2022 Utah Talent Report

UTAH STUDENTS HAVE THE TALENTS EMPLOYERS NEED.

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Utah's talent landscape: Aligning local talent with industry needs

Utah students have the talent Utah employers need. Historically, students just haven't known it or been guided to find it.

The **State and its educators took a critical step in 2021 to change history; a step to ensure Utah students know their talents and how they align with in-demand careers**. One that also helps address Utah's worker shortage. That step started in our local schools.

**EARLY KNOWLEDGE CLOSES THE EXPOSURE GAP**

The careers a middle school student thinks about are limited to what they know, what their parents or friends' parents do, or what they've seen in a movie or on social media. They don't know what they don't know.

That's called an **exposure gap**. They're looking at careers in the isolation of their limited life experiences. They don't know what their natural talents (aptitudes) are or how those talents align to careers, including careers they've never heard of.

They wonder why they're learning what they're learning. They disengage from school. They start college programs only to drop out or change their minds. They may chase an unsatisfying career path for years. It **costs individuals and communities time, productivity and happiness**.

Student misalignment with the best careers for their talents also hurts national and local economies, including Utah's. How many middle schoolers know what a statistician or interpreter is? Well, those careers are forecast to be among the fastest growing in Utah through 2028.[1] And employers can't afford to not get applicants who are pursuing "known" careers and never knew they may be the next best statistician or interpreter out there.

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1. 2022 Fastest Growing Careers in Utah, Salary.Guide, https://salary.guide/fastest-growing-careers/utah
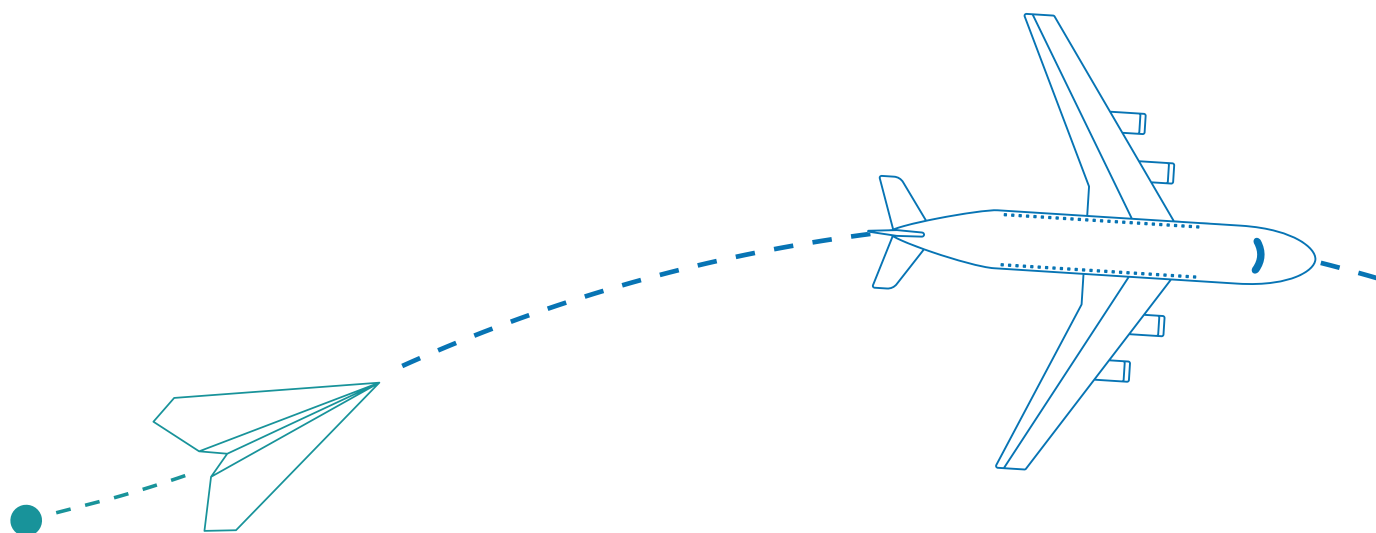
UTAH IS CLOSING THE GAP

To help solve the challenge of aligning talent and careers, the State, its educators and students started using YouScience Discovery to uncover unique insights into students' natural talents early and how they align with Utah industry — and the "unknown" job market — with the 2021–2022 academic school year.

This **2022 Utah Talent Report** looks at anonymized YouScience Discovery results. Initial data for 15,730 Utah middle school students and 7,847 Utah high school students was analyzed. The initial aggregate data points to the exposure gap for Utah students. It shows the valuable insights Utah **educators** can access to align students' educations **and career paths and guide them to jobs to help reduce Utah's worker shortage and skills gap.**

It shows how the right tool in educators' hands can help solve the challenge of enough jobs and not enough workers interested in or qualified for those jobs in Utah's future.

WHAT IS THE YOUSCIENCE PLATFORM?

YouScience Discovery is a key component of the YouScience Platform, a single tool that **revolutionizes how Utah students, educators and employers connect and succeed.**

The Platform includes Precision Exams by YouScience, the State of Utah's chosen secondary education certifications exam solution since 2006. It also includes YouScience Discovery, which was made available to Utah educators and students for the 2021–2022 school year.

Other career assessments rely solely on interest and personality surveys. Only Discovery uses psychometrically valid brain game-like exercises and an interest inventory to uncover students' aptitudes, their natural abilities to learn or perform in given areas.

Students gain self-awareness and see how their aptitudes and interests align with careers (for high school) or career industry areas (for middle schoolers) where they're naturally wired to do well. It shows the education pathways to attain those careers too — whether certifications or post-secondary schooling.

Students connect what they're learning with why they're learning it and find hope and purpose and an accessible pathway toward a successful future. They find post-secondary school options and local Utah employers with in-demand jobs at competitive wages who want and need their skills, education and aptitudes. Students even access aptitude-based language to describe themselves on resumes, on college applications and in essays.
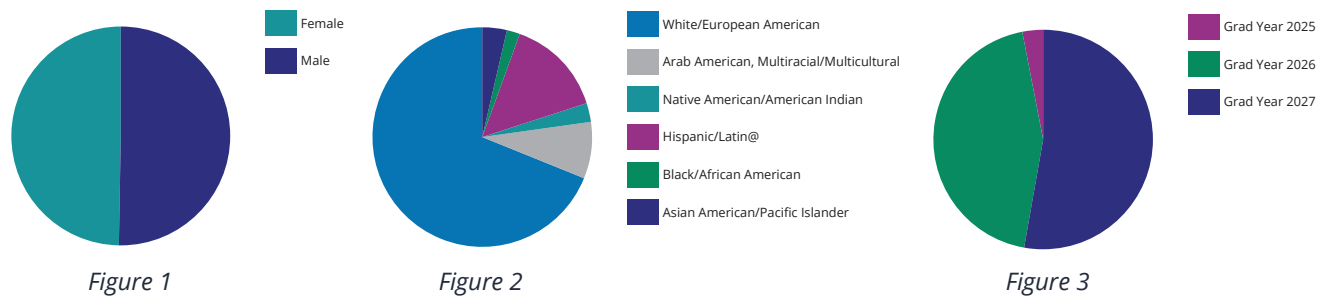
2022 Utah Talent Report data

The 2022 Utah Talent Report takes a broad look at how **YouScience Discovery uncovers the exposure gap so that Utah educators can guide students to best-fit future careers** where they'll succeed and help fill the skills gap in Utah's future.

The report's findings were extracted from anonymized aggregated Discovery results for 15,730 Utah middle schoolers and 7,847 Utah high schoolers for the 2021 calendar year. Demographic breakdowns are included on the following pages.

MIDDLE SCHOOL DEMOGRAPHICS

Based on anonymized data for 15,730 students. Figures 1, 2 and 3 show gender, ethnicity and graduation year distribution of Utah middle school students assessed for this Talent Report.

Legend Figure 1: Female, Male

Legend Figure 2: White/European American; Arab American, Multiracial/Multicultural; Native American/American Indian; Hispanic/Latin@; Black/African American; Asian American/Pacific Islander

Legend Figure 3: Grad Year 2025, Grad Year 2026, Grad Year 2027

Figure 1   *Figure 2*   *Figure 3*

MIDDLE SCHOOL DISTRICTS BY COMPLETED STUDENTS 21–22

Alpine District	3,549	Nebo District	603
American Academy of Innovation	27	North Summit District	41
Beehive Science and Technology	99	Provo District	725
Box Elder District	111	Rich District	1
Cache District	236	Salt Lake City District	446
Canyons District	13	San Juan District	2
Davis District	366	Sevier District	262
Duchesne District	120	Soldier Hollow Charter District	6
Excelsior Academy District	85	Tintic District	14
Garfield District	52	Tooele District	249
Granite District	1,385	Uintah District	215
Iron District	80	Vanguard Academy	1
Jordan District	587	Washington District	2,989
Morgan District	242	Weber District	2,825
Murray District	399	**Total:**	**15,730**

HIGH SCHOOL DEMOGRAPHICS

Based on anonymized data for 7,847 students. Figures 4, 5 and 6 show gender, ethnicity and graduation year distribution of Utah high school students assessed for this Talent Report.
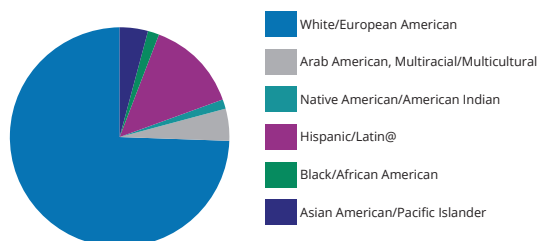

Female
Male

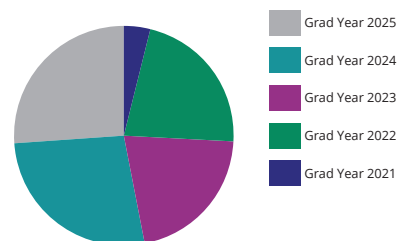*Figure 4*

White/European American
Arab American, Multiracial/Multicultural
Native American/American Indian
Hispanic/Latin@
Black/African American
Asian American/Pacific Islander

Figure 5

Grad Year 2025
Grad Year 2024
Grad Year 2023
Grad Year 2022
Grad Year 2021

Figure 6

HIGH SCHOOL SCHOOL DISTRICTS BY COMPLETED STUDENTS 21–22

Alpine District	563	Logan District	229
American Academy of Innovation	121	Morgan District	424
American Preparatory Academy	296	Murray District	361
Beaver District	3	Nebo District	3
Beehive Science and Technology	71	North Summit District	18
Box Elder District	23	Provo District	119
Cache District	570	Sevier District	45
Canyons District	117	Tintic District	2
Davis District	687	Tooele District	56
Duchesne District	372	Utah Virtual Academy	1
Garfield District	9	Vanguard Academy	22
Granite District	2,127	Washington District	469
Iron District	475	Wayne District	17
Itineris	100	Weber District	161
Jordan District	386	**Total:**	**7,847**

Report findings for Utah middle schoolers

YouScience Discovery for middle school is based on the Advance CTE's National Career Clusters Framework. CTE's framework includes 16 career clusters that represent 79 career pathways. Each career cluster is a group of careers in a similar industry, such as architecture and construction, business and computers and technology.
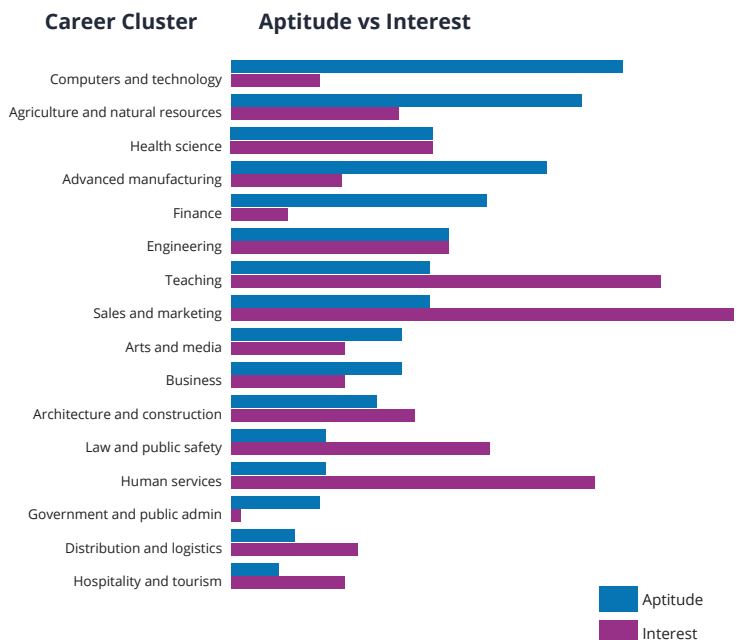
TOP THREE CAREER CLUSTER MATCHES

YouScience analyzed the top three career cluster recommendations for Utah middle school students' aggregated Discovery results. Results were taken for career clusters based on interest-only and aptitude-only.

THE FINDINGS

Utah middle schoolers have serious talent for in-demand careers! In fact, **Utah middle school students have more than four times the aptitude than interest for computers and technology careers.** That's a good thing, because in 2019, tech accounted for 1 of every 7 Utah jobs — or 14%.[2]

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2 New report: Tech accounts for 1 in 7 Utah jobs and still on the rise, Deseret News, Feb. 25, 2019, https://www.deseret.com/2019/2/25/20666978/new-report-tech-accounts-for-1-in-7-utah-jobs-and-still-on-the-rise#the-guardian-s-from-sarcos-is-demonstrated-during-tech-day-on-the-hill-at-the-state-capitol-in-salt-lake-city-on-monday-feb-25-2019

Career Cluster | **Aptitude vs Interest**

- Computers and technology
- Agriculture and natural resources
- Health science
- Advanced manufacturing
- Finance
- Engineering
- Teaching
- Sales and marketing
- Arts and media
- Business
- Architecture and construction
- Law and public safety
- Human services
- Government and public admin
- Distribution and logistics
- Hospitality and tourism

Aptitude
Interest

For careers in computers and technology, middle school students have **more** than **4x** the **aptitude** than interest.

For careers in arts and media, students have almost **3x more interest** than aptitude.

Conversely, for careers in arts and media, Utah middle school students have almost three times more interest than aptitude. That means they're **interested in careers they're not wired to be good at**. That's probably because, Utah middle schoolers haven't yet been exposed to computers and technology careers or have been biased to think those careers are for computer "geeks" or only males.

Discovery lets educators access aggregate career cluster matches for all students as well as individual students. Knowing the career clusters a student has aptitude for, **Utah educators can use a students' Discovery results to open the student's eyes to opportunities and narrow the exposure gap.** Longer-term, this can help close Utah's skills gap, by better aligning students with in-demand Utah careers.

NARROWING THE EXPOSURE GAP INCREASES EQUITY

The **exposure gap is often more pronounced when looked at across gender and ethnicity lines.** For example, female students may be exposed to an unconscious cultural bias against a career in computers and technology, construction or other industry typically believed to be dominated by males.

The following charts show the break down of Utah middle school data for five key in-demand career clusters. Each chart includes careers included in the cluster and how Utah middle schoolers' aptitudes and interests align to the cluster by gender. (The charts below indicate the count of students with high-demand careers shown within their top three career clusters for aptitude and interest.)
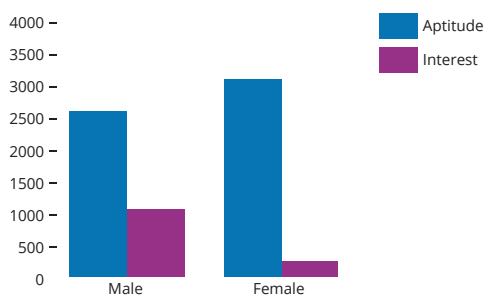
Cluster 1: Computers and technology

CAREERS INCLUDED

IT project manager, web developer, database administrator, geographic information systems technician, computer network architect, video game designer, software quality assurance engineer, web administrator, business intelligence analyst
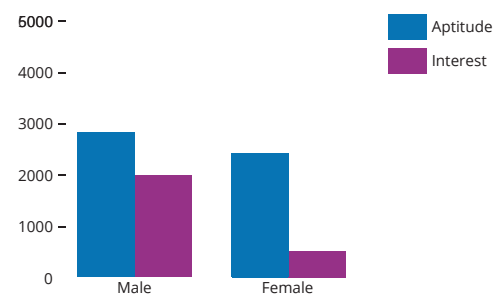
## Cluster 2: Agriculture and natural resources

CAREERS INCLUDED

Animal scientist, soil and plant technologist, environmental engineer, agricultural technician, hazardous materials removal worker, forester, agricultural engineer, water resource specialist, clinical research coordinator, forest and conservation technician

3x more female and 2.5x more male middle school students have **computers and technology** in their top 3 career **aptitude-based recommendations** than interest-based.

11x more female and 1.8x more male Utah middle school students **have an aptitude** for careers in **advanced manufacturing** than interest.

5.6x more female and **4x more male** Utah middle school students have an **aptitude** for careers in **finance** than interest.
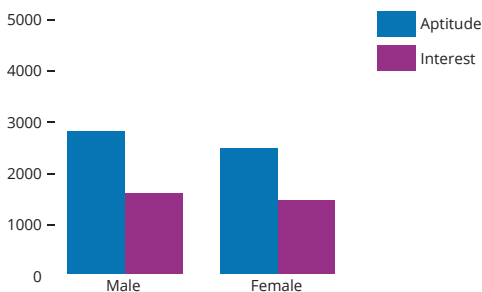
Cluster 3: Health science
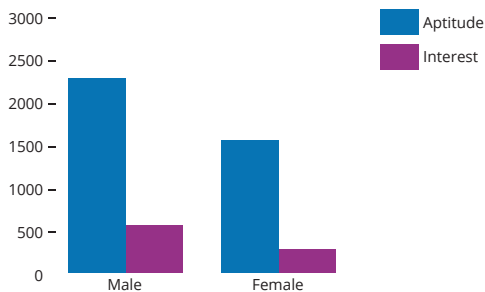
CAREERS INCLUDED

Biomedical engineer, physical therapist assistant, epidemiologist, occupational therapist, medical scientist, genetic counselor, athletic trainer, dentist, radiologic technician, chiropractor, ophthalmic medical technician, neurodiagnostic technician, dietitian and nutritionist, orthotist or prosthetist, pharmacist, medical records and health information technician, internist, nurse, veterinary technician
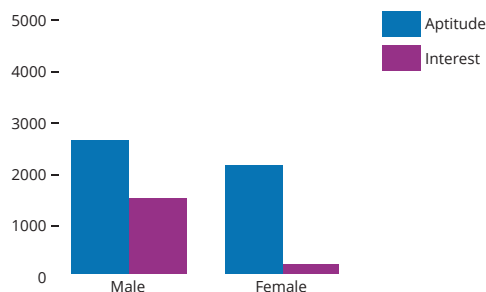
Cluster 4: Advanced manufacturing

CAREERS INCLUDED

Manufacturing engineering technologist, electrical drafter, industrial engineer technologist, robotics technician, electromechanical engineer, electrical engineering technician, aerospace engineering and operations technician, purchasing agent, medical appliance technician, jeweler, nuclear power reactor operator, welder, tool and die maker, machinist, machine tool programmer

Cluster 5: Finance

CAREERS INCLUDED

Treasurer and controller, insurance sales agent, loan officer, tax preparer, accountant, financial analyst, risk management specialist, financial services sales agent, credit analyst, actuary, fraud examiner, insurance adjustor
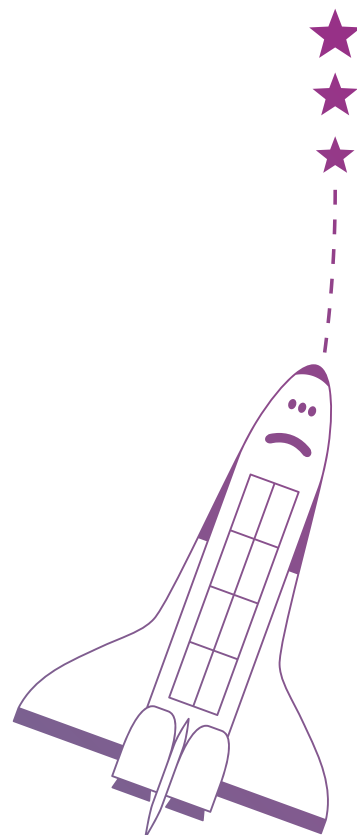
Report findings
for Utah high schoolers

By the middle of December 2021, 7,847 Utah high school students uncovered their aptitudes, interests and aligned in-demand careers using YouScience Discovery for high school.

IN DEMAND CAREER EXPLORATION

Discovery for high school assesses nine aptitudes and students' interests. It shows students which of **more than 500 in-demand, real-world careers from O*NET OnLine, the nation's primary source of occupational information**, align to their specific talents and interests or both; the educational pathways needed for those careers, including college, licenses and certifications (where applicable); and Utah employers in need of those talents and certifications.

Students access **detailed career information** including typical tasks, salaries and required education. It also shows each student how their aptitudes align to those needed for the career.

Educators access **analytics and academic advising tools** to help students choose the best classes and Career and Technical Education (CTE) pathways.

APTITUDE-ONLY VS INTEREST-ONLY ALIGNMENT

YouScience analyzed the top 50 most frequent career matches for 7,847 Utah high school students based on interest-only and aptitude-only recommendations from YouScience Discovery results.

Of the top 50 career recommendations for interest-only, **74%** (standard occupational classification [SOC] groups 27, 25, 21 and 19 used by O*NET OnLine and Discovery) directed students to arts and entertainment, education, social work and life sciences careers.[3] Conversely, **0%** (groups 17, 29, 31 and 15) of the top 50 interest-only recommendations directed students to in-demand careers, such as engineering, healthcare and technology — but **50% of aptitude-based recommendations directed students to these careers**.

WHY THIS MATTERS?

Using Discovery, Utah educators **can help students to go beyond an interest-only approach to career exploration.** By using aptitudes, educators can steer students to in-demand careers. Careers students have an innate talent for and that Utah employers need to fill.

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3   The 2018 Standard Occupational Classification (SOC) system is a federal statistical standard used to classify workers into occupational categories for the purpose of collecting, calculating or disseminating data. All workers are classified into one of 867 detailed occupations according to their occupational definition. Source: https://www.bls.gov/soc/.
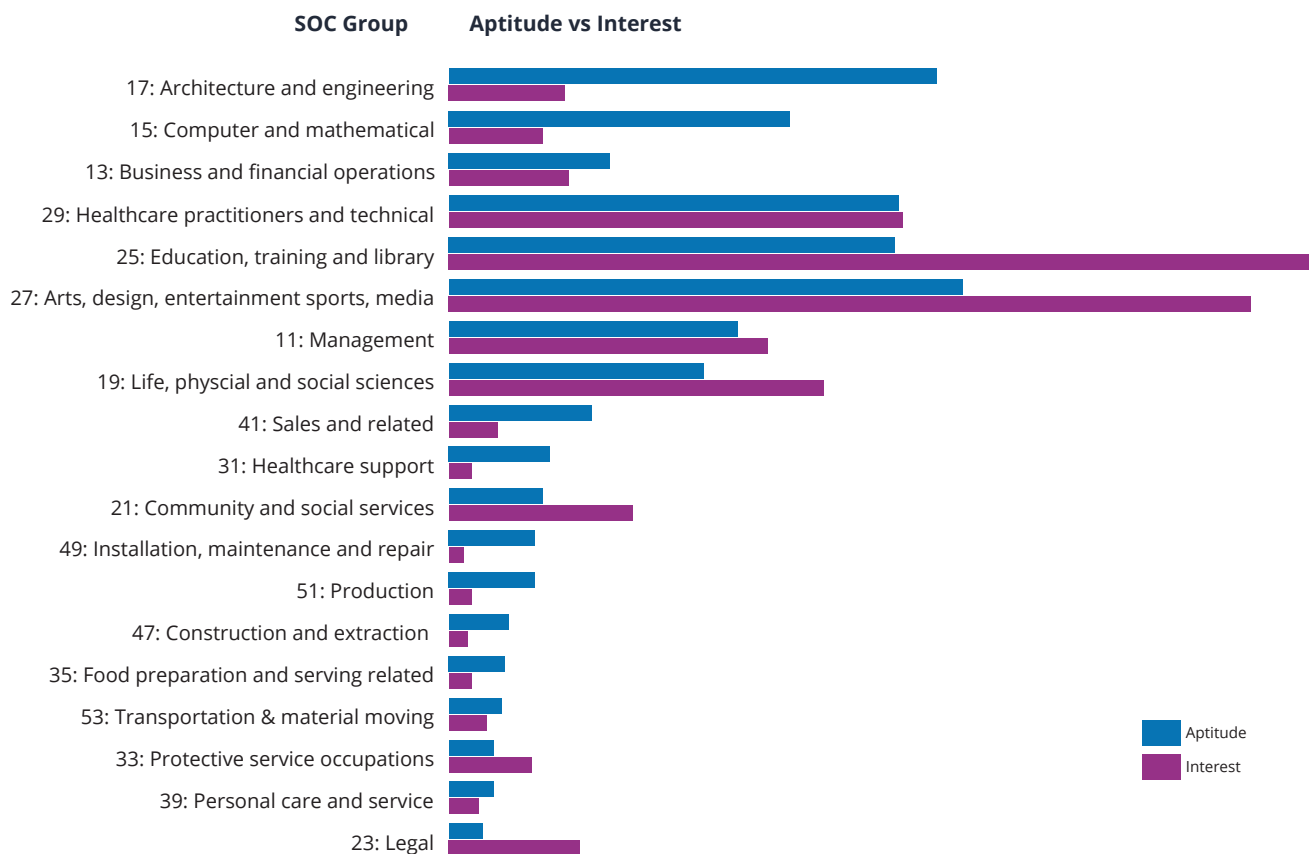
DIRECTING STUDENTS TO IN-DEMAND CAREERS: INTEREST VS APTITUDE CAREER RECOMMENDATIONS

SOC GROUP NAME	SOC	INTEREST (# of career matches)	APTITUDE (# of career matches)
Management	11	6,356	6,203
Business and financial operations	13	3,002	4,049
Computer and mathematical	15	2,797	7,125
Architecture and engineering	17	4,947	11,900
Life, physical and social science	19	9,051	5,502
Community and social services	21	2,353	1,539
Legal	23	1,948	687
Education, training and library	25	12,336	7,581
Arts, design, entertainment, sports and media	27	14,401	8,525
Healthcare practitioners and technical	29	9,377	9,979
Healthcare support	31	509	2,137
Protective service occupations	33	2,966	974
Food preparation and serving related	35	693	1,160
Personal care and service	39	634	762
Sales and related	41	1,467	2,853
Construction and extraction	47	1,260	1,745
Installation, maintenance and repair	49	1,101	2,314
Production	51	1,230	2,023
Transportation and material moving	53	2,042	1,412

Female high school students

ALIGNMENT BY SOC GROUP

The difference between aptitude and interest — and between genders — persists beyond middle school. This graph represents the **percentage of career matches, by SOC group, using female Utah high school students' top 10 career recommendations from Discovery**. The reported interests of female students align with their exposure gap, yet they have equal aptitude for in-demand careers as their male counterparts.

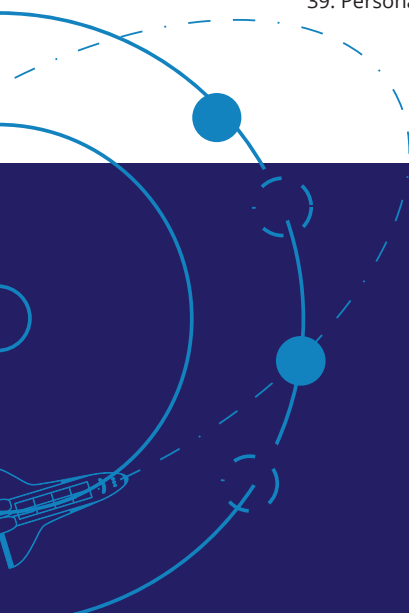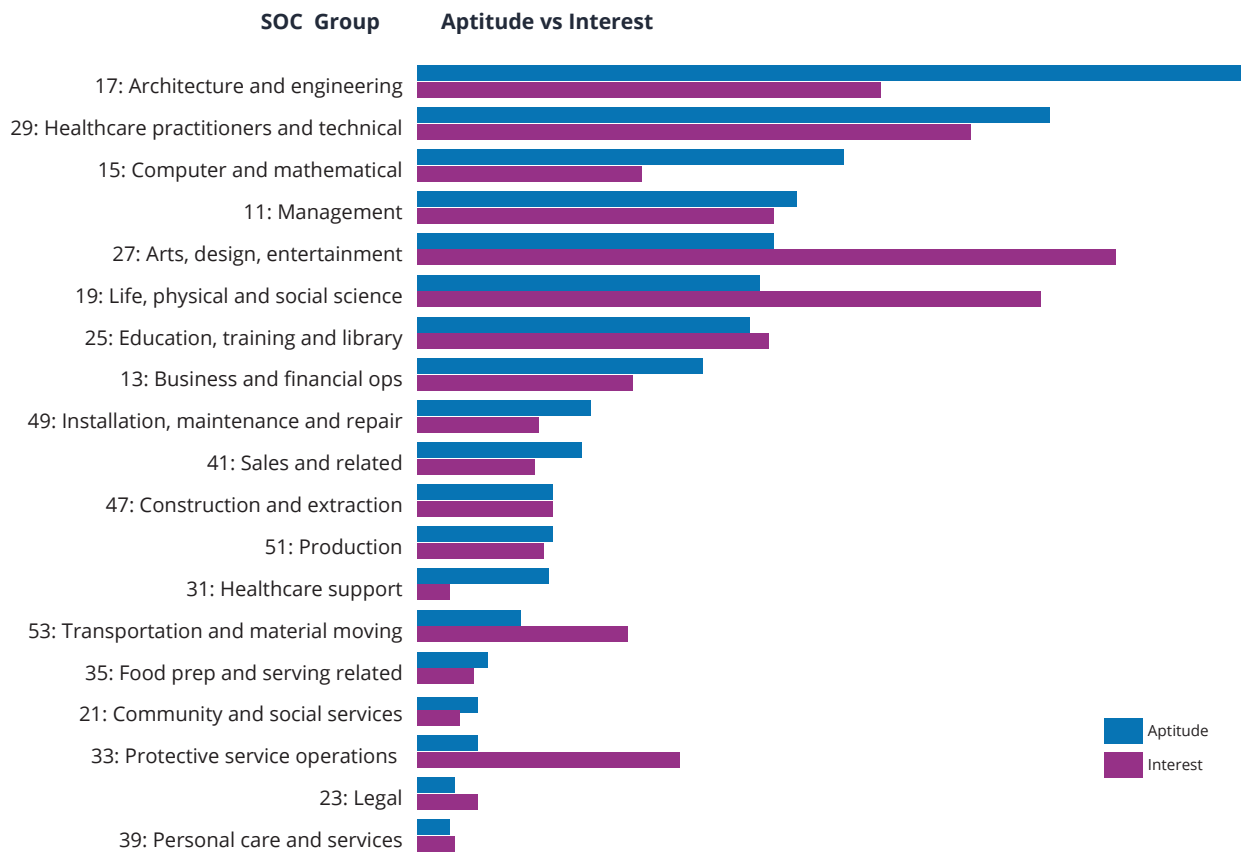| SOC Group	Aptitude vs Interest
17: Architecture and engineering	
15: Computer and mathematical	
13: Business and financial operations	
29: Healthcare practitioners and technical	
25: Education, training and library	
27: Arts, design, entertainment sports, media	
11: Management	
19: Life, physcial and social sciences	
41: Sales and related	
31: Healthcare support	
21: Community and social services	
49: Installation, maintenance and repair	
51: Production	
47: Construction and extraction	
35: Food preparation and serving related	
53: Transportation & material moving	
33: Protective service occupations	
39: Personal care and service	
23: Legal	

Aptitude
Interest

Female high school students have more than **4x the aptitude than interest** for careers in architecture and engineering

Male high school students

ALIGNMENT BY SOC GROUP

The contrast between aptitude and interest — and between genders — persists beyond middle school for male students as well. This graph shows the **percentage of career matches, by SOC group, in male students' top 10 career recommendations**. As with female students, males have substantial alignment for careers in high-demand industries, such as healthcare.

SOC Group	Aptitude vs Interest

- 17: Architecture and engineering
- 29: Healthcare practitioners and technical
- 15: Computer and mathematical
- 11: Management
- 27: Arts, design, entertainment
- 19: Life, physical and social science
- 25: Education, training and library
- 13: Business and financial ops
- 49: Installation, maintenance and repair
- 41: Sales and related
- 47: Construction and extraction
- 51: Production
- 31: Healthcare support
- 53: Transportation and material moving
- 35: Food prep and serving related
- 21: Community and social services
- 33: Protective service operations
- 23: Legal
- 39: Personal care and services

Aptitude
Interest

Male high school students have more than **1.8x the aptitude than interest** for careers in architecture and engineering

Bottom line

The insights from the 2022 Utah Talent Report show that **Utah students have an exposure gap that**, with guidance from educators, school counselors, parents and the YouScience Platform, **can be reduced**.

With YouScience Discovery in the YouScience Platform, **Utah educators have a powerful tool to help students cut through social noise and gender biases to pursue a best fit career in Utah's economy**. They can give students an in-depth, personalized view of how their brains work and help connect students' natural talents to real-world, in-demand careers, the education pathways to get there and to local employers.

Empowered with this information, students can pursue education pathways, select careers, and excel in the jobs our local economy needs.

Because while **there might be a skills gap in Utah, there isn't a talent gap**.

ABOUT YOUSCIENCE

YouScience is a Utah EdTech company. It's revolutionizing how individuals, education and industries connect and achieve success. And it's narrowing the exposure gap that reduces student interest in high-demand careers and leaves a skills gap.

Using psychometrically-valid brain games to measure performance-based aptitudes, the YouScience Platform connects students to careers they'll naturally perform well in and industry-recognized certifications and education pathways to attain those careers. While other career assessments rely solely on interest and personality surveys, only YouScience aligns individuals with education pathways and real-world, in-demand careers and employers based on natural talents and interests.

Within the Platform students discover their natural talents. They find post-secondary school options and local employers with in-demand jobs at competitive wages — employers who want and need their skills, education and aptitudes. Students also access aptitude-based language to describe themselves on resumes, on college applications and in essays

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