

Connecting the dots:
Employer perspectives on
creating meaningful
employment opportunities
for young adults with
diverse needs

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Agenda

- Introduction of the Issues
 - Transition
 - Connection
 - Employment Issues
 - Caregiver Perspective
- Current Study: The Employer Perspective
- Research to Practice to Policy
 - Individual and Systems Interventions
 - Co-Creation

Introduction of the Issues

Transition

Helping young adults transition to increased levels of independence

- Independent Living Skills
- Social Connections
- Post Secondary Education
- Employment
- Executive Functioning
- Health and Wellness





Millions... Transitioning



Where are they in the process?





It is tough out there...for anyone

High School Graduation Rate



83%

National Average

64%

With Disabilities

College Completion


50%

The infographic features a large blue circle containing the text '50%'. To its right is a smaller blue circle containing '8%'. Below the '50%' circle is the text '“Typical” College Students'. Below the '8%' circle is the text 'Students with disabilities'. The background is white with a dark blue header and footer.

“Typical” College Students

8%

Students with disabilities



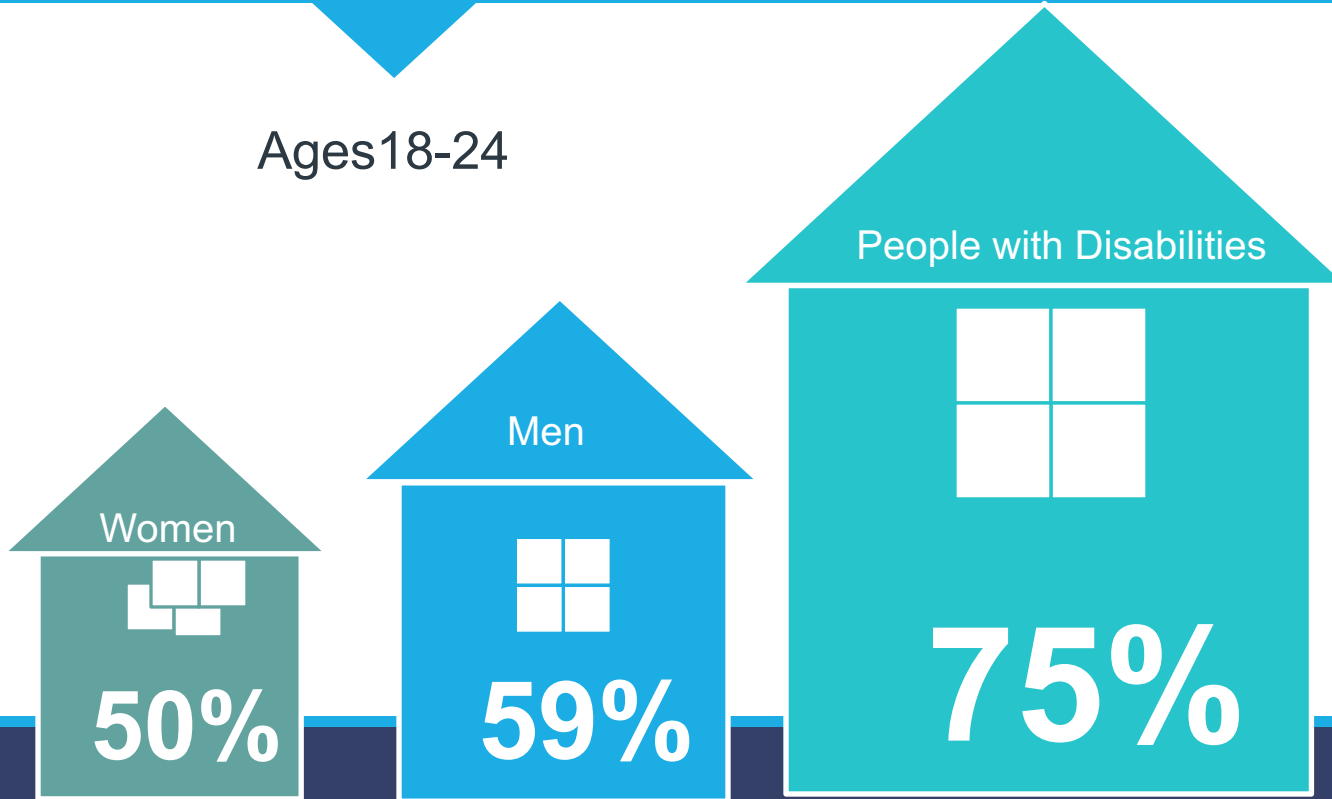
74% higher
for People with
Disabilities



Unemployment

Living at Home with Parents

Ages 18-24



\$268 BILLION

Cost per year for care of people with ASD in the US
Includes medical, nonmedical and productivity losses

\$1 TRILLION

Estimated cost by 2025

Journal of Autism and Developmental Disorders, 2015

\$1.4-2.4 MILLION

Lifetime cost of supporting a person with ASD

JAMA Pediatrics, 2014



Without Connection and Collaboration

Success is Possible



Creating Connections

- How we live, **work**, and play are all connected
- Preventing disconnection
- Working together to improve outcomes

How can we, as a community, adapt and accommodate the needs of our diverse members?

A decorative graphic of a paper chain made of diverse human figures in various colors (white, grey, brown, black) holding hands, forming a circle. The word "Work" is written in bold black text in the center of the circle.

Work

Employment

Employment Issues

Adults with ASD:

- Have low rates of employment
- Are underemployed
- Are poorly paid- if employed
- Have trouble maintaining employment



Establishing Needs → Generating Action

Caregiver Perspective

UNDERSTANDING HOW A SUCCESSFUL TRANSITION TO
MEANINGFUL EMPLOYMENT CAN BE ACHIEVED.

Griffiths, A.J., Giannantonio, C.M., Hurley-Hanson, A.E.,
& Cardinal, D. (2016).

Survey Big Questions

Family Perceptions of:

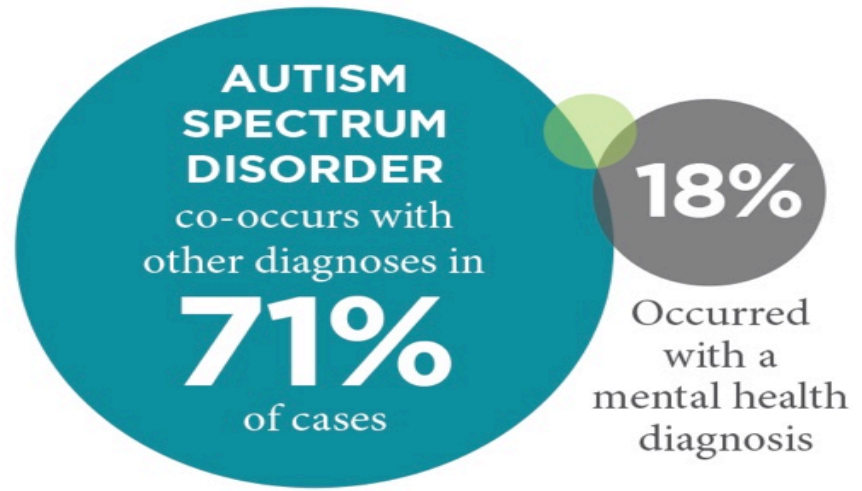
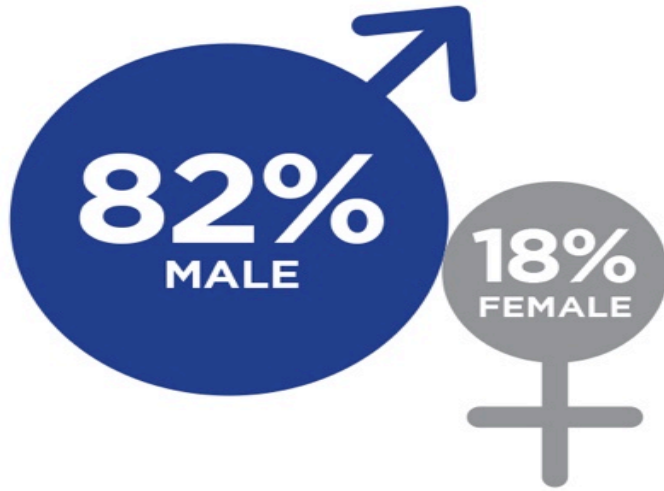
- Pre-employment experiences during high school
- Understanding of the world of work and career objectives
- Post-secondary education or training experiences
- Work experience
- Services used to gain or seek employment
- Challenges when searching for employment
- Types of services needed to assist in obtaining meaningful employment

Survey Outcomes: 5 Areas

1. General Information
2. Education & Job Training Opportunities
3. Career Perspectives & Internal Experiences of Youth
4. Job and Career Experiences
5. Job Search, Support, & Skills



GENERAL OUTCOMES



 **84%**

of the sample participated in extracurricular activities in the community



Those who volunteered were more likely to have been employed/earned money

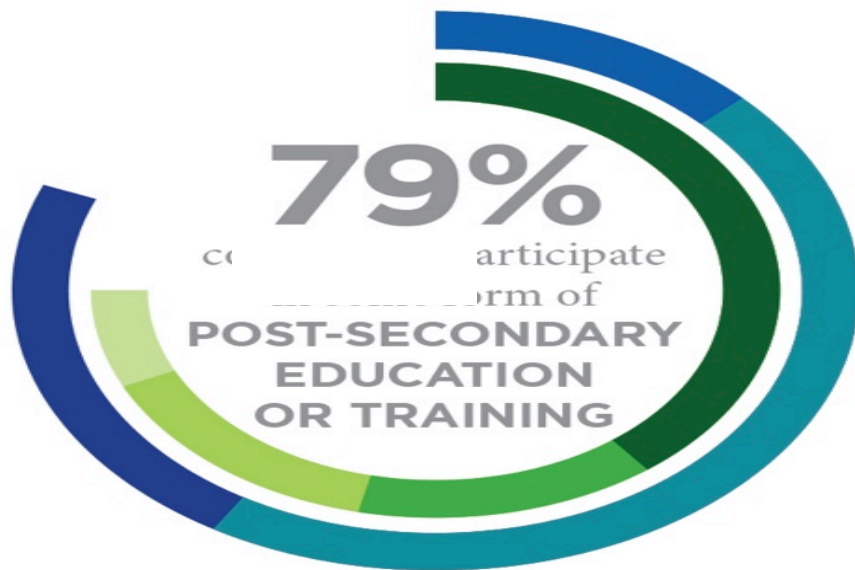
EDUCATION AND JOB TRAINING

39%
Attend a
community college

14%
Attend a
specialized college

14%
Attend a
four year college

7%
Attend a
vocational college



13%
Have completed
their post-secondary
education

47%
Are currently
attending

26%
Did not complete

23%

of participants are
specifically in a job
related training program



ONLY 47%
of participants are paid

Career Perspectives & Internal Experiences of Youth



Expressed concern about physical, mental, emotional difficulties impacting ability to work?

Emotional

Job Skills

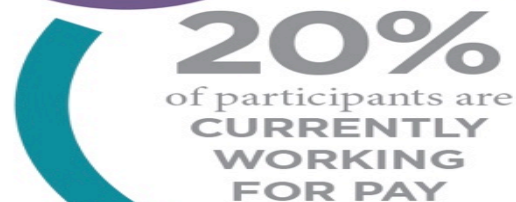
Environment

JOB AND CAREER EXPERIENCES



91% Have held 1-3 jobs

75% Have worked more than a year in total



Like their job very much/extremely

85% Are earning minimum wage or higher

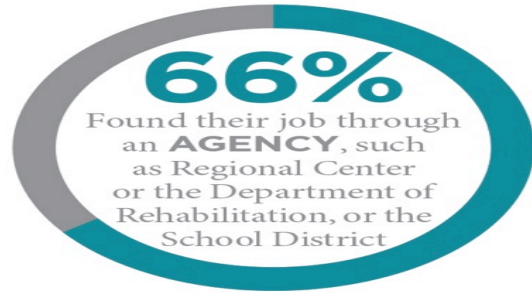
36% Are underemployed and would like to work more hours

48% Receive support or accommodations from their employer

*Sick pay, holidays, retirement

Job Search, Support, & Skills

JOB SEARCH



JOB SUPPORT

Most challenging areas
(Extremely or very challenging)



Focus Group & Individual Meetings

1. Finding Employment

2. Skills Training

5. Mental Health Needs

4. Shared Information and Resources

3. Post-Secondary Education/ Training



Employer Survey

UNDERSTANDING THE EMPLOYERS PERSPECTIVE



Survey Core Questions

Focused on the following for people with “high functioning” Autism Spectrum Disorders (HFASD) :

- What are employers' **attitudes and perceptions** of these issues?
- What are employers **doing now to support** these individuals?
- What are the **barriers and facilitators** to hiring individuals?
- What do **employers need** to successfully employ people?

Preliminary Data

SUMMARY OF KEY FINDINGS



37% 1-49 employees

40% 50-499 employees

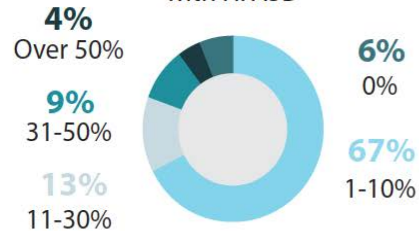
22% 500-1000+ employees

ATTITUDES, PERCEPTIONS, & EXPERIENCES OF EMPLOYERS

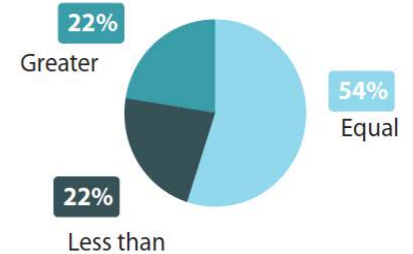
44%

Of businesses are likely to hire individuals with HFASD

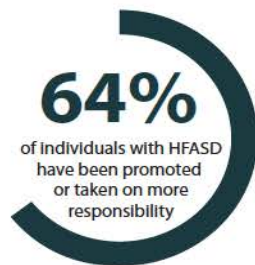
Percentage of workforce with HFASD



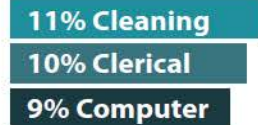
Turnover among employees with HFASD compared to the average employee



EMPLOYERS' EXPERIENCES WORKING WITH INDIVIDUALS WITH ASD



Top 3 Jobs held by employees with HFASD



Paid more now?



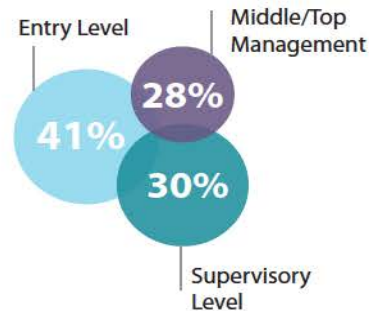
Support Required



- 46%** Very Substantial
- 26%** Substantial
- 17%** Some
- 9%** No Support

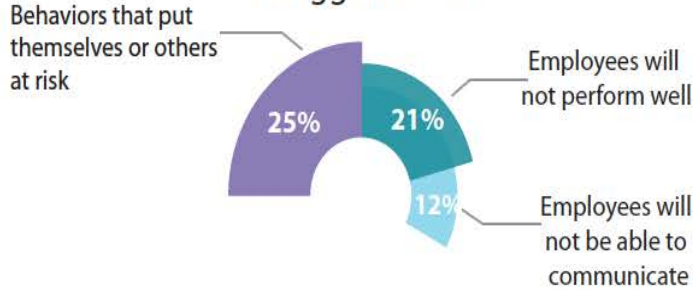


Current Roles

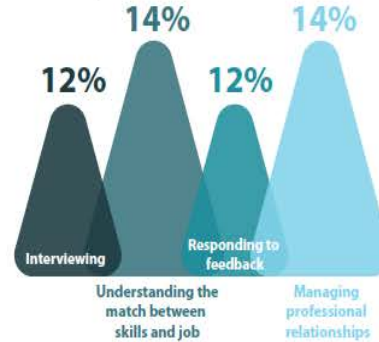


BARRIERS AND FACILITATORS-FROM EMPLOYERS' PERSPECTIVE

3 Biggest Fears



Most Challenging Skills for Employees with ASD (Top 4)



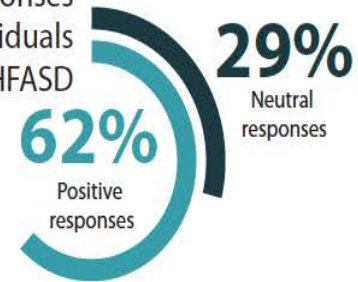
90%

Not aware of local, state, or federal benefits for hiring employees with HFASD

Top 3 Services Needed for a Meaningful Work Life

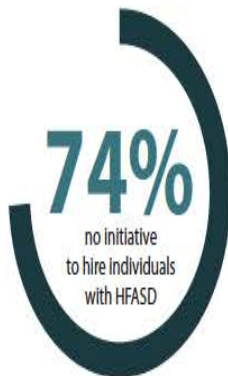


Other Employee responses to hiring individuals with HFASD



SUPPORT

Primary Reasons for Initiative



What would your organization need?



Transition Initiative Focus Group

Co-Creation of
Employment



Training of
Employe
rs

Skills Training of
Individuals

Research to Practice

TAKING ACTION

WHAT ARE WE DOING? WHAT DO WE DO NEXT?

Levels of Collaboration and Intervention

Systems

Individual

Systems Level

SERVICE & SUPPORT PROVIDERS

- Direct service providers, non-profit agencies, and For-profit agencies
- Publicly funded supports (regional Center, Dept of Rehabilitation)
- Medical professionals and facilities

BUSINESS PARTNERS

- local and national businesses with disability hiring initiatives
- businesses interested in hiring people with disabilities

INDIVIDUALS/ FAMILIES

- Individuals with disabilities as self advocates
- Families of people with disabilities
- conservators

SCHOOLS & COLLEGES

- K-12 schools: Public, Private, and Charter
- Early childhood education
- Community colleges
- universities
- trade and vocational schools

POLICY MAKERS & INFORMATION SOURCES

- legislation and aides
- local, state, and national legislative implementing
- Professional and advocacy organizations
- Disability media

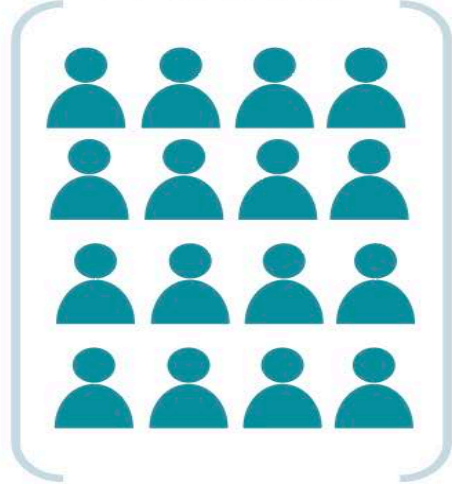
Thompson Policy Institute

Transition Initiative

The Transition Initiative strives to **improve transition outcomes** (e.g. employment, housing, independent living, post-secondary education and social emotional) for people with disabilities; supporting these **individuals in leading happy, healthy, and fulfilling lives.**

We will accomplish these goals by creating a network of transition organizations and programs that **effectively communicate, collaborate, and share data** to enhance services and ultimately outcomes for people with disabilities both locally and nationwide.

COMMUNITY LEADERS



TPI TRANSITION INITIATIVE

Facilitating change
in the community

INFORMATION DISSEMINATION

REGIONAL JOB DEVELOPMENT
& BUSINESS PARTNERSHIPS

EDUCATION & TRAINING

ADMINISTRATION OF JUSTICE

RESEARCH

ORANGE COUNTY LOCAL
PARTNERSHIP AGREEMENT

Employer Training

- Benefits to hiring
 - Loyalty and reliability
 - Complete more work
 - Rare technical skills
 - Do solitary work that others may not like
 - Reputational benefit- brings publicity and business
- Hiring and retention practices
 - Concrete directives
 - Supported social opportunities
 - Executive functioning support
 - Essential skills training
 - Making it work for everyone
- Creating an inclusive work environment
 - Flex hours
 - Remote work or casual environment
 - Casual dress
 - Multimodal communication
 - Slack

Individual Level

Early(ish) Intervention

- What does this mean to you?
- K-12 Planning
 - Elementary
 - High School
 - Transition
- Mental health support



Employment Search

Job Match

- Fit between job and skill (*MORE later*)

Other Issues

- Social integration
- Job coaching

<http://www.realworkstories.org/>

Job Carving

- Break down job duties
- Match the need to skill



Job Crafting



Even a small outlet for self-expression can allow us to experience our individual authenticity

Job crafting is the practice of (re-)shaping the job that you are expected to do so that you can enlarge the parts that are important to you.

Through job crafting, an employee can take on new activities, new responsibilities, and new relationships, making the job so bigger (or smaller), more interesting, more useful, and overall more closely linked to their strengths and interests.

Using Technology

Telecommuting

Business cards with QR code



Video resumes:

[Software Engineer](#)

[Various Jobs](#)

Changing Landscape



Entrepreneurial Model

Feasibility

The individual: Does the person considering a micro-enterprise have enough drive to create a business? Is there a desire to learn the skills necessary for success?

The product: Is the product marketable? Is it a quality product and will the quality of the product remain consistent?

The profit: Can the product be sold at a price that will make the production costs worthwhile, while at the same time provide income to the entrepreneur?

The support: How independent is the business owner? Can he or she drive? Is the family supportive of the endeavor and the entrepreneur? Are the necessary supports in place where they are most needed?

[Anthony at your Service](#)

[Lego Business](#)

[Dog Biscuits](#)

(per Ron Irvine, Hope Network)

Co-Creation

TO CO-CREATE IS TO CREATE SOMETHING TOGETHER THAT NONE OF US
WOULD HAVE CREATED ALONE

Co-Creation in Action

- As a community we create opportunities for training of all stakeholders and develop employment opportunities through our collaborative networks.
- Considering perspectives from individuals, families, and employers—is an important step in working together to co-create employment infrastructure and opportunities for individuals with diverse needs
- Take data and apply to current initiatives

To co-create is to create something together that none of us would have created alone

Skills Training of Individuals

Focus on Specific Skills –

Matched to the Need of the Labor
Market

Needs in STEM: An untapped resource

- Shortfall of workers in STEM-related fields
- Approximately 85% of individuals with ASD/related disabilities are unemployed or underemployed
- Filling the gap
 - Parents are more likely to be in STEM fields (Baron-Cohen et al., 1997).
 - More kids with ASD majoring in STEM

8, 650, 000
Jobs in
STEM

Related strengths and struggles in ASD

Potential Strengths:

- Pattern finding and problem solving (e.g. puzzles)
- Attention to detail
- Learn topics exhaustively
- Persistence (in areas of interest)
- Algorithmic thinking
- "Outside the box" thinking
- Direct and honest communication
- Affinity for technology

Potential Struggles:

- Uninterested in many "mainstream" topics
- People and emotions are not algorithmic
- Sometimes wayyyy "Outside the box"
- Misses the forest for the trees
- (Perceived) lack of empathy

We need more research!

Skills and Employment Match

Specific List of Occupations based on these skills

Of those occupations- how many are available, concentration in OC, and salary

Pulled out skills required for those occupations

Top 20 occupations in OC based on openings

List of whose hiring in OC

List of Education needed and where to obtain that

Wallace Walrod
Petersen Walrod
Qidian

Labor Market Information for the Set of Optimal Occupations for Individuals on the Autism Spectrum



Labor Market Fact Sheet		Notes
Number of Openings in United States in 2017	5,620,000	
Number of Openings in Orange County in 2017	59,740	
Level of Concentration in California (1 is average, the higher the score, the most concentrated in that region)	1.12	Occupations that are a strong fit for this category are somewhat concentrated in California
Average Salary in Orange County	\$ 89,306	This figure is over \$27,000 higher than the county average
Percent Requiring high school*	15.7%	These occupations have much higher educational requirements than average
Percent Requiring Post- Secondary or Associate's Degree*	7.7%	
Percent Requiring Bachelor's Degree*	54.8%	
Percent Requiring Graduate or Professional Degree*	21.8%	
Average Defensibility (a measure of how vulnerable an occupation is to automation. The higher the score, the <i>more</i> defensible and <i>less</i> vulnerable the occupation is to automation).	.78	These occupations are much more defensible against automation than the average occupation, which has a defensibility score of .45

Chart Area

Top Required Skills for Optimal Occupations for Individuals on the Autism Spectrum

Skill	Description	Average Standard Deviations Required Above Labor Market Average
Programming	Writing computer programs for various purposes.	3.763
Technology Design	Generating or adapting equipment and technology to serve user needs.	2.571
Mathematics	Using mathematics to solve problems.	1.967
Systems Evaluation	Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.	1.815
Systems Analysis	Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.	1.809
Complex Problem Solving	Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.	1.723
Critical Thinking	Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.	1.426
Operations Analysis	Analyzing needs and product requirements to create a design.	1.350
Reading Comprehension	Understanding written sentences and paragraphs in work related documents.	0.939
Active Learning	Understanding the implications of new information for both current and future problem-solving and decision-making.	0.890

Understanding Orange County's Environment for the Optimal Occupations for Individuals on the Autism Spectrum

Many individuals on the autism spectrum will find geography to be a defining factor for their careers. Therefore, it is important to understand the specific hiring environment for autism-spectrum optimal jobs that exists in Orange County.

The following occupations are the top 20 sources of openings, among the set, in Orange County.

Occupation	Number of Openings in OC, 2017
Software Developers, Applications	7,750
Web Developers	1,918
Computer Systems Engineers/Architects	1,718
Computer Systems Analysts	1,569
Database Administrators	1,152
Network and Computer Systems Administrators	999
Information Security Analysts	713
Auditors	703
Computer Network Architects	663
Operations Research Analysts	623

Computer Programmers	493
Pharmacists	463
Industrial Engineers	377
Industrial Engineering Technicians	290
Computer and Information Research Scientists	244
Risk Management Specialists	221
Occupational Health and Safety Specialists	171
Computer Hardware Engineers	163
Actuaries	105
Software Developers, Systems Software	100

Chart A

Key Points

- Jobs with optimal fit:
 - Are high skill and high reward
 - Have high skill and education requirements- suggest importance of training and education
 - Many of the jobs are in STEM- where there is high need
- Education- college degree is very important
 - Need to focus on supports for being successful
- Technical skills are needed for many of these jobs
 - Must figure out what skills are needed for the job you are interested in
 - Can get training in informal and formal settings

Promising Hiring Programs



Ronen Zvulun / Reuters

The Israeli Army Unit That Recruits Teens With Autism

Many autistic soldiers who would otherwise be exempt from military service have found a place in Unit 9900, a selective intelligence squad where their heightened perceptual skills are an asset.



About SAP SE /
Company Information /
Diversity & Inclusion /
Differently Abled People

[Overview](#)

[Gender](#)

[Cross-Generational](#)

[Culture & Identity](#)

We focus on everyone's unique ability to contribute, rather than a person's perceived limitations. This view has helped us see new possibilities. SAP's internationally-recognized Autism at Work program is a shining example of this commitment, with nearly 120 colleagues on the autism spectrum on-boarded and the program in nine countries. By embracing differences, we help spark innovation — while challenging assumptions and inspiring change.



Autism at Work

SAP's groundbreaking Autism at Work program, launched in May 2013, integrates people with autism into the workforce. We have a corporate goal to employ 650 colleagues on the autism spectrum by 2020. The initiative currently includes nearly 120 colleagues filling over 20 different positions, and is active in nine countries

[Contact us for more information](#)



XBOX SOFTWARE ENGINEER

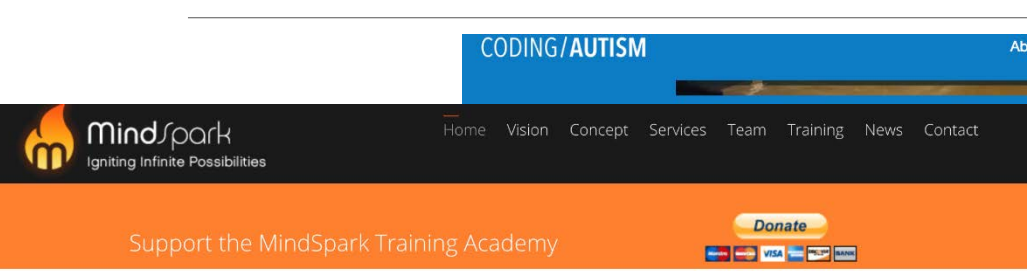
KYLE SCHWANEKE



Jennifer Warrick

Unique Microsoft hiring program opens more doors to people with autism

Specifically Designed Businesses



Our Mission:

To use free market forces to drive social change by creating careers in high tech for people with specialized abilities, thereby increasing their independence and improving their quality of life.

MindSpark

The screenshot shows the content area of the Dandelion Program website. At the top, there is a blue header with "CODING/AUTISM" and "About Services". Below this is a quote from Professor Cheryl Dissanayake: "Charting the impact of employment on people on the autism spectrum within this unique program, as well as their families and coworkers, will be important in convincing other employers to offer similar opportunities to those with autism." Below the quote is the attribution: "Professor Cheryl Dissanayake, who is overseeing the research program." The section titled "Structure" explains the 'pod' structure used to manage teams on client sites. It includes a diagram of 'The Pod' structure and a list of team roles.

Structure

A defining feature of the Dandelion Program is the 'pod' structure used to manage Dandelion teams on client sites. Having this support structure in place allows for efficient management of the autism related needs of the Dandelion team members. Below is an example model that has been tailored for a team in a testing role.

'The Pod'

- Service delivery manager
- Capability Manager
- AS support consultant
- Technical team
 - 3-4 experienced Team Members
 - 9-12 entry-level Members
- Client test team interface

'The Pod' team structure:

- The Capability Manager and client management determine work packages and scheduling of work
- Workflow into the Pod to be routed via experienced technical support team

Schools or specialized programs

An Evaluation of a STEM Program for Middle School Students on Learning Disability Related IEPs

is Doverspike, Julie Zhao, John Zhe and Craig Menzeme

STEM³ACADEMY

Out of the Box. Students. Learning. Results.

ABOUT US OUR SCHOOLS HALLMARKS ADMISSIONS COMMUNITY PROGRAMS PORTAL STEM³ WEST

FOR BRIGHT, CURIOUS, TECHNOLOGY-DRIVEN STUDENTS WITH SOCIAL AND/OR LEARNING DIFFERENCES

of qualified gradu-
technology, engi-
occupations) has
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American Universities
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tution to alleviating
increase the num-
represented areas
pursuing careers in
ation, 2000).
represented group

and expression of information. In designing the academic workshops, it was our intent that the programs be aimed at those middle school students with specific learning disabilities. Operationally, we defined the potential students as being those students on an IEP as a result of a specific learning disability. We relied upon the schools to identify and recommend students. This requirement appeared to be interpreted liberally and some of the students reported that their IEP was also based on emotional or physical disabilities. The issues involved in obtaining accurate information on a specific diagnosis do not appear to be limited to this study, but ap-

Abstract

A year long Science, Technology, Engineering and Mathematics (STEM) program was developed for middle schools students with Individualized Education Programs (IEPs) involving learning disabilities. The workshops were designed to encourage students both on IEPs and not on IEPs to explore STEM as a future career choice by building their knowledge and confidence. The participants in the workshop included 11 students on IEPs and 11 students not on IEPs. Parents and students provided feedback regarding t



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