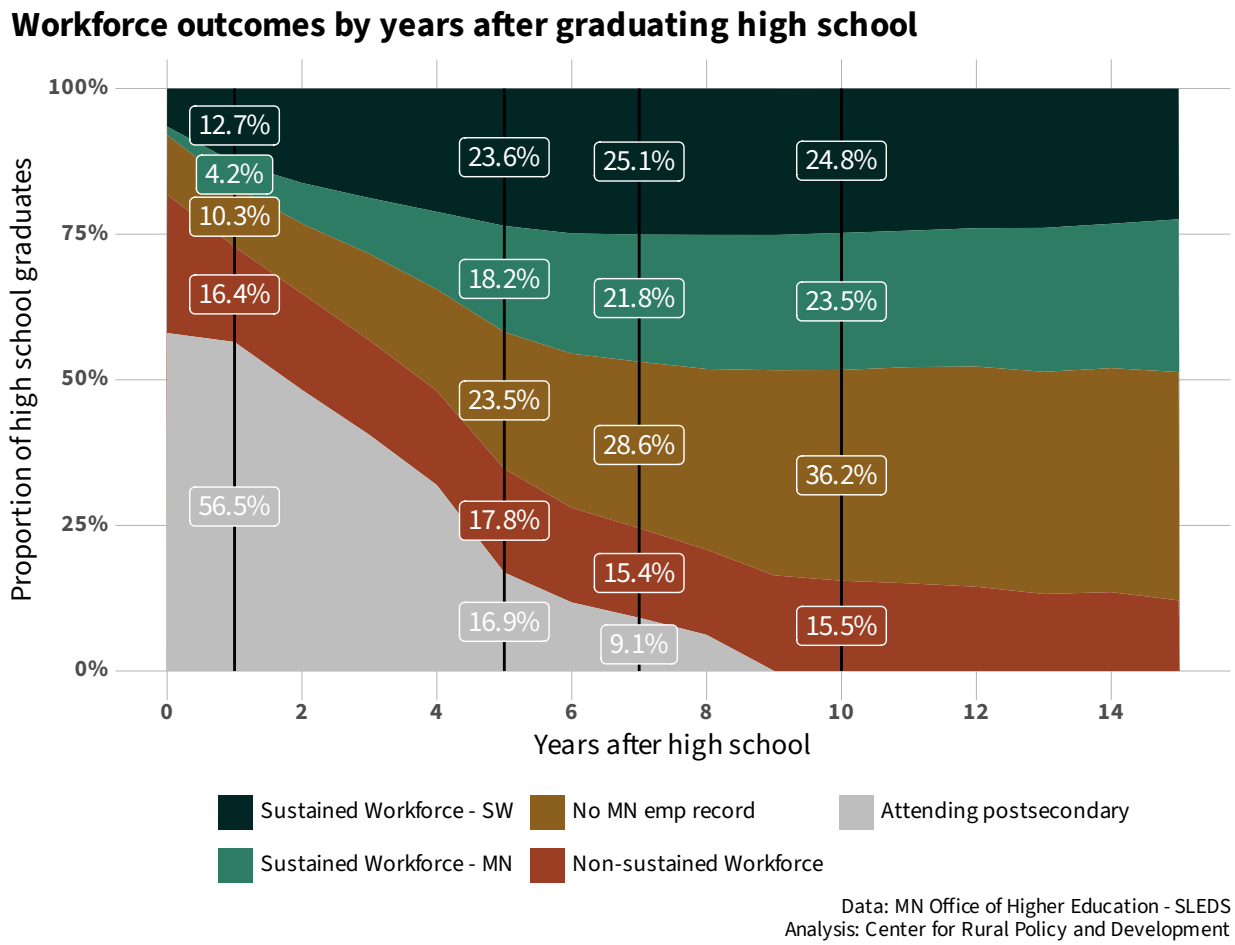


Figure 2: The share of the total high school graduates in each category shifts each year after graduating high school. Data: Minnesota Office of Higher Education, SLEDS

region, 18% sustained workforce participation elsewhere in Minnesota, and 18% in non-sustained workforce participation. Roughly 24% had no Minnesota employment record, and 17% were still attending postsecondary.

By Year 10, the percentage of high school grads with sustained employment in the Southwest region had stabilized at about 25%. However, the share with no Minnesota employment record had grown to 36%, likely reflecting a combination of out-of-state employment/outmigration, and people still in the region but persistently disconnected from the labor force.

Finding 2: Three Distinct Pathways

The next step in our analysis was to better understand *how* students ended up in their respective categories. Within the data, a surprisingly consistent pattern of three broad "pathways" emerged. The pathways students ended up on depended on their plans, choices and structural opportunities and barriers in high school and even earlier. These factors correlated highly with these pathways, meaning that given a particular set of factors, the outcome, while not set in stone, was still highly predictable.

Sustained employment holds at around 25%, while 'no Minnesota employment record' grows steadily in the years after high school

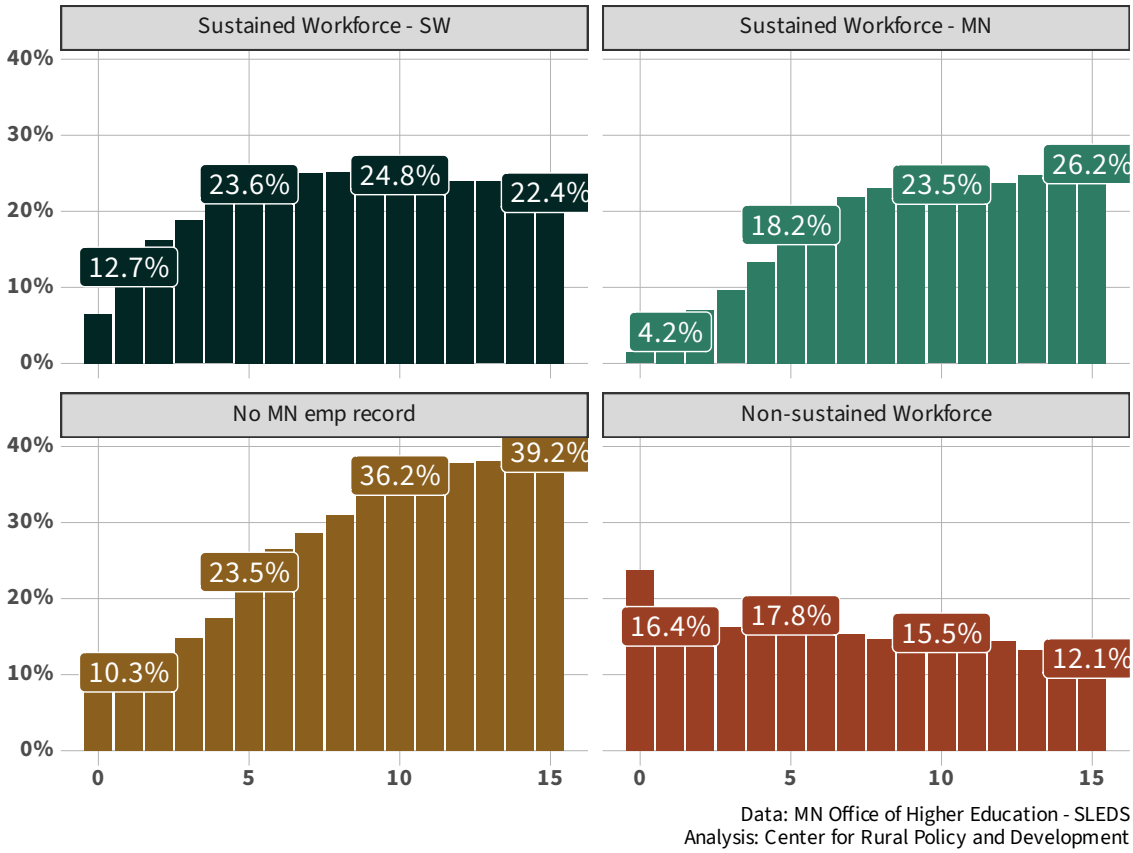


Figure 3: The percentage of individuals each year after graduating high school in each workforce participation category. Note: "Attending post-secondary" is not shown here in order to see the workforce participation categories better. Data: Minnesota Office of Higher Education, SLEDS

The three pathways are:

The Postsecondary–Credential Earner Pathway. High school graduates who went on to complete a postsecondary credential—a degree, certificate, or similar. Completing that credential was the strongest single predictor of later workforce outcomes: these "credential earners" were substantially more likely to be in sustained employment five years after high school than those who didn't complete some kind of postsecondary credential program. Where they finished their program also mattered a great deal geographically—people tended to stay and work where they earned their credential.

The Workforce–First Pathway. Graduates who did not complete a postsecondary program but instead entered the workforce directly. Among this group, the strongest predictor of eventual sustained employment in the region was participation in career-aligned prep courses in high school such as CTE.

The Disconnected Pathway. A majority of persons who did not complete some kind of postsecondary education program and were not involved in CTE experienced persistent disconnection from the labor force in the years following high school. For many, this was not a temporary condition—it was a long-term trajectory shaped by structural barriers that began well before high school graduation. The data provided clear clues as to who is most at risk and what offered protection against this disconnection.

Each of these three pathways works differently and lumping them together would hide exactly the patterns this report is trying to surface. A graduate who's steadily employed nearby, one who's cycling through unstable jobs, and one who's disappeared from Minnesota's employment records entirely are having three very different experiences, and each requires a different kind of response from workforce developers. The sections below take each pathway on its own terms: what it looks like, who tends to end up there, and what seems to make a difference.

The goal of this report

The goal of this report is not to decree that one pathway or outcome is better than another but simply to introduce these findings and describe them, in this way helping workforce development professionals, education professionals, local and state officials and others interested in Greater Minnesota's economic health understand the high-school-to-workforce pipeline and make informed decisions to improve it.

Pathway 1: The Credential Earners' Pathway

The first major discovery in the dataset was this: Completing some kind of postsecondary education program was the factor most strongly associated with whether a student ended up in sustained workforce participation for years to come.

Students who completed a program and received a credential, whether a four-year degree, two-year degree, certificate or other credential, followed a fundamentally different path compared to those who didn't complete some kind of postsecondary education, and in particular, those who never started a postsecondary program at all.

This section walks through this finding in three parts:

- How strongly earning a credential is tied to steady employment;
- Which characteristics were associated with a graduate completing a credential in the first place; and
- What factors shaped whether credential earners built their career in the region or somewhere else.

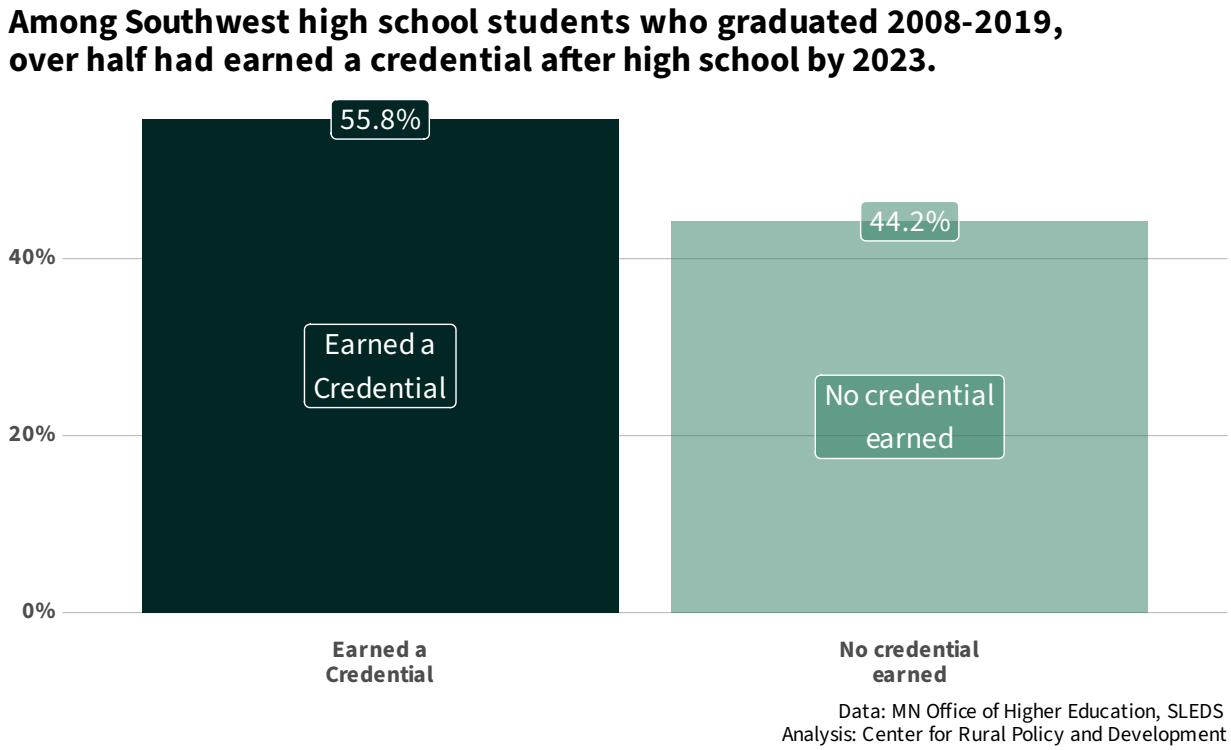


Figure 4: Percent of 2008 to 2019 high school graduates in Southwest Minnesota by postsecondary credential completion. Data: Minnesota Office of Higher Education, SLEDS

Completing postsecondary education (or not completing it) had the strongest association with workforce participation outcomes across all the variables measured.

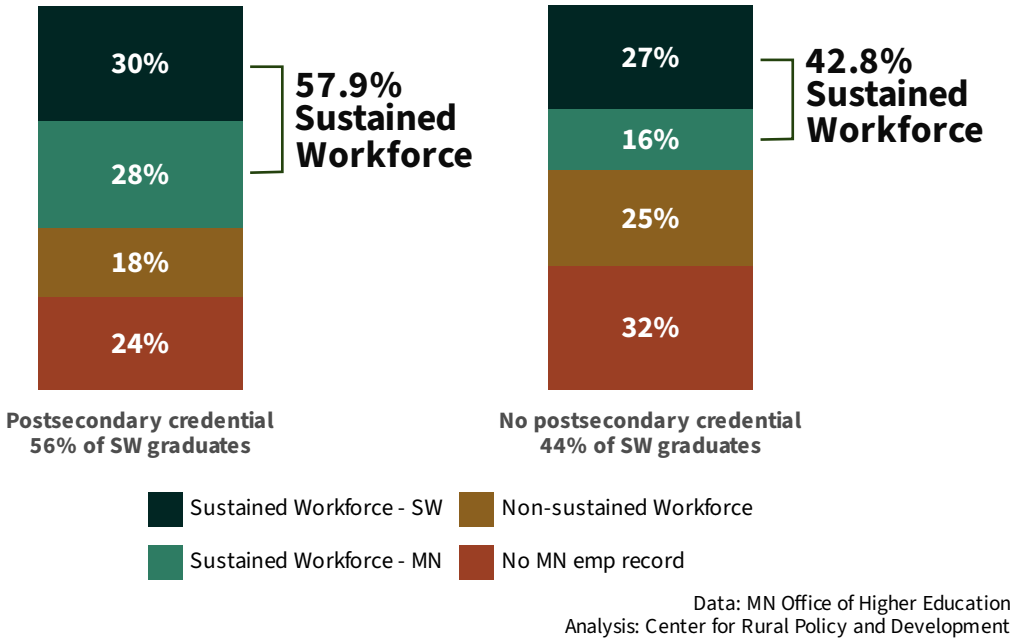
How strongly is earning a credential tied to steady employment?

More than half (55.8%) of Southwest Minnesota's high school students graduating between 2008 and 2019 had completed some kind of postsecondary credential by 2023, while 44.2% did not (Figure 4). *Of those who completed a postsecondary program, 57.9% were in sustained* workforce participation somewhere in Minnesota by Year 5, either inside or outside the Southwest region. By comparison, *of those individuals who did not complete a postsecondary program,* only 42.8% were working at the sustained workforce level in the region or elsewhere in Minnesota (Figure 5).

The 15.1-percentage-point difference shows **a strong correlation between completing some kind of postsecondary education or training and finding sustained work.**

Notably, most of that difference came from employment outside the region. Credential earners and non-credential earners were in sustained workforce participation in the Southwest region at similar rates (30% and 27%). The gap opened up elsewhere in Minnesota, where 28% of credential earners had sustained employment compared to 16% of those without a credential.

Completing a postsecondary credential is linked to higher sustained employment five years after graduation



Data: MN Office of Higher Education
Analysis: Center for Rural Policy and Development

Figure 5: At five years after high school, 58% of individuals who earned a postsecondary credential had sustained workforce participation either in the region (30%) or outside the region (28%). In comparison, only 42.8% of non-credential earners had sustained workforce participation. Data: MN Office of Higher Education, SLEDS

What factors were more highly associated with completing a postsecondary program?

PSEO participation. Taking college courses while still in high school through Postsecondary Enrollment Options (PSEO) was associated with the largest completion gap of any characteristic shown in Figure 7. It is a fairly intuitive result, since PSEO participation means a student is already earning college credit before they graduate from high school.

Gender. Female graduates completed postsecondary credentials at notably higher rates than male graduates, even after accounting for other differences between them.

AP exams. Taking an Advanced Placement (AP) exam in high school was associated with the second-largest completion gap. Like PSEO, AP coursework puts students in front of college-level material while they are still in high school, and graduates who took an AP exam were considerably more likely to complete a postsecondary credential than otherwise similar graduates who did not.

Local unemployment. Graduates from districts with higher local unemployment were slightly more likely to complete a postsecondary credential than otherwise similar graduates from districts with lower unemployment. This may seem counterintuitive, but in areas with fewer immediate job opportunities, a postsecondary credential may feel like a more necessary path forward. The data can't confirm that this is the mechanism in any individual case, but the association held up after accounting for every other characteristic in the model.

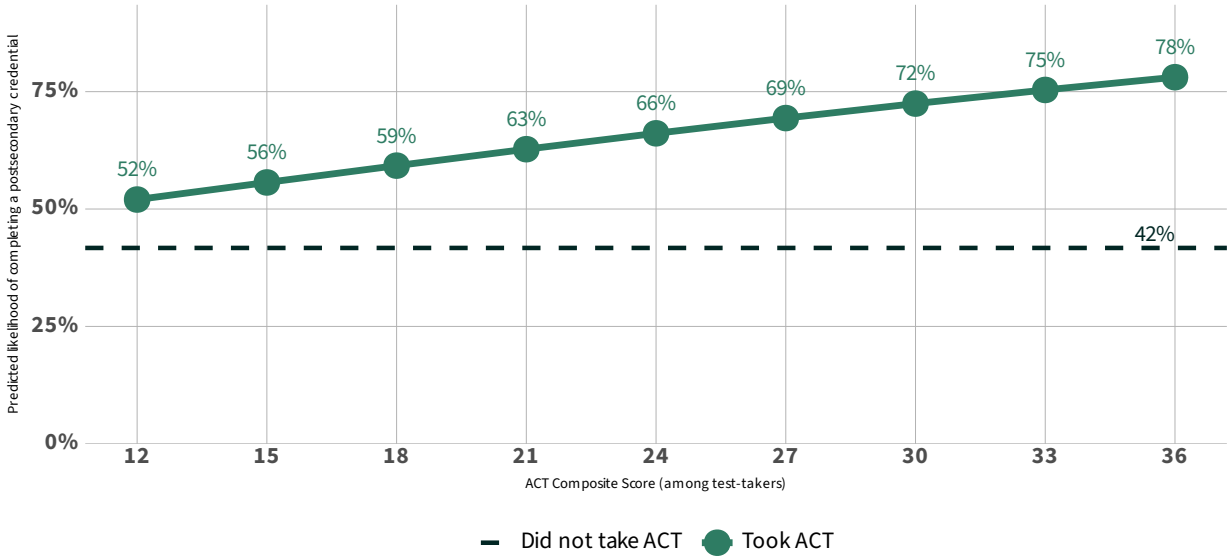
Local wages. Where a graduate went to high school also mattered, independent of anything about the graduate themselves. Graduates from areas with higher average wages were more likely to complete a postsecondary credential than otherwise similar graduates from lower-wage areas, a gap the same size as the one for gender. Because the model accounts for local unemployment at the same time, this association is not simply standing in for the strength of the local job market.

Region. Graduates of high schools in EDR 8 were somewhat more likely to complete a postsecondary credential than otherwise similar graduates from EDR 6W (Upper Minnesota Valley). The gap was smaller than for most of the factors above, but it held up independently. There was no significance between graduating from a high school located in EDR 6E and earning a postsecondary credential.

CTE participation. Graduates who took Career and Technical Education courses in high school were slightly more likely to complete a postsecondary credential than those with no CTE background, and the difference was a little larger for CTE concentrators (students who took a concentrated sequence of CTE courses) than for students who took only some CTE courses. These were among the smallest differences of any characteristic examined, but they held up independently. It's worth noting because CTE is often thought of as a path away from postsecondary education; here, it was associated with a small advantage toward completion.

Figure 6: Predicted likelihood of completing a postsecondary credential, by ACT participation and composite score; 42% indicates the percentage of non-test takers who completed a postsecondary program. Data: Minnesota Office of Higher Education, SLEDS

Simply taking the ACT is associated with a real completion advantage; among test-takers, higher scores are associated with a substantially greater likelihood still.



Data: MN Office of Higher Education - SLEDS
Analysis: Center for Rural Policy and Development

Taking the ACT. Academic preparation, measured as ACT test performance, was one of the strongest characteristics associated with completing postsecondary education. Unlike the other factors on this list, though, it isn't a simple yes/no comparison. While simply taking the test is associated with a real advantage, there is also an added layer: the likelihood keeps rising as the score goes up. Rather than a fixed boost, the likelihood of completing a postsecondary credential rose steadily as ACT scores increased.

Simply taking the ACT is associated with a substantial jump in the likelihood of postsecondary completion (Figure 6). Among otherwise similar graduates who didn't take the ACT, the predicted likelihood of completing a postsecondary program was 42%. Among those who did take it, the likelihood climbed steadily with their score, from 52% at a score of 12 to 63% at a score of 21 (the national median) and 78% at 36. The highest scorers had nearly double the predicted completion rate of graduates who never took the test at all.

ACT engagement is a relationship that builds continuously, meaning *the size of the ACT's association with completing a postsecondary program depends entirely on a student's score.* A student who takes the ACT and scores a 15 sees a modest boost in the likelihood they will complete a postsecondary program compared to not testing at all; a student who scores a 30 sees a boost in likelihood a little more than twice as large. Both are real, and both point in the same direction — toward completing a postsecondary program and becoming established in sustained employment.

Figure 7 translates all these factors into a direct, apples-to-apples comparison. Each pair of dots shows the predicted likelihood of completing a postsecondary credential when all other factors are held constant. The chart represents them as two otherwise-similar graduates — one with the characteristic in question, one without it. The size of the boost varied widely across characteristics, from about 2 percentage points to as much as 18. PSEO participation showed the largest gap: a 67% likelihood of completing a postsecondary program compared to 49% for otherwise similar graduates who did not participate. Graduates who took an AP exam had a 65% likelihood compared to 54% for those who did not, an 11-point difference. Female graduates had a 59% likelihood of completing compared to 53% for otherwise similar male graduates, and graduates from higher-wage areas had a 59% likelihood compared to 53% for those from lower-wage areas, each a 6-point difference.

The remaining characteristics showed smaller but still independent associations. Graduates from EDR 8 had a 58% likelihood of completing compared to 55% for those from EDR 6W. CTE concentrators had a 57% likelihood compared to 54% for graduates with no CTE background, and CTE participants had a 56% likelihood compared to 54%. Graduates from districts with higher local unemployment had a 57% likelihood compared to 55% for those from lower-unemployment districts.

Each characteristic was associated with a higher predicted likelihood of earning a postsecondary credential, after accounting for other differences between graduates.

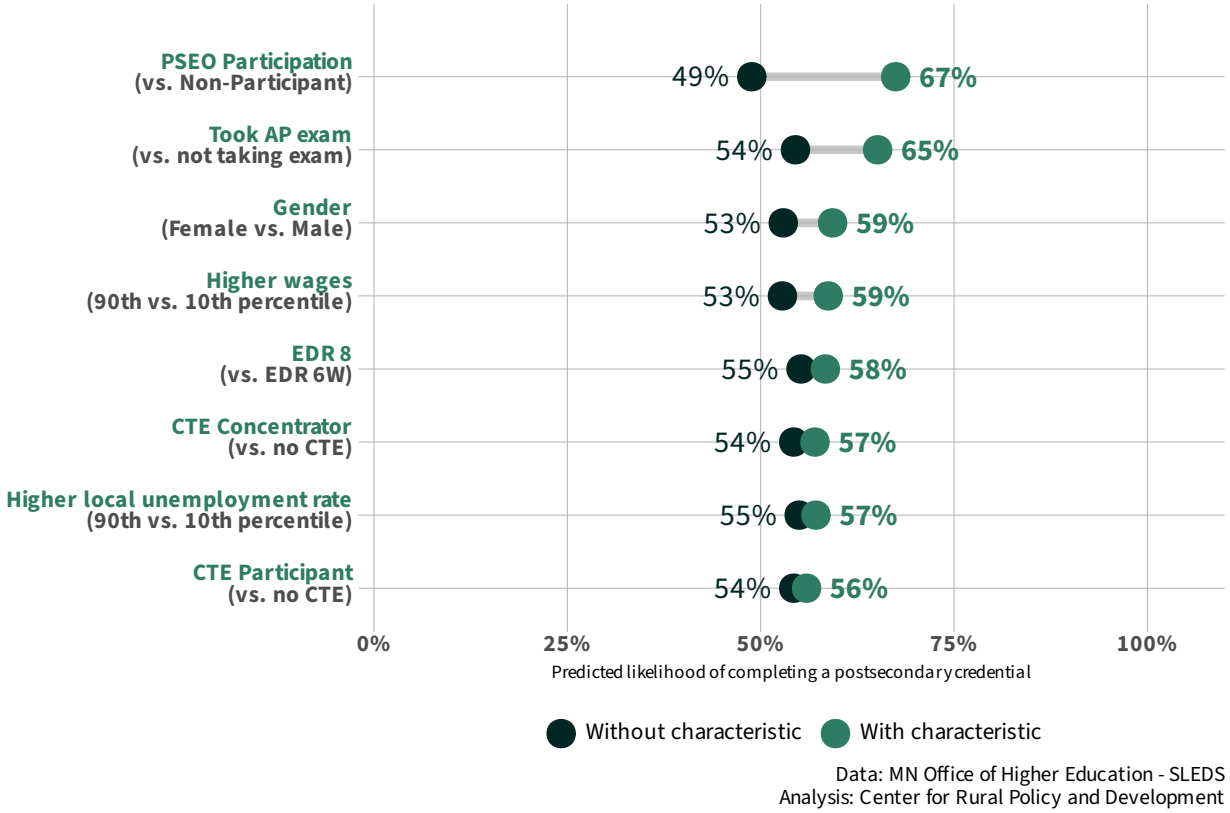


Figure 7: Predicted likelihood of completing a postsecondary credential, comparing otherwise similar graduates with and without each characteristic. Data: Minnesota Office of Higher Education, SLEDS

None of these factors depended on another—each one held up on its own, even after accounting for every other factor in the model. A female graduate who participated in PSEO, took an AP exam and CTE courses, and attended school in a higher-wage area with higher local unemployment isn't just benefiting from one of these factors. The data suggests these effects compound, each adding its own independent boost.

Where Do Credential Earners Establish Their Careers?

Among those who earned a credential, the data revealed another powerful pattern with implications for Southwest Minnesota's ability to retain the talent it produces: *Where a graduate completed college was strongly associated with where they ended up working.* This wasn't a complete surprise. Research has demonstrated for years that people tend to stay where they earned their postsecondary credential. This knowledge is important for workforce developers and employers who are looking to bolster their region's labor force ranks.

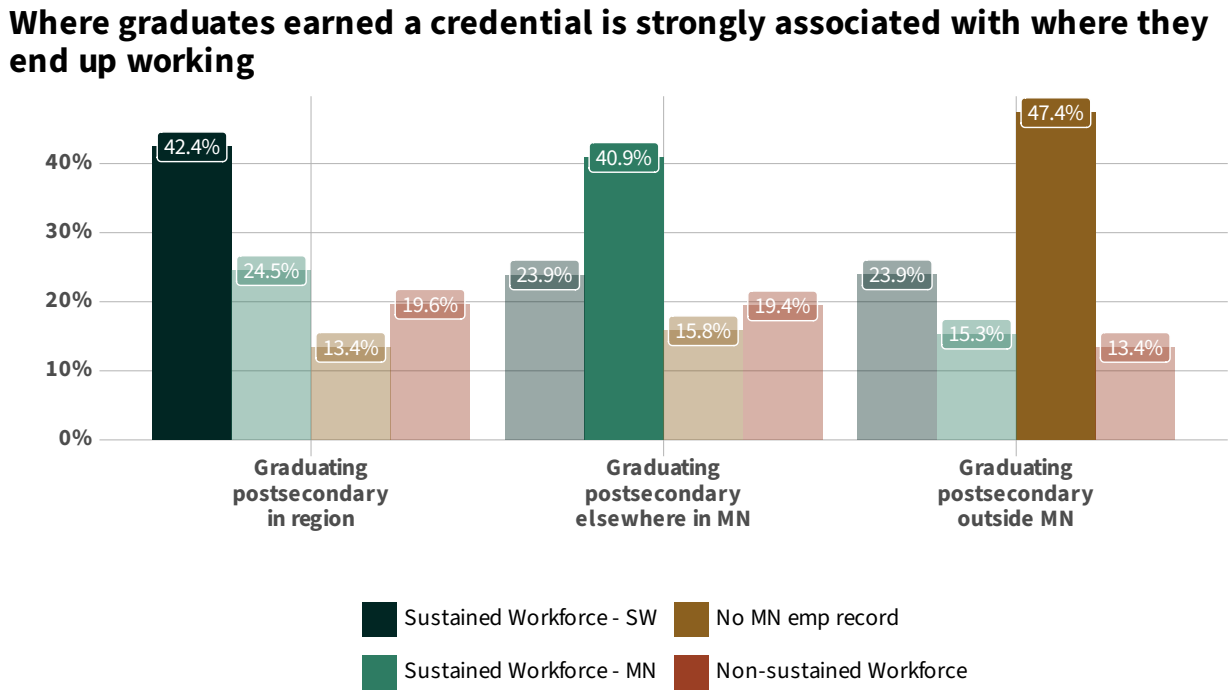
Figure 8 illustrates the strong alignment between where a credential earner earned their degree and where they ended up working. Among those who graduated from a college in the Southwest region, 42% went on to have sustained workforce participation in the same region. Among those who graduated from a college elsewhere in Minnesota, 41% ended up with sustained workforce participation in the state but outside the region. And among those who graduated from a college outside Minnesota entirely, only 24% returned to the region, while 47% had no Minnesota employment record, indicating that they were most likely working in another state.

That pattern matters for Southwest Minnesota, because fewer than a third of credential earners (31%) completed their postsecondary program in the region (Figure 9). The rest were split almost evenly between institutions elsewhere in Minnesota (36%) and institutions outside the state (33%).

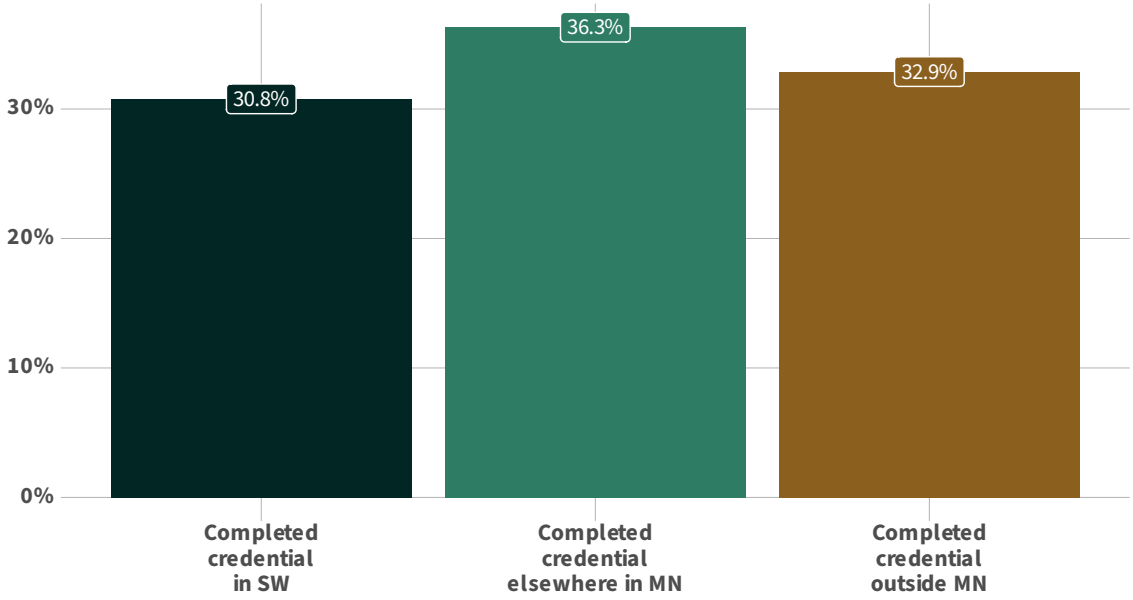
One common narrative about rural areas holds that two-year career and technical degrees keep graduates local, while four-year degrees send them off to bigger cities. This would suggest that credential type — an associate's degree versus a bachelor's — should shape where graduates end up working. The data, however, showed this was only partly true.

Once graduation location was accounted for, the credential type's relationship with regional workforce participation weakened considerably

Figure 8: Where an individual participated in the workforce five years after high school is strongly associated with where individuals complete college. Data: Minnesota Office of Higher Education, SLEDS



Less than a third of Southwest credential earners earned their credential in the region

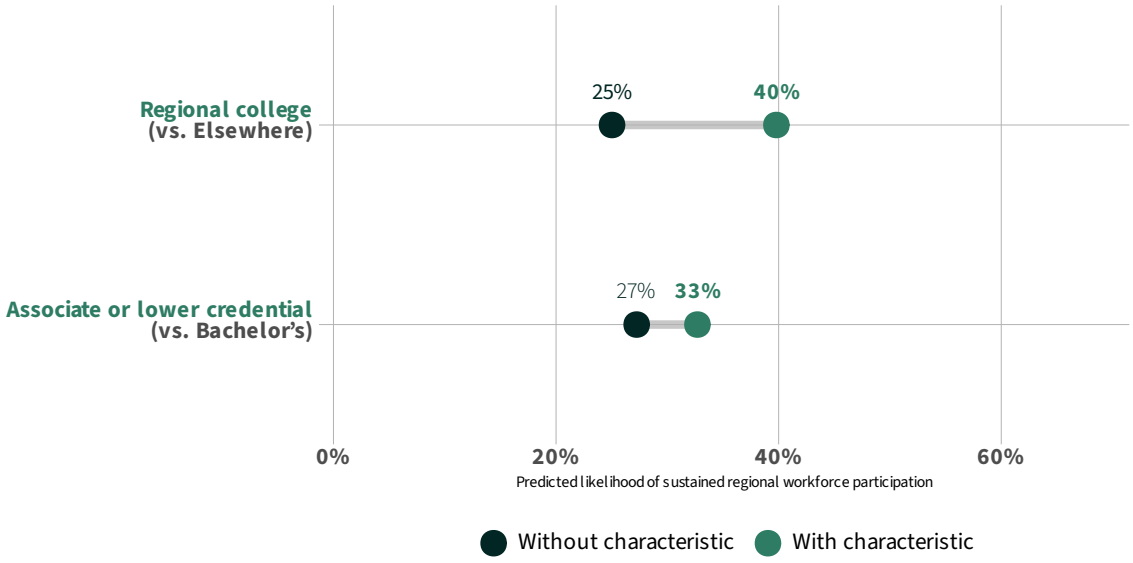


Data: MN Office of Higher Education - SLEDS
Analysis: Center for Rural Policy and Development

Figure 9: Fewer than a third of credential earners (31%) completed their postsecondary credential at institutions within the Southwest region. Data: Minnesota Office of Higher Education, SLEDS

Figure 10: Predicted likelihood of sustained regional workforce participation five years after high school, by graduation location and credential level, among postsecondary completers. Data: Minnesota Office of Higher Education, SLEDS

Graduation location shows a much larger relationship with regional workforce participation than credential level, though credential level still adds a real, independent effect.



Data: MN Office of Higher Education - SLEDS
Analysis: Center for Rural Policy and Development

but didn't disappear: graduates with an associate degree or less had a predicted 33% likelihood of sustained regional workforce participation, compared to 27% for otherwise similar bachelor's degree holders (Figure 10) — a real but modest 6-point difference. That's a much smaller gap than graduation location produced: graduates who completed their credential regionally had a predicted 40% likelihood of sustained regional participation, compared to just 25% for those who completed elsewhere — a difference more than twice the size of the credential-level gap, just reinforcing that where students completed their credentials mattered far more than what credential they earned.

What factors shaped whether students completed their postsecondary programs in the region or somewhere else?

Many of the same factors indicating that a student would complete their postsecondary program also indicated *where* they would complete their program. Using the same approach as before — examining each characteristic's relationship to college location while accounting for every other characteristic at the same time — several factors emerged as independently associated with whether a credential earner graduated from a regional institution or somewhere outside the region (Table 1).

Figure 11 shows how far each characteristic moves a credential earner's predicted likelihood of graduating in the Southwest region. For each pair, the direction from the dark dot to the green dot shows which way the characteristic points: rightward toward staying regional, leftward toward moving away. On the regional side, where in Southwest Minnesota a graduate went to high school stood out: graduates of high schools in EDR 6E had a 38% likelihood of completing their credential in the Southwest region, compared to 15% for otherwise similar graduates from EDR 6W (23-point difference) and graduates from EDR 8 (a 30% likelihood, 15-point difference). Hispanic graduates were also considerably more likely than otherwise similar White graduates to complete regionally (39% vs. 29%, 10 points). The remaining pulls toward staying regional were smaller: economic disadvantage, special education, and English learner status (6 points each), female gender (5 points), and CTE participation or completion (3 points each). On the other side, taking the SAT showed the largest pull toward completing a credential outside the region (17% vs. 30%, a 13-point gap), followed by taking an AP exam (25% vs. 31%, 6 points) and PSEO participation (28% vs. 31%, 3 points).

ACT engagement isn't included in the chart above because, as in the completion section earlier, it isn't a simple yes-or-no comparison. It's a relationship that builds continuously with score, but in this case it runs in the opposite direction (Figure 12).

Among otherwise similar completers who did not take the ACT, the predicted likelihood of completing a postsecondary program in the region

Table 1: Characteristics associated with graduating from a regional college versus a college outside the region, among postsecondary credential earners. Data: Minnesota Office of Higher Education, SLEDS

More Likely to Complete a Postsecondary Program within the Region	More Likely to Complete a Postsecondary Program Outside the Region
EDR 6E. Graduates of high schools in EDR 6E were much more likely to complete their credential regionally than those from EDR 6W, the largest gap in this analysis.	**Taking the SAT.** Students who took the SAT were much more likely to complete their credential outside the region, by far the largest gap on this side of the table.
EDR 8. Graduates of high schools in EDR 8 were also much more likely to complete their credential regionally than those from EDR 6W.	**AP exam participation.** Students who took an AP exam were less likely to complete their credential regionally.
Hispanic identity. Hispanic graduates were more likely to complete their credential within the region than White graduates.	**PSEO participation.** Students who took college courses in high school through PSEO were slightly more likely to complete their credential outside the region, the smallest gap on this side of the table.
Economic disadvantage. Graduates who qualified for free or reduced-price lunch were more likely to complete their credential regionally.	
Special education. Graduates who received special education services were more likely to complete their credential regionally.	
English learner status. English learners were more likely to complete their credential regionally than otherwise similar graduates who were not English learners.	
Female gender. Female graduates were more likely than male graduates to complete their credential regionally.	
CTE participation. Students who took CTE courses, or completed a CTE sequence, were slightly more likely to graduate from a regional institution than those with no CTE background.	

is 40%. Test-takers with lower scores had a *higher* likelihood of completing their postsecondary program in the Southwest region: 47% at a score of 12 and 41% at a score of 15. From there, the likelihood dropped with every additional point, falling below the level for non-test-takers at around a score of 15 and reaching just 9% at a score of 36.

In other words, taking the ACT and scoring modestly is associated with *more* regional attachment than not testing at all — but scoring well on it is associated with substantially *less* regional attachment. The crossover point, right around 15, is a useful marker: below that score, ACT engagement reads as a local-commitment signal; above it, it reads as a launching pad toward opportunities elsewhere.

A mix of demographic, academic, and geographic characteristics were each associated independently with increasing or decreasing the odds of earning a postsecondary credential in the region

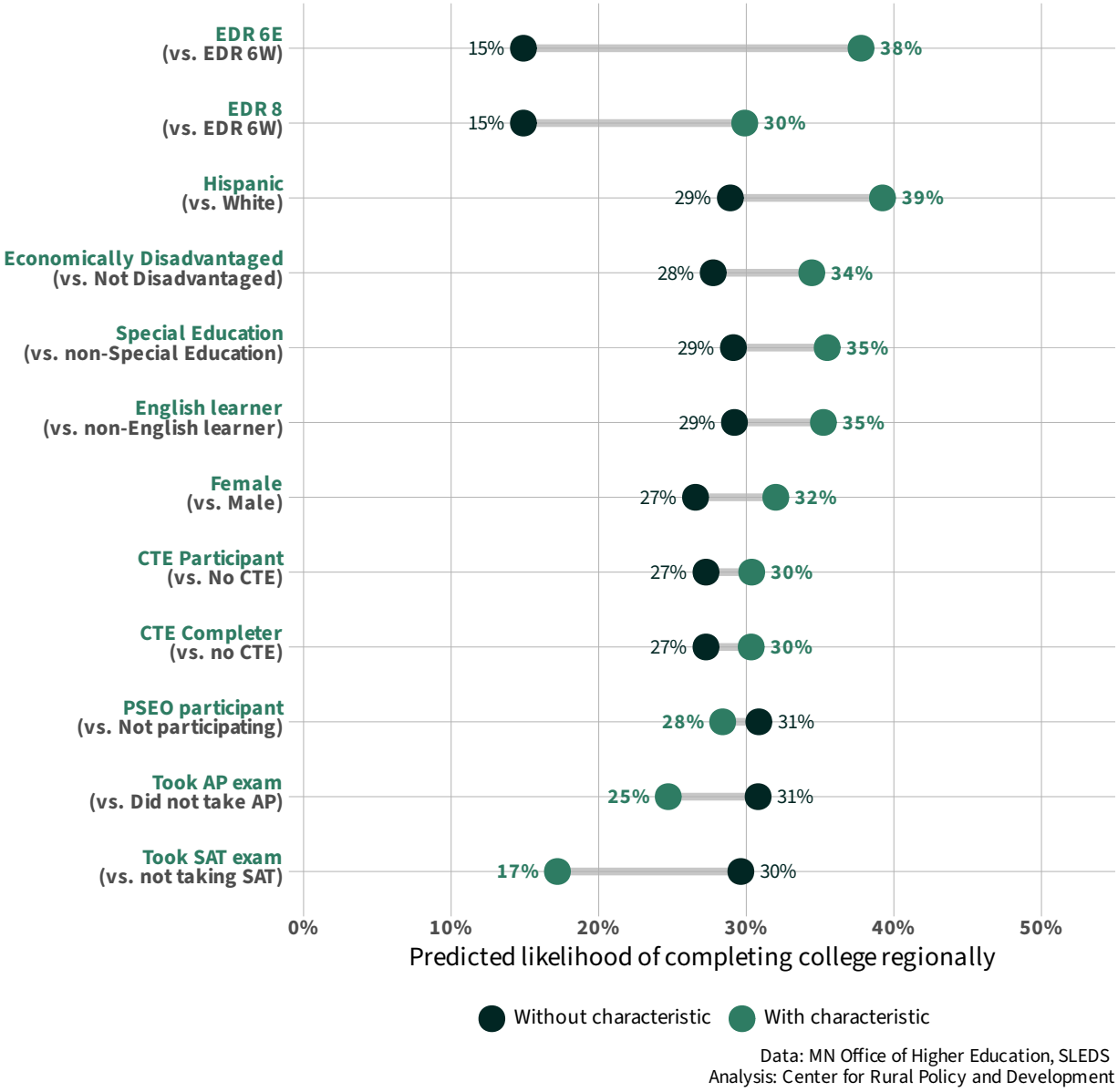
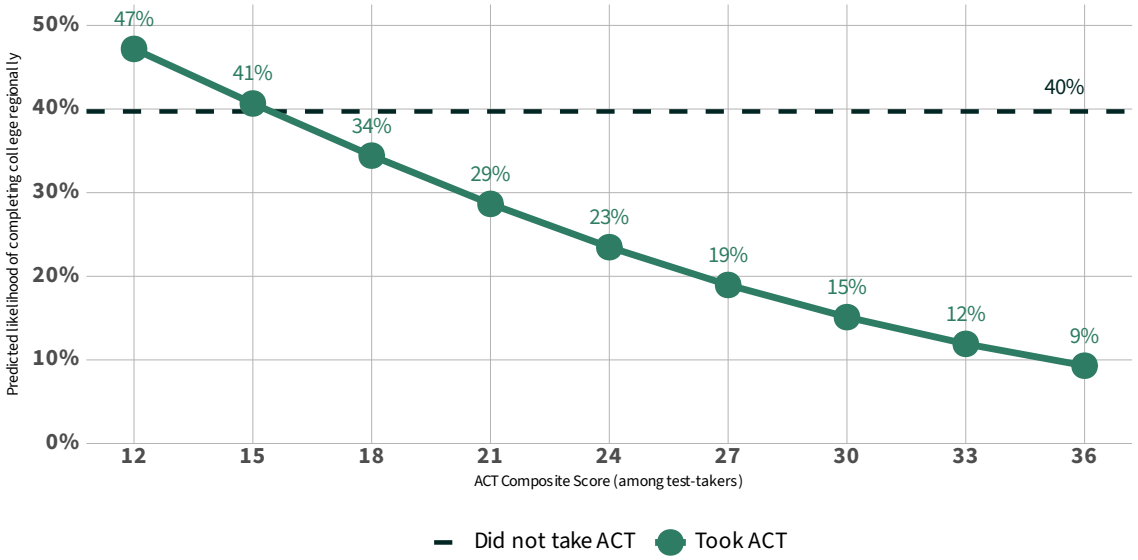


Figure 11: Predicted likelihood of completing a postsecondary credential regionally, comparing otherwise similar completers with and without each characteristic. Data: Minnesota Office of Higher Education, SLEDS

Simply taking the ACT is associated with a pull toward staying regional; among test-takers, higher scores are associated with completing somewhere else instead.



Data: MN Office of Higher Education
Analysis: Center for Rural Policy and Development

Figure 12: Predicted likelihood of completing college regionally, by ACT participation and composite score. Data: Minnesota Office of Higher Education, SLEDS

What does this mean for Southwest Minnesota?

The Credential Earners Pathway shows a clear pattern for Southwest Minnesota. More than half of high school graduates completed a postsecondary credential, and those who did were more likely to have ongoing sustained workforce participation, though most of that advantage showed up as employment elsewhere in Minnesota rather than in the region. Among credential earners, where the degree was earned was much more strongly associated with where that person eventually settled for their career than what degree was earned. Credential type still added a smaller, independent pull of its own: sub-baccalaureate completers were somewhat more likely than bachelor's completers to end up working in the region, but that gap was modest next to the gap between graduating regionally and graduating anywhere else. That makes the region's share of completions important, and fewer than a third of Southwest credential earners completed their program at a regional institution.

Academic preparation's relationship to staying local isn't as simple as "the most prepared students leave." Taking the ACT and scoring modestly leaned regional; it was strong scores, along with SAT, AP, and PSEO participation, that were specifically associated with completing elsewhere. Geography showed the largest gaps of any characteristic: graduates from EDR 6E and EDR 8 were far more likely to complete regionally than otherwise similar graduates from EDR 6W. Much of that gap likely reflects a shortage of postsecondary options

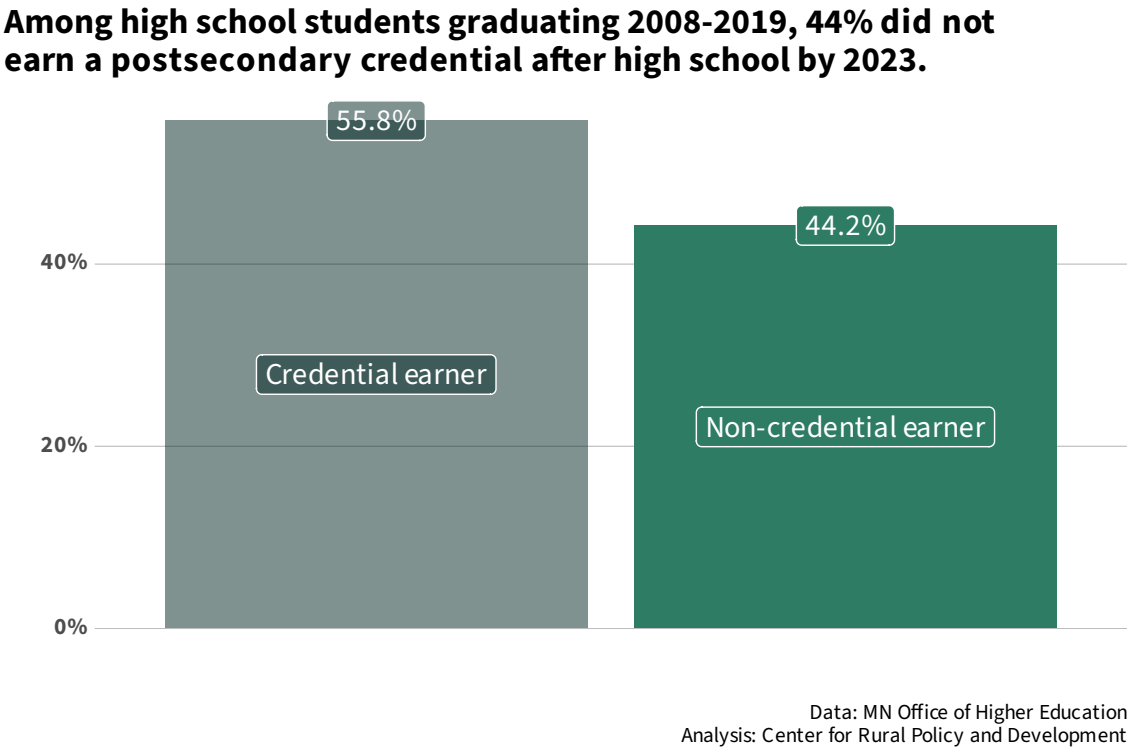
in EDR 6W rather than unusually strong regional attachment elsewhere. With few colleges of its own, EDR 6W sends more of its graduates outside the region to complete a credential, and because EDR 6W is the point of comparison, its low baseline likely inflates the apparent regional attachment of graduates from EDR 6E and EDR 8. Hispanic identity, economic disadvantage, special education, English learner status, female gender, and CTE participation all pointed toward staying regional.

Pathway 2: The Workforce-First Pathway

The Workforce-First Pathway is the story of those Southwest Minnesota high school graduates who did not complete a postsecondary credential but still went on to find sustained workforce participation, mostly in the Southwest region but also in the rest of the state. These are the high school graduates who entered the workforce directly without completing a postsecondary program.

What distinguishes the non-credential earners on this pathway who did establish stable, sustained regional workforce participation from those non-credential earners who did not? As we will see, the story is simpler than the Credential Earner Pathway but no less important: **Career-aligned preparation in high school is the clearest and most durable predictor of attachment to the regional workforce for this group.**

Figure 13: Percent of 2008 to 2019 high school graduates in Southwest Minnesota by postsecondary credential completion. Data: Minnesota Office of Higher Education, SLEDS



Just over a quarter of non-credential earners had sustained workforce participation in the region and another 16% outside the region but within Minnesota.

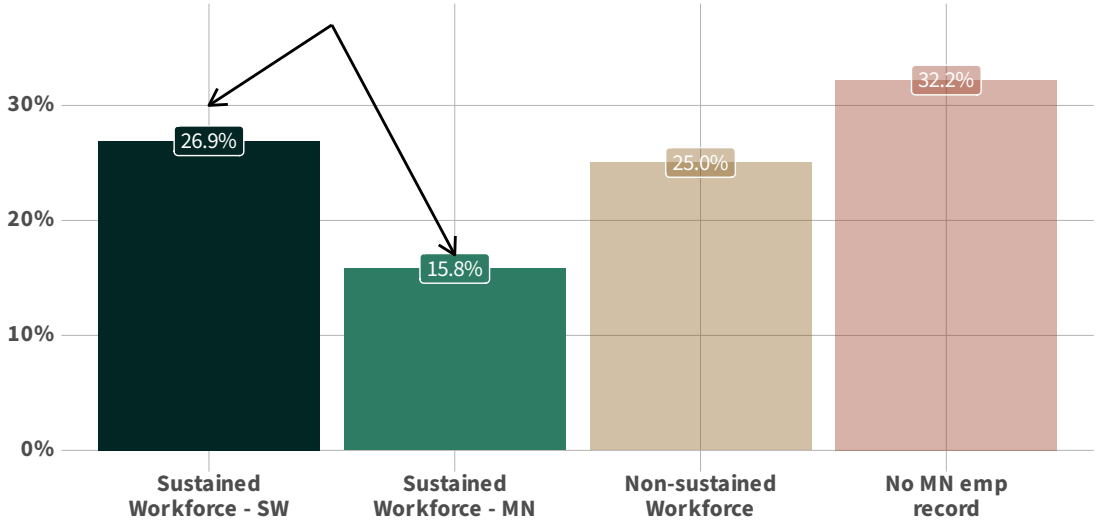


Figure 14: More than two in five non-credential earners (43%) had sustained workforce participation five years after high school, 27% in the region and 16% elsewhere in Minnesota. Data: Minnesota Office of Higher Education, SLEDS

Data: MN Office of Higher Education
Analysis: Center for Rural Policy and Development

Of the non-credential earners, more than two in five (43%) had sustained workforce participation five years after high school, 27% with employers in the region and 16% elsewhere in Minnesota (Figure 14). This is the group this pathway focuses on.

Understanding the variables and conditions that correlated with whether non-credential earners ended up in sustained workforce participation or not could contribute significantly to future policy and programming aimed at helping the other non-credential earners move into that sustained workforce participation group as well.

What factors were more likely to keep non-credential earners connected to sustained regional workforce participation?

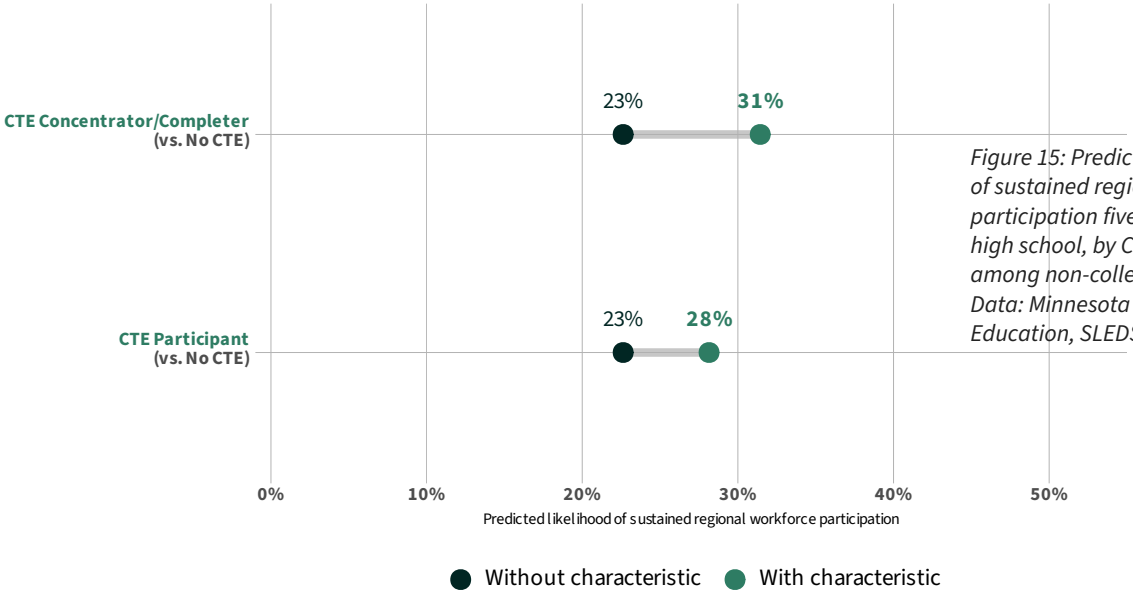
Among non-credential earners, two characteristics stood out as independently associated with sustained workforce participation in the Southwest region: engagement with CTE and engagement with the ACT.

CTE Engagement

Students who completed a full CTE sequence — becoming what's known as a "concentrator" — were significantly more likely to have sustained workforce participation in the region than peers with no CTE involvement.

Figure 15 shows how much CTE engagement was a factor for non-credential earners five years after high school. Those who finished a full sequence

Both CTE concentration and lighter CTE participation are independently associated with higher regional attachment.



Data: MN Office of Higher Education
Analysis: Center for Rural Policy and Development

Figure 15: Predicted likelihood of sustained regional workforce participation five years after high school, by CTE engagement, among non-college completers. Data: Minnesota Office of Higher Education, SLEDS

of CTE courses had a predicted 31% likelihood of sustained regional employment compared to 23% for otherwise similar peers with no CTE involvement. Even lighter CTE participation, short of a full sequence, showed a smaller but still real effect: 28% versus that same 23% baseline.

Both of these differences showed up at one year after high school and continued to grow through year 10, making CTE one of the most durable characteristics identified in this analysis. While several other factors we examined eventually shifted, faded, or reversed, CTE's relationship with non-credential earners and regional attachment only deepened over time.

ACT Scores

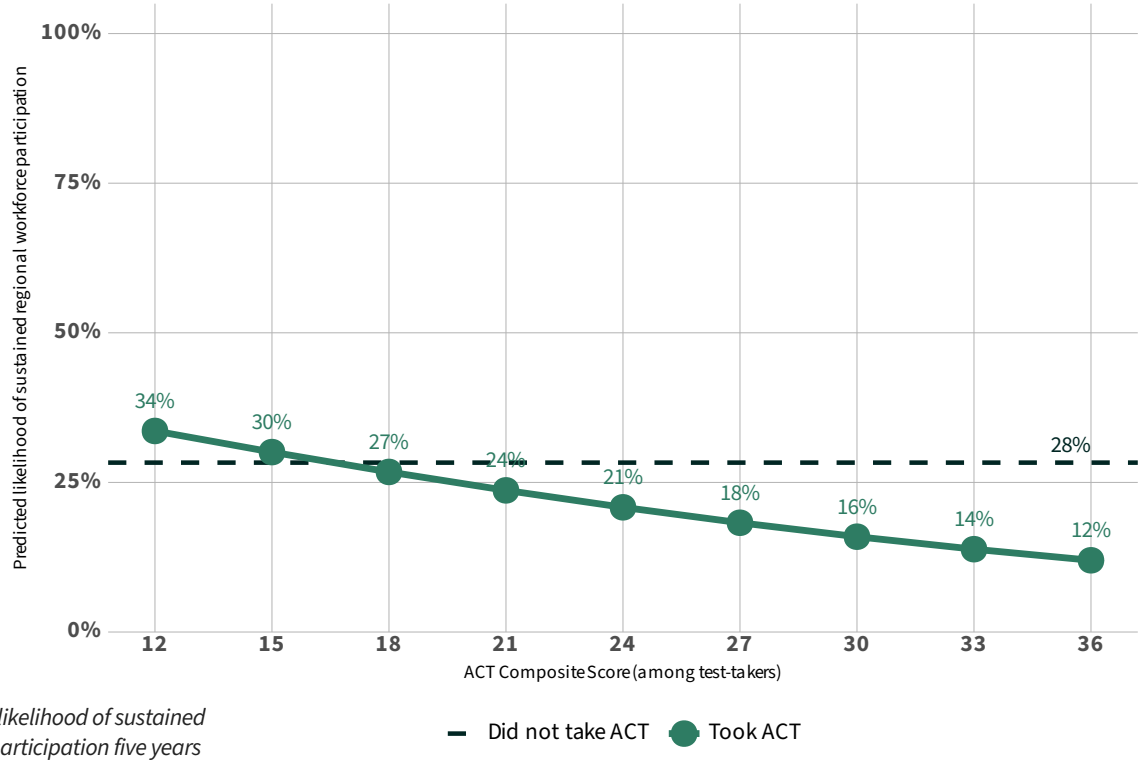
As it did in the credential earner pathway, taking the ACT test comes with a twist. Simply taking the ACT was associated with higher odds of sustained regional employment, but only up to a point.

Among non-credential earners who did not take the ACT but who are otherwise similar in gender, race and ethnicity, economic background, and every other characteristic included in this model, the predicted likelihood of sustained regional employment at five years after high school graduation is 28%.

But as with the Credential Earner Pathway, the relationship between ACT engagement and future sustained workforce participation in the region among non-credential earners also depended on the score achieved.

As in the Credential Earners' Pathway, taking the ACT and scoring modestly indicates a real likelihood of regional attachment, while scoring higher on it

Simply taking the ACT is associated with higher odds of sustained regional employment at lower scores; among those who scored higher, this advantage fades and reverses.



Data: MN Office of Higher Education
Analysis: Center for Rural Policy and Development

Figure 16: Predicted likelihood of sustained regional workforce participation five years after high school, by ACT participation and composite score, among non-credential earners. Data: Minnesota Office of Higher Education, SLEDS

indicates a real likelihood of *not* having regional attachment. The likelihood starts out higher for non-credential earners who took the test and received lower scores, at 34% for a score of 12, but the odds fall from there. For non-credential earners who scored 36, the likelihood of them having sustained work participation in the region at five years after graduation was only 12%.

The crossover point here (around a score of 17) is a little higher than the one we saw for college location (around 15), but the underlying story is the same: *a strong ACT performance signals something that pulls away from staying in the region.*

What works for the Workforce-First pathway?

Taken together, CTE engagement is the clearest and most reliable factor identified for this pathway, and the relationship with sustained workforce participation in the region only strengthens over time. ACT participation matters, too, though it behaves differently compared to CTE: taking the ACT and scoring modestly is associated with a higher likelihood of sustained workforce participation in the region, but when the score achieved is considered, higher scores indicate a person is more likely to leave the region, while a lower score is a real, substantial indicator of someone who will stay in the region, just as with credential earners.

Pathway 3: The Disconnected Pathway

Apart from those non-credential earners who ended up on the Workforce-First Pathway because of their sustained workforce participation, there is another sizable group of non-credential earners who do not. These are the individuals who find themselves on the Disconnected Pathway. The analysis revealed who tends to end up in this group, what disconnection actually looks like, and how often it persists rather than resolving on its own.

Five years after high school, 42.7% of non-credential earners were on the Workforce-First Pathway, with sustained workforce participation in either the Southwest region or elsewhere in Minnesota (Figure 17). The remaining 57.2% of non-credential earners were either individuals with no Minnesota employment record (32.2%) or in non-sustained workforce participation (25.0%), meaning that in a given year they were working less than 1,000 hours and/or for more than one employer. This group is on the third pathway that emerged: the Disconnected Pathway.

Those individuals on this pathway were either not engaging fully with the local or state workforce (non-sustained workforce participation) or absent from the state's employment records entirely (no Minnesota employment record). Moreover, for many in this group, that disconnection did not resolve on its own. Many in this group stayed weakly connected to Minnesota's labor force across the years. A handful did reconnect and move into the sustained

Nearly 60% of non-credential earners had non-sustained workforce participation or no Minnesota employment record.

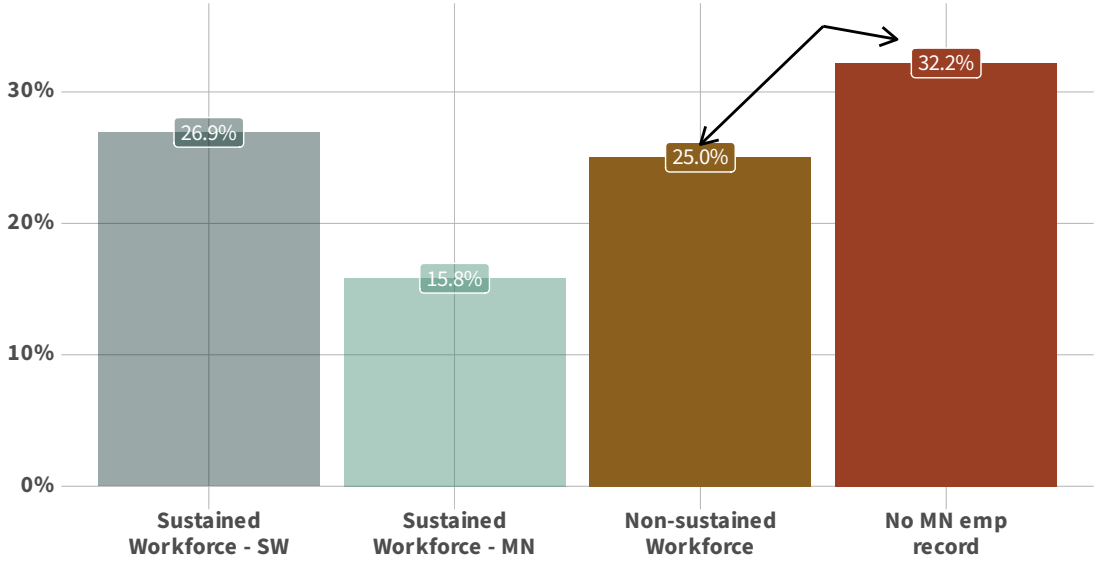


Figure 17: A large percentage of non-credential earners either had no Minnesota employment record or non-sustained workforce participation five years after exiting formal education. Data: Minnesota Office of Higher Education, SLEDS

Data: MN Office of Higher Education - SLEDS
Analysis: Center for Rural Policy and Development

workforce participation group, but for most, weak workforce attachment was not a temporary early-career condition—it was a *trajectory.*

This group is important because they represent a substantial pool of individuals who, for a variety of reasons, are not engaging fully with the local workforce (or even the state workforce) but could be if given the right mix of interventions before and after high school graduation. Perhaps one of the most important findings about this group was that the factors characterizing them made them almost easy to identify while still in K-12 and therefore ready for help if they wanted it.

Disconnected Pathway

High school graduates → Non-college completers → Non-sustained workforce participation *or* no Minnesota employment record

It is worth a brief reminder of what "no Minnesota employment record" means in this context since it can reflect very different circumstances depending on the population being examined. As discussed earlier, for credential earners—particularly those who graduated from institutions outside the region or outside the state—the data showed that no Minnesota employment record often reflected out-of-state graduation, followed by out-of-state employment. That matters a great deal in Southwest Minnesota. The region's entire western edge borders South Dakota and its southern edge borders Iowa, and Sioux Falls, South Dakota's largest city and a major regional job center, sits a short drive across the state line from Rock and Pipestone counties. For the graduates in this study, Minnesota's tuition reciprocity agreement with South Dakota made that state's public universities, including South Dakota State University in Brookings, an affordable option. A graduate working in Sioux Falls looks identical in this data to one who moved across the country, because Minnesota's employment records can't see across the state line. Iowa is a smaller factor for the Southwest region: Minnesota's reciprocity agreement with Iowa covers only one community college on each side of the border.

The state line matters among non-credential earners, too, when interpreting "no Minnesota employment record." Regional labor market data from the U.S. Census Bureau provide a useful benchmark: among Southwest Minnesota adults whose highest level of education is a high school diploma, 22.5% are not in the labor force, and among those with some college or an associate's degree, 14.8% are not. Because the non-credential earners in this study include both groups, regional labor force patterns alone would predict a no-record share somewhere between those two figures. The observed rate among non-credential earners in this analysis is 32.2%, about 10 points above even the higher benchmark and well outside its margin of error.

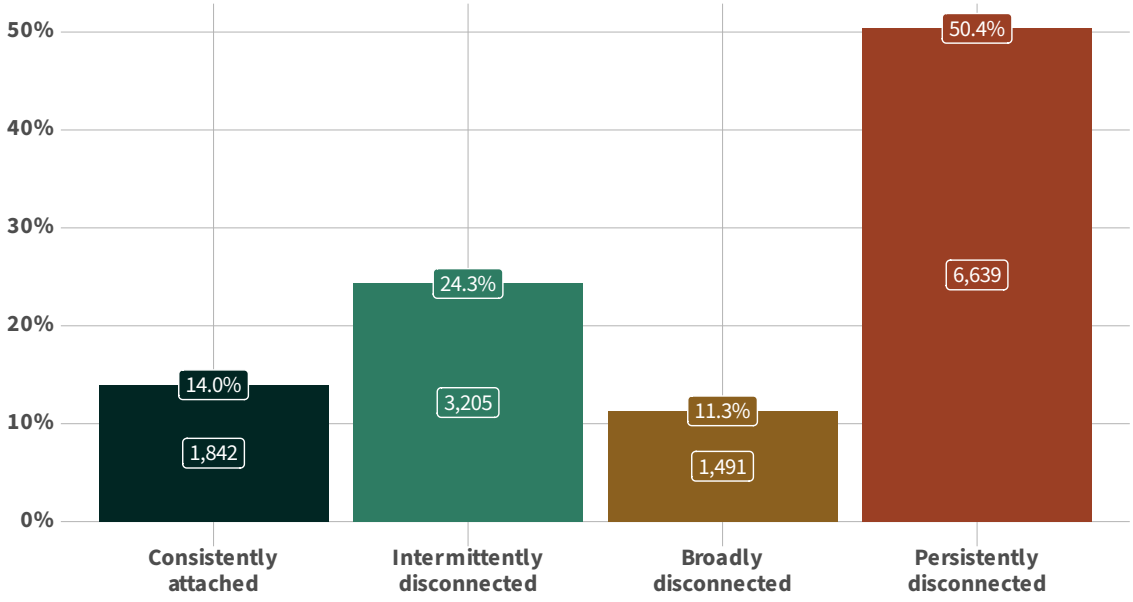
Several things the data cannot see likely account for much of that difference. Some non-credential earners are probably working across the state line in South Dakota or Iowa. Others work for themselves: Minnesota's employment records are based on employer-reported wages, so an individual working as a self-employed contractor, running their own small business, or operating a farm would not appear in this data, regardless of location. That is a sizable group in Southwest Minnesota, where 13.2% of employed residents are self-employed and there are about 20 nonemployer businesses (those with no paid employees) for every 100 payroll jobs. Military service and federal employment, which are also absent from state wage records, account for less than 2% of the region's employed residents. On balance, the data suggest that for Southwest Minnesota non-credential earners, "no Minnesota employment record" is a mix: it includes genuine disconnection from the workforce, but it also likely reflects a meaningful share of employment the data simply can't see, especially work across the state line and self-employment.[1]

Persistence of disconnection

To determine *how* disconnected from the workforce each person in the group was, we tracked their workforce participation status across the first five years after leaving formal education. For individuals who never attended postsecondary education, this meant the five years immediately following high school graduation. For those who attended college or

1 Note on the sources of these benchmarks: The 22.5% figure is the share of Southwest Minnesota adults ages 25 to 64 whose highest level of education is a high school diploma (including equivalency) who are not in the labor force, summed across the 18 counties of Economic Development Regions 6E, 6W and 8 (8,036 of 35,793; margin of error ±1.3 percentage points). The 14.8% figure is the same measure for adults whose highest level of education is some college or an associate's degree (7,561 of 51,213; margin of error ±0.8 percentage points). Both are from the U.S. Census Bureau, American Community Survey 2020–2024 5-Year Estimates, Table B23006. The comparison is approximate. The ACS measures current residents of the region rather than everyone who graduated from its high schools, covers a broader age range than the graduates examined here, and measures labor force participation rather than the presence of a Minnesota employment record. Neither cross-border employment in South Dakota or Iowa nor self-employment can be observed in Minnesota's employer-reported wage records, so the exact share of the no-record group they account for cannot be determined from this data alone. Self-employment is the share of civilian employed residents who are self-employed in incorporated or unincorporated businesses (18,112 of 137,430; margin of error ±0.4 percentage points), from the American Community Survey 2020–2024 5-Year Estimates, Table B24080. Nonemployer businesses are from the U.S. Census Bureau's 2023 Nonemployer Statistics, and payroll jobs from 2023 County Business Patterns; both exclude most farm activity. Military and federal employment are from the American Community Survey 2020–2024 5-Year Estimates, Tables B23025 and B24080.

Weak workforce connection often persists among non-credential earners

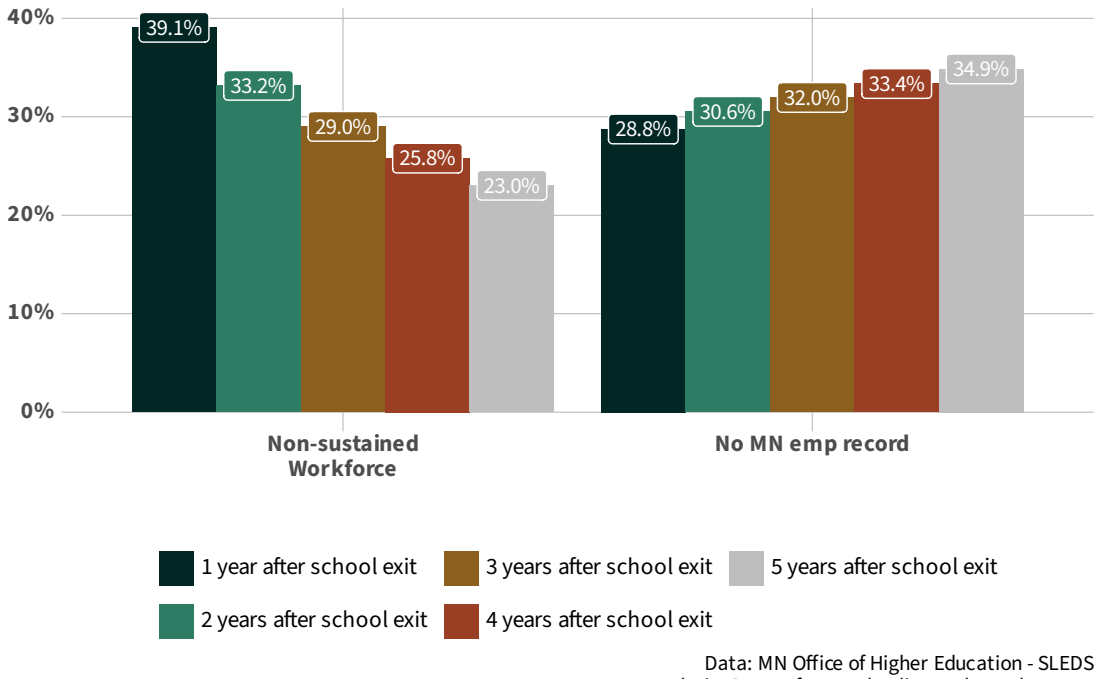


Data: MN Office of Higher Education - SLEDS
Analysis: Center for Rural Policy and Development

Figure 18: The distribution of non-credential earners by how persistently disconnected they were from the workforce. Data: MN Office of Higher Education, SLEDS

Figure 19: The share of non-college graduates in non-sustained employment shrinks steadily in the five years after leaving formal education, while the group with no Minnesota employment record keeps climbing, passing non-sustained employment by Year 3. Data: MN Office of Higher Education, SLEDS

Unstable work fades over time. Disappearing from the record doesn't.



Data: MN Office of Higher Education - SLEDS
Analysis: Center for Rural Policy and Development

another postsecondary program but did not complete a credential, this meant the five years after they stopped attending. Individuals were then grouped by the degree of disconnection:

- **Consistently Attached to the workforce:** Disconnected in 0 of the first 5 years. In other words, they had consistently sustained workforce participation for five of the first five years.
- **Intermittently Disconnected:** Disconnected in 1-2 of the first 5 years
- **Broadly Disconnected:** Disconnected in 3 of the first 5 years
- **Persistently Disconnected:** Disconnected in 4-5 of the first 5 years

Understanding the degree of disconnection was a necessary step toward identifying where targeted intervention before and after high school graduation could make a substantial difference in the individuals' lives and for the region's workforce.

The results showed that half of non-credential earners (50.4%) were disconnected four to five of the first five years after leaving formal education, while only 14% were consistently attached across all five years (Figure 18). Most concerningly, the findings showed that for the majority of the people on this pathway, disconnection early on did not resolve itself; instead, it persisted.

Two Kinds of Disconnection

Within the Disconnected Pathway, **non-sustained workforce participation** means someone *is working,* just not steadily enough to meet the threshold of a sustained workforce participant. Think part-time, seasonal, or frequently interrupted work. **No Minnesota employment record** means there is no evidence the person worked in the state at all that year; it could mean they moved out of state for work, they left the workforce to be a stay-at-home parent, got a federal job, joined the military or started their own business. The data alone can't tell these situations apart. In Southwest Minnesota, with Sioux Falls just across the state line and a large self-employed and farm workforce, a meaningful share of this group is likely working somewhere Minnesota's records cannot see.

Non-sustained workforce participation and **no Minnesota employment record** don't just look different—they behave differently by moving in opposite directions over time (Figure 19). Non-sustained employment is the more common experience early on, but the group shrinks year after year as people either find sustained workforce participation or shift into the no-Minnesota-employment-record group, either by leaving the workforce or by taking work the state's records don't capture.

Having no Minnesota employment record behaves the opposite way. Fewer people experience it in year 1, but once someone has no record, they tend to stay that way. That persistence may reflect lasting disconnection for some and, for others, a settled job across the state line or a business of their own.

Table 2: Characteristics associated with higher odds of persistent instability versus persistent no-record status among non-credential earners. Data: Minnesota Office of Higher Education, SLEDS

Associated with Higher Odds of Persistent Unsustained Workforce Participation	Associated with Higher Odds of Persistent No-Record Status
Black identity. The largest instability gap in the analysis.	**American Indian identity.** The largest gap in either model, a striking, independent risk.
Special education status. A real, independent risk factor for instability specifically.	**Hispanic identity.** A large, independent risk.
Female gender. A modest but real independent risk factor for instability specifically.	
Economic disadvantage. A modest but real independent risk, notable because economic disadvantage was associated with lower odds of persistent no-record status.	

Instead of shrinking over time like non-sustained workforce participation does, it grows year over year.

Who is Most at Risk of Disconnection?

Within the analysis, the data revealed a set of demographic, academic, and geographic characteristics associated with a higher likelihood of ending up on the Disconnected Pathway. Understanding who faces these risks is the first step toward knowing where support is needed most.

Besides being in either the non-sustained workforce participation category or the no Minnesota employment record category, individuals in the dataset also carried with them their own unique mix of social, economic and demographic characteristics. We tested each of these characteristics to see if any of them, on their own, might influence which pathway a person might end up on. To take the analysis one step further, we asked: For each characteristic examined, is the elevated risk showing up as unstable employment, as no Minnesota employment record, as both or as neither?

Each characteristic in Table 2 showed elevated risk on one side but not the other — an individual's demographic profile can point toward a real risk of unstable employment while showing no relationship at all to disappearing from the record, or vice versa. No characteristic showed an independently confirmed, elevated risk for both outcomes.

Persistent unsustained workforce participation

The four characteristics in the left column of the table stood out as independently linked to persistent unsustained workforce participation, but the size of their effects varied (Figure 20). Black identity showed the strongest association: when all other factors were held constant, Black individuals faced a predicted 21% likelihood of persistent non-sustained

employment, compared to 13% for otherwise similar White individuals, an 8-point gap and about 1.6 times the risk. Graduates with a special education designation faced a 17% likelihood compared to 12% for those without one. Female graduates (16% vs. 12% for male graduates) and economically disadvantaged graduates (15% vs. 12% for those not eligible for free or reduced-price lunch) showed smaller but still real gaps. Even at the modest end, none of these gaps disappear once all other factors are accounted for; each one is an independent, standalone contributor to an individual's risk of persistent instability.

Persistent No Minnesota Employment Record

On the other side of the table, how much does each characteristic contribute to someone's odds of persistently disappearing from Minnesota's employment records?

American Indian identity showed the largest gap of the group (Figure 21): a 32% likelihood of persistently having no Minnesota employment record compared to 22% for otherwise similar White graduates, a 10-point gap. Hispanic identity showed the only other confirmed gap, 29% compared to 22%, a 7-point difference.

Several demographics are independently associated with a higher risk of persistent instability



Data: MN Office of Higher Education - SLEDS
Analysis: Center for Rural Policy and Development

Figure 20: Predicted likelihood of persistent non-sustained employment, comparing otherwise similar non-credential earners with and without each characteristic. Data: Minnesota Office of Higher Education, SLEDS

One More Factor: ACT Engagement

ACT engagement — whether someone took the ACT or not — is an anomaly in that its correlation to the risk of being disconnected isn't a simple yes/no like the other characteristics. Whether it increases or decreases a person's risk of ending up disconnected depends first on whether an individual took the test, then on what score they received.

Compared with otherwise similar non-credential earners who never took the test, test-takers with lower scores had a much lower risk of persistent no-record status and about the same risk of persistent instability. That advantage did not hold across the full range of scores, though.

Among students who did take the ACT, a higher score was associated with increased risk of both outcomes (Figure 22). Predicted risk of persistent instability rose from about 8% at the lowest scores to about 13% at the highest, staying at or above the 8% for non-takers across the full range

American Indian and Hispanic identity are both independently associated with higher odds of persistently having no Minnesota employment record

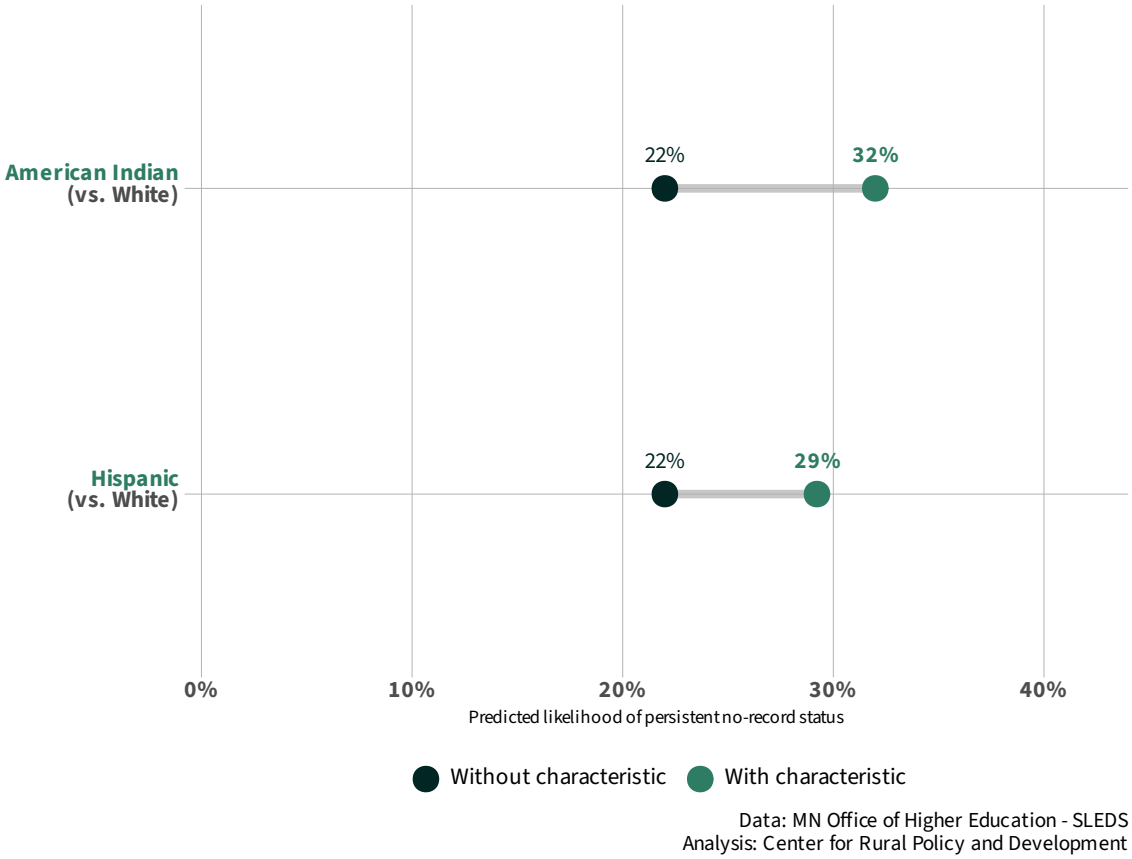
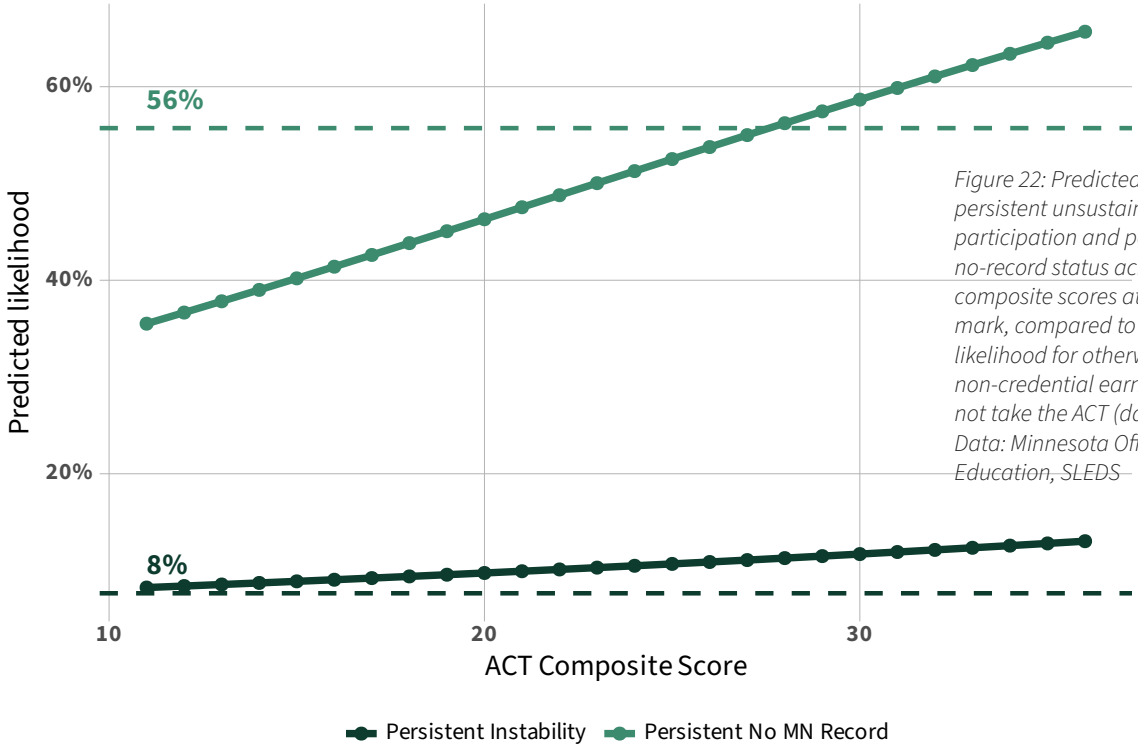


Figure 21: Predicted likelihood of persistently having no Minnesota employment record, comparing otherwise similar non-credential earners with and without each characteristic. Data: Minnesota Office of Higher Education, SLEDS

Among ACT test-takers, higher composite scores are independently associated with greater odds of both persistent non-sustained employment and persistent no Minnesota employment record.



Data: MN Office of Higher Education - SLEDS
Analysis: Center for Rural Policy and Development

Figure 22: Predicted likelihood of persistent unsustained workforce participation and persistent no-record status across ACT composite scores at the Year 5 mark, compared to the predicted likelihood for otherwise similar non-credential earners who did not take the ACT (dashed lines). Data: Minnesota Office of Higher Education, SLEDS

of scores. Predicted risk of persistent no-record status rose more steeply, from about 35% at the lowest scores to about 66% at the highest, passing the 56% for non-takers at around a score of 28. The two outcomes move in the same direction, suggesting that whatever is driving this pattern isn't specific to one type of disconnection. It reflects a broader relationship between *stronger academic performance and reduced regional attachment* that shows up consistently across outcomes. The data were clear on this phenomenon but could not reveal why it happens. It may reflect something about the pathway that leads a well-prepared student to not complete a credential in the first place.

Disparities Compound Across the Pipeline

The demographic characteristics identified in this pathway are not unique to non-credential earners. Recall from the Credential Earners' Pathway that several of the same characteristics associated with elevated disconnection risk here were also associated with a lower likelihood of completing a postsecondary credential in the first place.

Special education, American Indian, and Hispanic high school graduates all showed this pattern (Figure 23). American Indian graduates showed

The same characteristics associated with elevated disconnection risk are also associated with lower odds of completing a postsecondary credential.

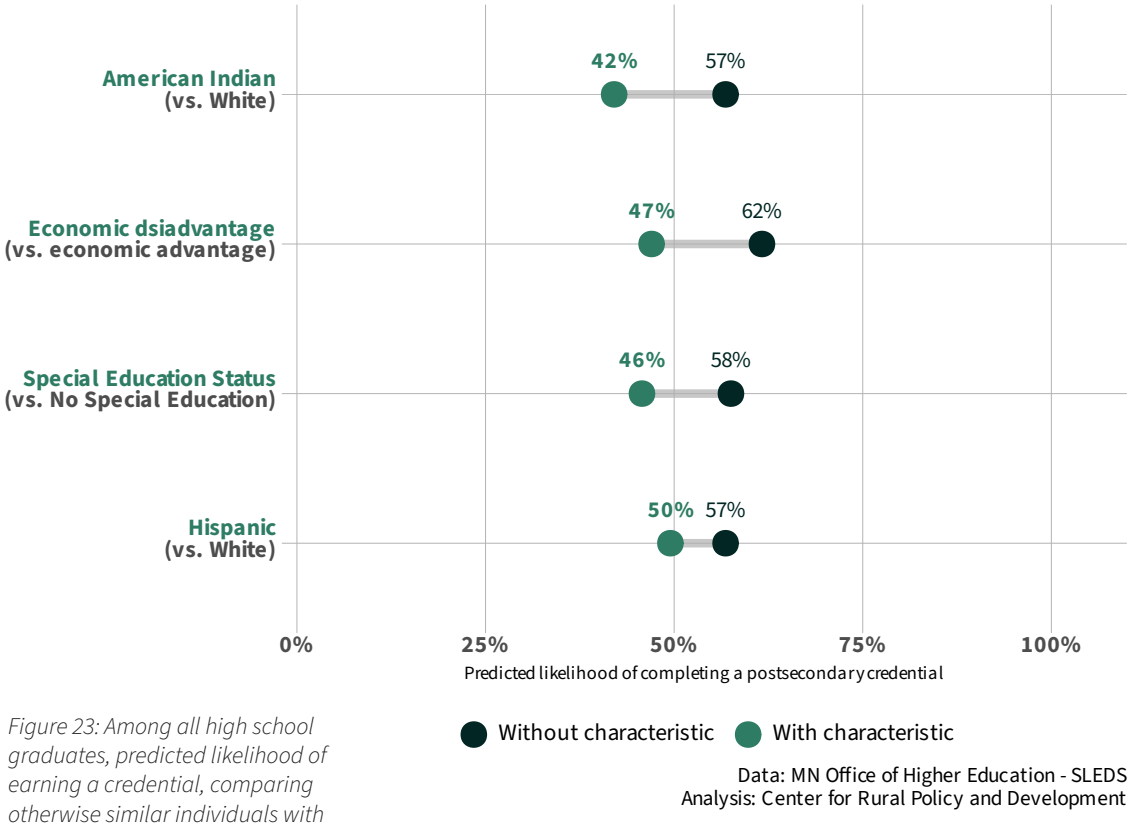


Figure 23: Among all high school graduates, predicted likelihood of earning a credential, comparing otherwise similar individuals with and without each characteristic. Data: Minnesota Office of Higher Education, SLEDS

the largest gap among them, 15 points: a predicted 42% likelihood of completing a postsecondary credential, compared to 57% for otherwise similar White graduates. Graduates with a special education designation (46% vs. 58% for those without one) and Hispanic graduates (50% vs. 57% for otherwise similar White graduates) showed smaller gaps. Asian/Pacific Islander graduates also had a lower predicted likelihood of completing a credential (52% vs. 57%), though they did not show elevated disconnection risk among non-credential earners. No single characteristic in this region was associated with elevated risk at every stage examined.

Economic disadvantage follows a more mixed pattern. Among high school graduates in total, eligibility for free or reduced-price lunch was tied with American Indian identity for the largest gap, a 47% likelihood of completing a postsecondary credential compared to 62% for those who were not eligible. In the non-credential earner group, economic disadvantage was also linked to persistent unsustained workforce participation (15% vs. 12%), but it was associated with lower odds of persistently having no Minnesota

employment record (20% vs. 27%). Graduates from districts with higher local wages, by contrast, were more likely to complete a credential (59% vs. 53%) and less likely to persistently have no Minnesota employment record (22% vs. 25%).

Taken together, these findings suggest that disparities along the pathway don't operate as separate, one-time barriers. They compound. A graduate with one of these characteristics is less likely to complete a postsecondary credential, but in not completing one, they join the group where the same characteristic is again associated with a higher likelihood of disconnection from the workforce. The effect is cumulative: two gaps stacked on the same students, each independent of the other and each still present after accounting for everything else the model measures. This is especially relevant for special education status and economic disadvantage, both of which are identified in school records long before graduation and both of which were associated with lower odds of completing a credential and, among those who didn't, a higher risk of persistent instability. The students most likely to face disadvantages at both stages are, in other words, already known to the K–12 system, which makes high school a practical point to reach them before the gaps widen further.

What Offers Protection Against Disconnection?

Protections Against Persistent Instability

Among the many characteristics examined, only one showed a confirmed, independent *protective relationship* against persistent instability: attending postsecondary education, even without completing it (Figure 24).

Individuals who attended some form of postsecondary education, even without finishing, had a predicted 10% likelihood of persistent unsustained workforce participation, compared to 15% for otherwise similar graduates who never attended at all. This finding makes intuitive sense. Even a partial postsecondary experience often comes with structured routines, career counseling, and connections to employers that a graduate heading straight into the workforce may never encounter. It may also reflect something more basic: the kind of planning and follow-through it takes to enroll in the first place tends to carry over into a steadier transition into work, whether or not the credential itself was ever finished.

Protections Against Persistent No MN Employment Record

While persistent instability showed only one confirmed protective factor for non-postsecondary credential earners, no Minnesota employment record had seven (Figure 25).

CTE engagement showed the largest effects, split across two levels of involvement: CTE Participants had a predicted 21% likelihood, compared to 28% for otherwise similar graduates with no CTE background (a 7-point gap), while CTE Concentrators/Completers showed a slightly smaller 6-point gap (22% vs. 28%), demonstrating once again that CTE engagement tends

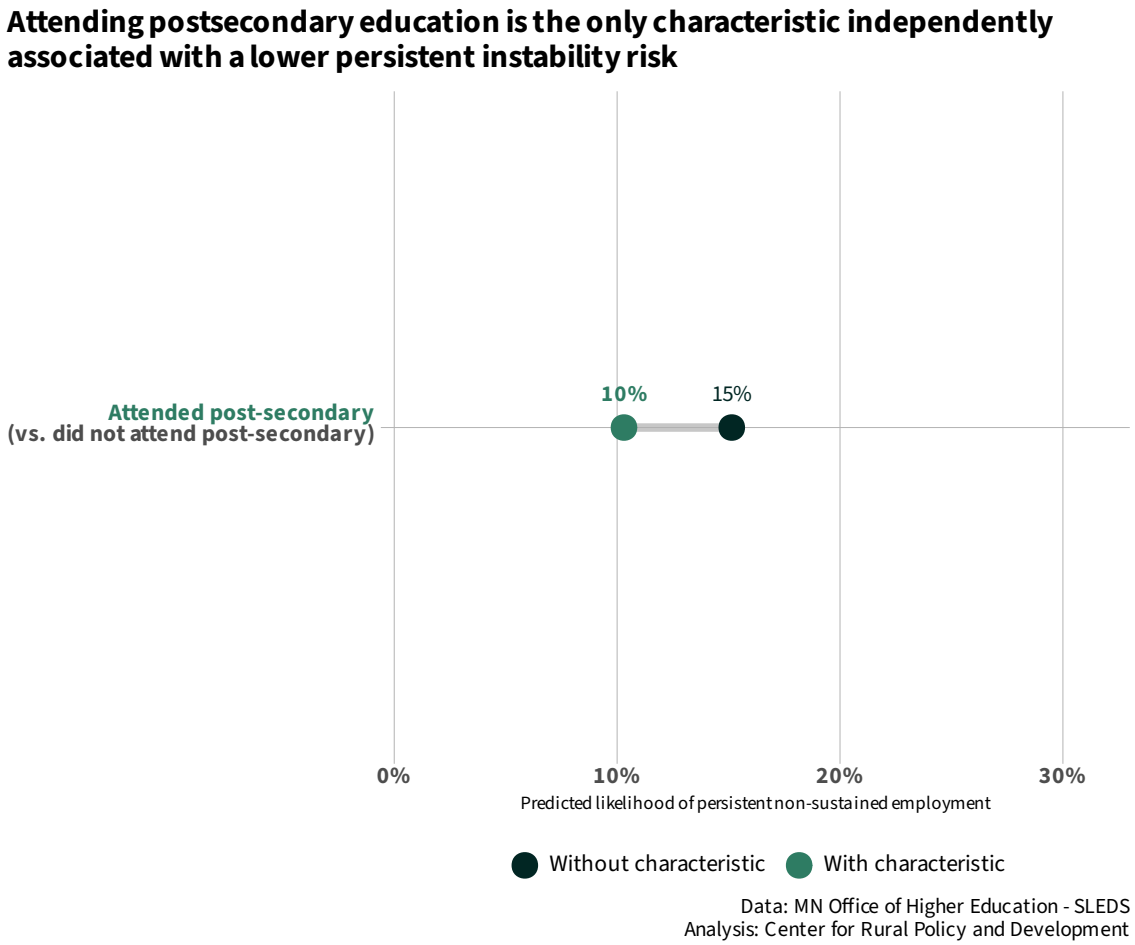


Figure 24: Predicted likelihood of non-sustained employment, comparing otherwise similar non-credential earners with and without the specified characteristic. Data: Minnesota Office of Higher Education, SLEDS

to keep graduates connected to Minnesota's workforce. Economic disadvantage showed an equally large protective effect (20% vs. 27%).

Participating in PSEO (20% vs. 24%), higher local unemployment (21% vs. 25%), and higher local wages (22% vs. 25%) showed smaller, though still real, effects. Attending college, even without completing a credential, showed a 4-point gap (21% vs. 25%). This mirrors the finding for persistent instability, where postsecondary attendance was also protective, making it the only characteristic associated with lower risk of both forms of disconnection.

A Local Opportunity

This distinction between non-sustained workforce participation and no Minnesota employment record matters. Because individuals with no Minnesota employment record have no employment data on file, we can't say anything about where they might be working. But for the unsustained-workforce-participation group, we can understand where they are and what they're doing, and that turns out to be a genuinely useful, actionable finding.

It turns out that, of Southwest Minnesota's disconnected group in non-sustained workforce

Several school, economic and geographic characteristics were independently associated with lower odds of persistently having no Minnesota employment record

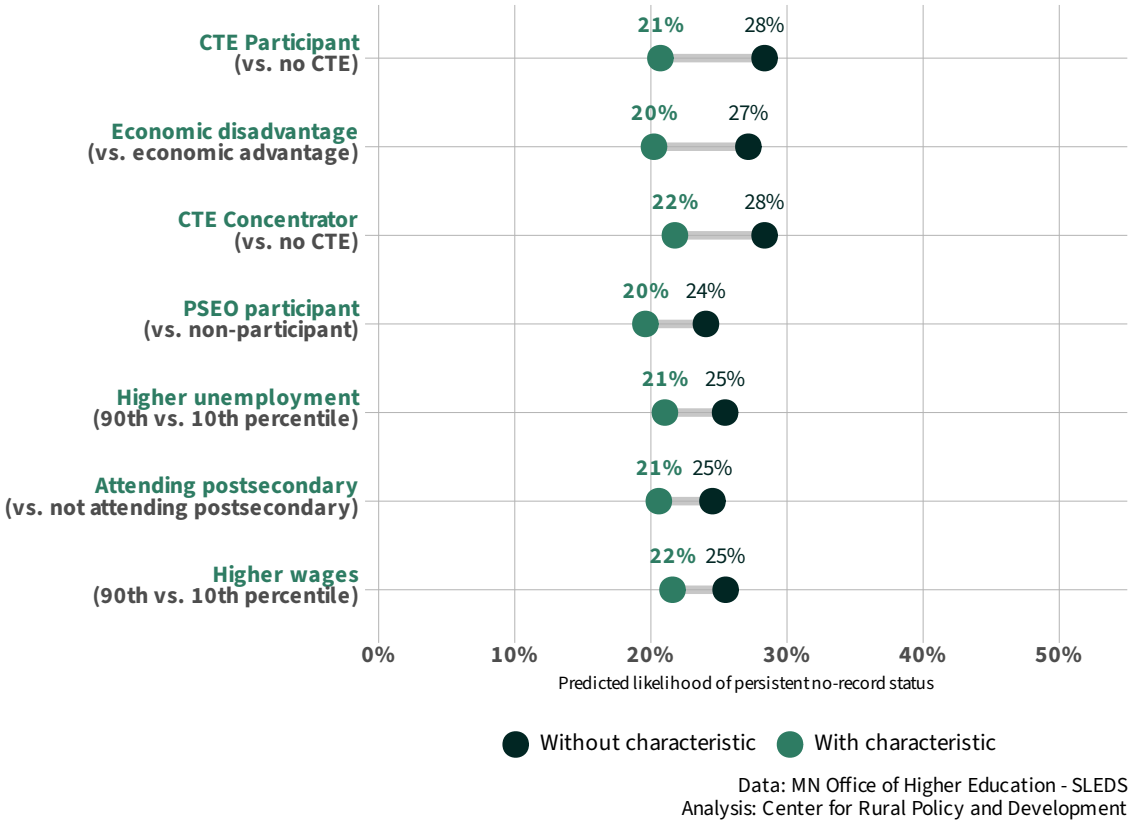
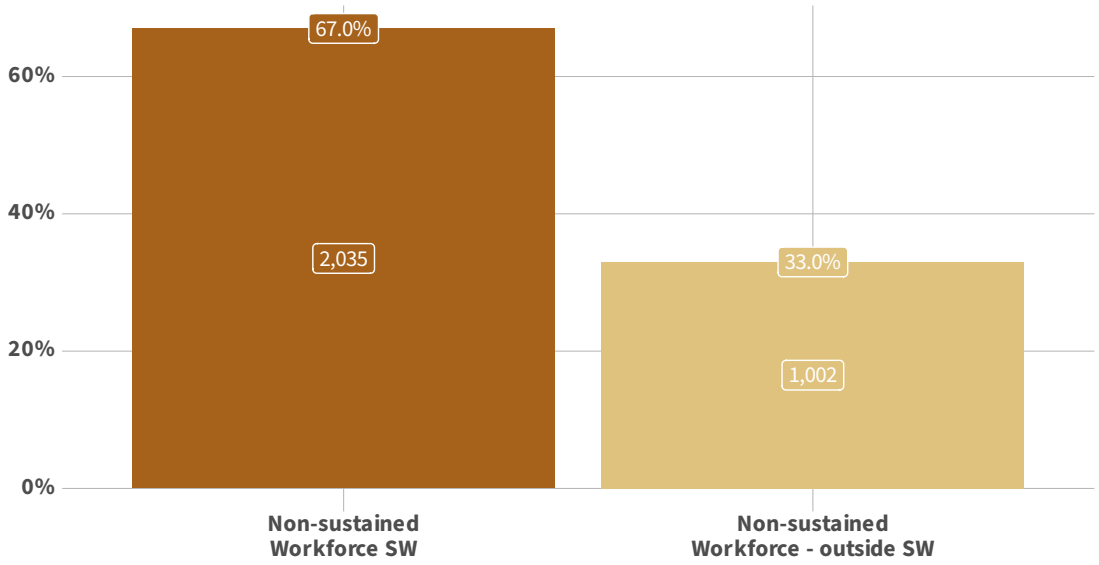


Figure 25: Predicted likelihood of persistent no-record status, comparing otherwise similar non-credential earners with and without each characteristic. Data: Minnesota Office of Higher Education, SLEDS

participation, two-thirds (67.0%) were working in the region, while the other 33.0% were working outside the region.

On the surface, the large share of non-credential earners who were disconnected might signal that graduates are leaving the region for better opportunities or that the region simply doesn't have enough jobs. For some in the no-employment-record group, that may be part of the story. But it doesn't describe the non-credential earners in unsustained workforce participation: they have Minnesota employment records; they are already here, working in Southwest Minnesota — just not at a level that reflects sustained workforce participation (working 1,000+ hours for the same employer in a particular year). These locally employed but potentially underutilized workers represent a meaningful opportunity, one that may be better addressed through strategies focused on job quality, advancement pathways, and retention rather than recruitment alone.

Most non-sustained employment among non-credential earners occurs within the region



Data: MN Office of Higher Education - SLEDS
Analysis: Center for Rural Policy and Development

Figure 26: Non-credential earners in unsustained workforce participation, by whether they were working inside or outside Southwest Minnesota. Data: Minnesota Office of Higher Education, SLEDS

Key Insights and Implications

Finishing college is one of the strongest signs that a graduate will find steady work, and where they go to school matters more than what degree they earn. Graduates who finished any kind of postsecondary program were much more likely to have steady jobs, and those who finished that program in the region were far more likely to still be working there five years later. This holds true whether they earned a two-year or four-year degree. In other words, how strong and accessible the region's own colleges are may matter more for keeping talent local than the type of degree those colleges offer. In Southwest Minnesota, fewer than a third of credential earners finished their program at a regional institution.

The tests students take, and how they score, say a lot about where they're headed. Taking the ACT and scoring modestly was tied to earning a credential in the region and, among students who didn't finish college, a lower risk of falling off Minnesota's employment records. Strong scores pointed the other way: higher-scoring test-takers were more likely to complete a credential outside the region and, among those who didn't finish, more likely to end up disconnected. Taking the SAT served as one of the largest pulls toward earning a credential outside the region, and taking an AP exam or participating in PSEO also pointed outward. None of these

tests explains *why* students leave or stay, but together they suggest that by the end of high school, many students have already signaled which way they're leaning, something educators should be able to see.

Career and Technical Education is the most consistent anchor to the region found anywhere in this analysis. CTE was tied to:

- Finishing college at a regional school;
- A modestly higher likelihood of finishing college at all;
- Steady regional employment among graduates who didn't earn a credential after high school, a relationship that grew stronger over time; and
- Lower odds of falling off Minnesota's employment records for good.

No other high school experience points as consistently toward staying in — and staying visible in — the region's workforce. CTE participation in Southwest Minnesota was also associated with a small advantage in completing a postsecondary credential, a reminder that CTE is not a path away from college. Its strongest effects, though, are about *where* someone ends up. This suggests that investing in strong, well-connected CTE programs may be one of the best ways to improve outcomes for a wide range of students, not just those heading straight into the workforce.

For most groups, barriers pile up along the pipeline, but not for everyone, and not always in the same direction. Students with a special education designation showed a 12-point gap in the likelihood of earning a postsecondary credential and, among those who didn't, a higher risk of unstable work. American Indian students showed the largest completion gap of any racial or ethnic group (15 points) and among those who didn't earn a credential, the highest risk of any group of persistently having no Minnesota employment record. Hispanic students followed the same pattern on a smaller scale. For these groups, these aren't separate problems showing up at different times; they're the same underlying issue showing up repeatedly across time.

Several findings break that pattern, though, and are worth calling out directly:

- **Hispanic students point in two directions.** They faced lower odds of earning a postsecondary credential and, among those who didn't, a higher risk of persistently having no Minnesota employment record. But among credential earners, Hispanic graduates were more likely than otherwise similar White graduates to finish their credential in the region.
- **Economic hardship cuts both ways.** Students eligible for free or reduced-price lunch showed one of the two largest gaps in earning a postsecondary credential, and among those who didn't earn a credential, a higher risk of unstable work. But economic hardship was also tied to lower odds of falling off Minnesota's employment records,

and among credential earners, it was tied to completing that credential in the region.

- **PSEO participation cuts both ways.** Taking college courses in high school was tied to the largest gain in earning a postsecondary credential of any characteristic and, among those who didn't finish, lower odds of falling off Minnesota's employment records. But among credential earners, PSEO participants were somewhat less likely to finish their credential in the region.

Disconnection isn't a single problem, and neither is disadvantage. These findings are a reminder that disadvantage doesn't operate in just one direction, and disconnection isn't a single problem with a single cause. The same characteristic can raise one kind of risk while lowering another, and a barrier at one stage of the pipeline doesn't automatically mean a barrier at every stage.

Some postsecondary program exposure — even without finishing — helps on both fronts. Among students who didn't finish a postsecondary program, simply attending was tied to both a lower risk of unstable work and a lower risk of falling off Minnesota's employment records. That makes it the only characteristic in this analysis associated with protection against both forms of long-term disconnection. It points to a real opportunity: helping more students access and stick with some college, even if they don't finish, may pay off for their long-term connection to work.

The disconnected are already here. Among students who didn't earn a credential, about 25% were employed but below the threshold for sustained workforce participation five years after high school. Two-thirds of that group (67%) were working within Southwest Minnesota itself, not elsewhere in the state. That means part of the challenge isn't finding or attracting workers from outside the region, but helping people who are already working here move into steadier, more substantial work.

In Southwest Minnesota, "no Minnesota employment record" needs to be read with the state line in mind. The share of non-credential earners with no Minnesota employment record (32.2%) is about 10 points higher than regional labor market data would predict (22.5% for adults with only a high school diploma). With Sioux Falls and South Dakota's public universities a short drive away and 13% of the region's workers self-employed, a meaningful share of this group is likely working where Minnesota's records cannot see them. The no-record group in this region is part genuine disconnection and part a blind spot in the data, and these records cannot fully separate the two.

In closing

Southwest Minnesota's path from high school to the workforce isn't broken, but it isn't smooth and problem-free either. For graduates who earn a postsecondary credential in the region, the road to a stable, local job is clearer than for those who earn one elsewhere, whether they earn a two-year or four-year degree, but fewer than a third of the region's credential earners finish their program here. For those who go straight into the workforce, hands-on career training in high school makes a real difference, but not every student is taking advantage of—or has access to—the opportunity. And for those who end up disconnected long-term, the barriers tend to build on each other for most (though not all) groups, and are easy to miss if you're only looking at one moment in time instead of the whole path.

This report doesn't solve these problems. But it does show where they're most concentrated, who's carrying the biggest burden, and where a closer look might make the biggest difference. That's the starting point for a better conversation about how Southwest Minnesota invests in its young people, and in the systems meant to carry them from school into work.

Appendix

Limitations

This analysis, like all research based on administrative data, has real limits worth stating plainly.

These findings describe patterns, not complete explanations. The characteristics discussed in this report explain some, but not all, of why graduates' paths differ. Many things that shape a person's life and career — family circumstances, personal choices, specific employers, health, and countless other factors — are not captured in this dataset. The percentages in this report reflect what these particular, measurable characteristics can predict on average. They are not a full accounting of any individual graduate's story, and they should not be read as a prediction about any specific person.

Some data does not fully capture what it appears to measure. For example, a "no Minnesota employment record" does not always mean someone is disconnected from the workforce — it can also reflect a graduate who moved out of state for work or school, works across the state line, or is self-employed. We've noted these ambiguities directly wherever they affect how a finding should be interpreted.

A small number of characteristics we originally considered were excluded from this analysis due to data quality concerns. Most notably, we chose not to include Minnesota Comprehensive Assessment (MCA) proficiency scores as a factor in our models. We found that missing MCA scores were far more common among English language learner students than other students, and there was no reliable way to determine whether that pattern reflected something meaningful about a student's circumstances or simply a gap in how the data were recorded. Rather than risk drawing a conclusion from an unreliable measure, we excluded it from our analysis entirely.

Some findings are based on small numbers of individuals and should be treated with appropriate caution. Comparisons involving the region's smaller racial and ethnic groups, in particular, rest on relatively few graduates, so the exact size of those gaps is less certain than for findings based on larger groups.

Methodology

Data and Population

This report draws on linked, anonymized administrative records provided by the State of Minnesota, combining three sources: high school records (courses, CTE participation, MCA and ACT scores, and demographic indicators), postsecondary records from Minnesota's public higher education systems and the National Student Clearinghouse (capturing both in-state and out-of-state enrollment and completion), and Minnesota employment records from the Department of Employment and Economic Development (DEED), which capture wages, hours, and employer attachment for work performed within Minnesota.

The analysis covers 38,154 individuals who graduated from high schools in Southwest Minnesota, defined as the 18 counties of Economic Development Regions 6E, 6W and 8, between 2008 and 2023. Individual analyses within the report sometimes restrict this population further

depending on the question being asked (for example, models predicting outcomes five years after graduation exclude students who graduated too recently to have five years of data), and each figure's caption or surrounding text notes when a subset is being used.

Outcome Categories

Each graduate's status was assessed annually and assigned to one of five mutually exclusive categories: Sustained Workforce Participation–Southwest (1,000+ hours in a year with a single employer within the region), Sustained Workforce Participation–Minnesota (the same threshold, met elsewhere in the state), Non-sustained Workforce Participation (some Minnesota employment, but below the sustained threshold, and not enrolled in school), Attending Postsecondary, and No Minnesota Employment Record (no observed Minnesota employment or enrollment for that year). As discussed throughout the report, this last category is not synonymous with disconnection; it also captures out-of-state employment, military service, federal employment, and other circumstances Minnesota's records cannot observe.

Analytical Approach

The analysis proceeded in two stages for each research question. First, bivariate relationships — the association between a single characteristic and an outcome, considered on its own — were examined descriptively to identify candidate characteristics worth testing further. Second, characteristics that showed a bivariate relationship were tested together in multivariate logistic regression models, which estimate each characteristic's association with an outcome while holding all other characteristics in the model constant. This second step is what allows the report to describe a relationship as "independent" — meaning it held up even after accounting for a graduate's other measured characteristics, rather than simply reflecting overlap with some other factor (for example, a raw gap between two groups that actually stems from one group having higher rates of PSEO participation, rather than group membership itself).

A characteristic is described in this report as significantly associated with an outcome only if the relationship met a standard statistical threshold ($p < .05$) in these multivariate models, meaning there is less than a 5% probability that a relationship of this size would appear by chance if no real relationship existed. Characteristics that did not meet this threshold are not reported as findings, even where an earlier bivariate relationship appeared to exist.

Reading "Predicted Likelihood" Figures

Many figures in this report show a "predicted likelihood" for two groups — a graduate with a given characteristic and an otherwise similar graduate without it. These are not raw, observed rates. They are model-based estimates, generated by holding a characteristic at each of its two values in turn (for example, Gender = Female, then Gender = Male) while leaving every other characteristic in the model at each individual's actual recorded value, then averaging the resulting predictions across the full population. This approach — sometimes called average marginal prediction or marginal standardization — produces a like-for-like comparison: the difference between the two predicted values reflects the association of that one characteristic alone, net of everything else the model accounts for, rather than a raw gap that might be driven by differences in the two groups' other characteristics. Because this analysis uses records for every graduate in the region rather than a sample, these estimates describe the full population of graduates included in each model. Many models, however, are estimated on a filtered subset

of that population (for example, only credential earners, only non-credential earners, or only graduates with at least five years of follow-up), so the predicted likelihoods in a given figure describe that subset. As a result, their levels will not always match the overall percentages reported elsewhere in this report; the comparison between the two values within each figure is what matters.

For two continuous characteristics examined in this report — local wages and local unemployment rate — "predicted likelihood" comparisons use the 10th and 90th percentile of that measure among the graduates in each model, rather than the full range, to avoid a small number of extreme districts driving the result.

Tracking Persistence Over Time

For the Disconnected Pathway specifically, graduates who did not complete a postsecondary credential were tracked across the first five years following their exit from formal education (high school for those who never attended college; the point of leaving college for those who attended without completing). Based on how many of those five years a graduate spent disconnected — in either non-sustained employment or with no Minnesota employment record — graduates were grouped into four categories: Consistently Attached (disconnected in 0 of 5 years), Intermittently Disconnected (1–2 years), Broadly Disconnected (3 years), and Persistently Disconnected (4–5 years). This categorization made it possible to distinguish a temporary post-graduation adjustment period from a longer-term pattern.

A Note on Association, Not Causation

Every relationship described in this report is an association, not a demonstrated cause. The characteristics examined here are not the only things that shape a graduate's path — family circumstances, individual choices, specific local employers, health, and countless other factors that this dataset cannot capture all play a role. A relationship holding up across multiple statistical controls increases confidence that it reflects something real and not merely a coincidence of overlapping characteristics, but it does not establish that changing one characteristic would, on its own, change a graduate's outcome.