

The SANS logo is rendered in a white, serif font with a classic, slightly spaced-out appearance. It is positioned in the upper left corner of the dark background.

SANS

Neurodiversity in Cybersecurity

Summit 2024

Thursday, June 27

FREE Live Online 

The "FREE" text is enclosed in a green rectangular box. The "Live Online" text is in white. The icon is a white circle containing a stylized signal or broadcast symbol.

Wearing Multiple Hats: A Story of One Cybersecurity Professional Parenting Two Neurodivergent Youngsters

Yekaterina O'Neil

Principal Security Researcher, OpenText
Doctoral Student, Bridges Graduate School

SANS

**Neurodiversity in
Cybersecurity** Summit 2024



Thursday, June 27

FREE

Live Online



Why Should We Care about Neurodiversity?

Thinking like an outsider can:

- Enhance divergent thinking and cognitive flexibility (Ritter et al., 2012)
- Have an impact by bringing own customs and ideas to the existing environment (Simonton, 1997)
- Lead to generation of ideas (Lee et al., 2012)



Why Should We Care about Neurodiversity?

“Companies in the top quartile for gender diversity on their executive teams were 21% more likely to experience above-average profitability than companies in the bottom quartile”.

“For ethnic and cultural diversity, the finding was a 33% likelihood of outperformance on [profit] margin”.



<https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/delivering-through-diversity>

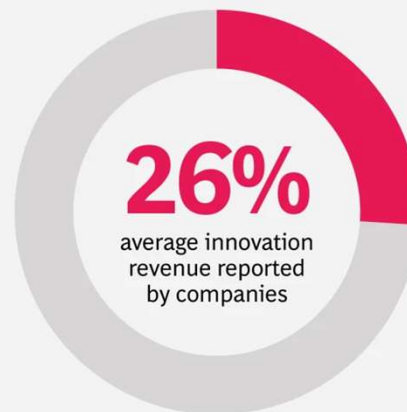
Why Should We Care about Neurodiversity?

“Companies that reported above-average diversity on their management teams also reported innovation revenue that was 19 percentage points higher than that of companies with below-average leadership diversity—45% of total revenue versus just 26%. ”

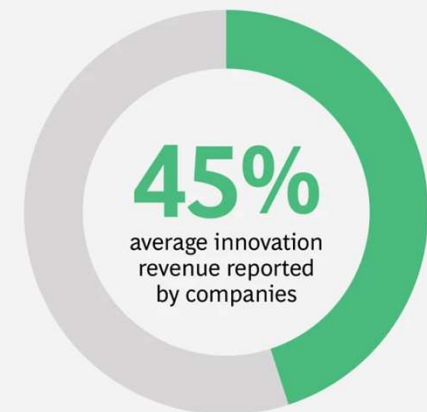


EXHIBIT 1 | Companies with More Diverse Leadership Teams Report Higher Innovation Revenue

Companies with below-average diversity scores



Companies with above-average diversity scores



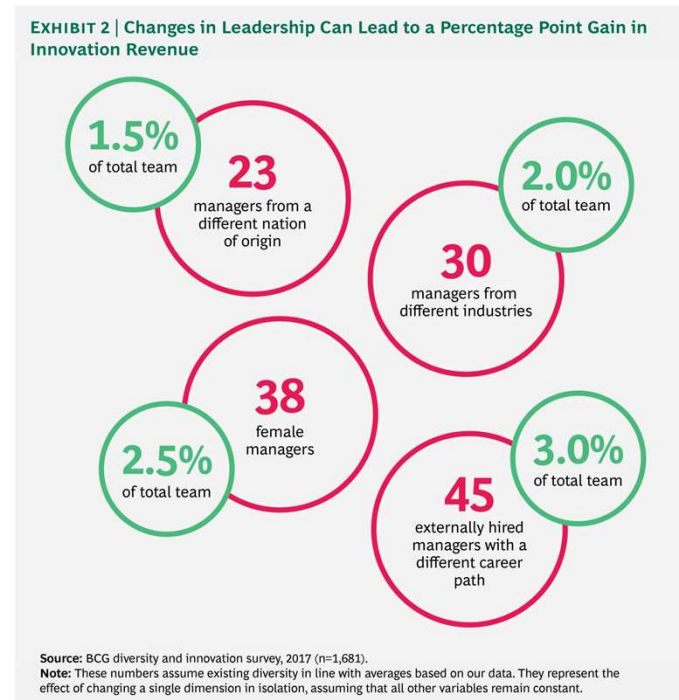
Source: BCG diversity and innovation survey, 2017 (n=1,681).

Note: Average diversity score calculated using the Blau index, a statistical means of combining individual indices into an overall aggregate index.

<https://www.bcg.com/publications/2018/how-diverse-leadership-teams-boost-innovation>

Why Should We Care about Neurodiversity?

“...if our hypothetical company were to hire 30 managers from a different industry (2% of the total management team), it would improve its innovation revenue by a full percentage point. Hiring 38 female managers (2.5% of the team) would have the same result, as would hiring 23 managers (1.5% of the team) from a country other than the one in which the company is based.”



<https://www.bcg.com/publications/2018/how-diverse-leadership-teams-boost-innovation>

Neurodiversity in Cybersecurity

SANS

FORTIFY
_security->starts here

FORTIFY[®]

FORTIFY[®]
An HP Company


**Hewlett Packard
Enterprise**

**MICRO
FOCUS**
Fortify

 **Fortify**
by **opentext**[™]

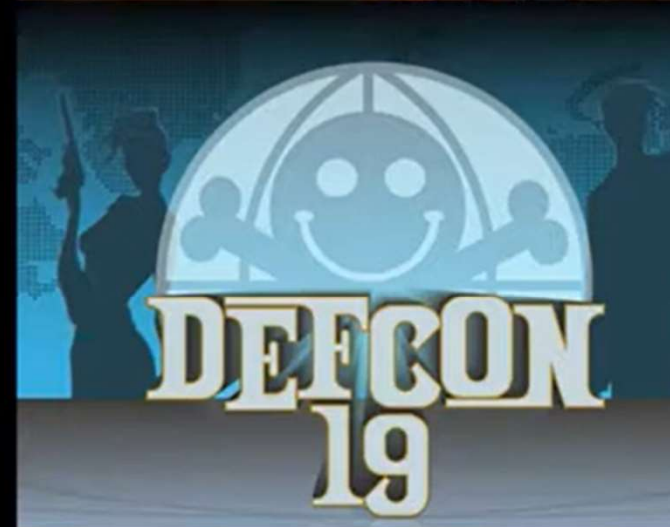




Seven Ways to Hang Yourself with Google Android

Yekaterina Tsipenyuk O'Neil
Principal Security Researcher

Erika Chin
Ph.D. Student at UC Berkeley



watch?v=mScpHTIi-kM

DEFCON

Strengths

- Strong reasoning and analytical skills
- Strong verbal skills
- Amazing memory for facts
- Ability to hyperfocus on areas of interest
- Empathy and sensitivity

Challenges

- Difficulty reading the room and following social cues
- Tendency to interpret things literally
- Difficulty processing sensory input
- Difficulty with fine and gross motor skills
- Anxiety
- Challenges with sleep
- Difficulty focusing on areas that are not of interest
- Difficulty with emotional regulation
- Difficulty handling a change in routine
- Time blindness
- Challenges with organization



Strengths

- Can read upside down
- Strong visual-perceptual skills
- Strong verbal skills
- Story listener and teller
- High creativity and imagination
- Amazing artistic abilities
- Ability to hyperfocus on areas of interest
- Strong interpersonal and leadership abilities
- Empathy and sensitivity

Challenges

- Difficulty with reading, writing, and spelling
- Difficulty remembering disconnected facts
- Difficulty focusing on areas that are not of interest
- Time blindness
- Challenges with organization

was too tired to participate in math

wouldn't sit up

trouble working with a partner

kept laying down

crawling on the picnic table benches

hid behind room 15's steps

was asked to leave class to finish his work

making noises during mindfulness

needed multiple prompts to start work

today was not a very good day for Kirill

chose not to follow the group plan

class clown

I am glad you are not in my class

was singing very loudly in class

kissing items in music

paced all day

did no classwork

trouble focusing



ANXIETY ↑

SELF-ESTEEM ↓



Five Stages of Diagnosis Grief

- Denial
 - This must be a mistake!
- Anger
 - No one understands what we're dealing with! We are all alone! How can that be?
- Bargaining
 - If we can only do this one other type of therapy...
- Depression
 - Nothing works...
- Acceptance
 - This is just the way it is, and it's ok...



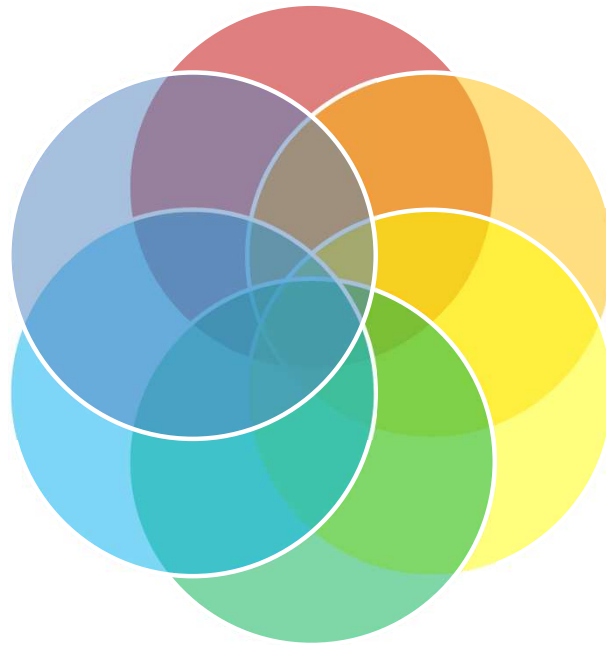
Russophone

Homeschooling

Science

PG

Special Needs



Gifted





Doctoral Student

Cognitive Diversity in Education



Neurodiversity in Cybersecurity


SANS

NEW YORK TIMES BESTSELLER

"I would recommend this book to anyone interested in a fun, engaging look at early human history. . . . You'll have a hard time putting it down."

—BILL GATES

Yuval Noah Harari

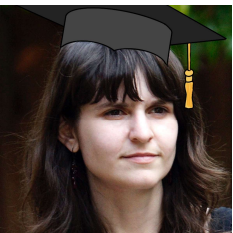
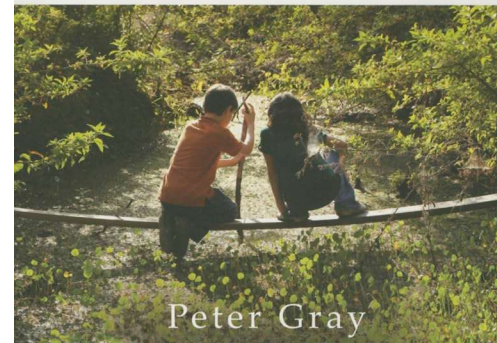

Sapiens

A Brief
History of
Humankind

"Peter Gray...forces us all to rethink our convictions on how schools should be designed to accommodate the ways that children learn."—Steven Pinker

Free to
LEARN

*Why Unleashing the Instinct to Play Will
Make Our Children Happier, More Self-Reliant,
and Better Students for Life*



Neurodiversity in Cybersecurity

SANS

HSC CONFERENCE 2024



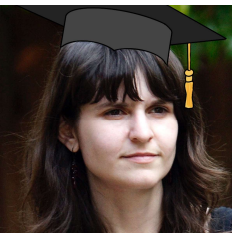
HomeSchool
Association of
California

San Jose, July 25-28

The 36th Annual

HSC CONFERENCE

A Home For All Homeschoolers



A Change in Perspective

Then

- Now that we know what's wrong, we will get appropriate support
- Kids act out because we don't discipline them enough
- Kids don't do work because they are lazy and don't want to apply themselves
- Kids must learn to do what they are told because that will help them in real life
- Kids should not be making important decisions because they don't have enough life experience
- Kids must go to school to learn how to socialize
- Boredom is a choice
- Everyone is gifted
- We need to focus on fixing our child's problems
- Playing and learning are two different things

Now

- Schools and society are largely unaware and uneducated about appropriate support
- Behavior is a child's way to communicate their discomfort
- "Kids do well if they can" (Ross Greene)
- Creativity and ability to think for themselves are valued more in real life than compliance
- Kids are human beings and have the right to make choices for themselves (within safety limits)
- Socialization outside of school is more authentic
- Not always
- Yes, but...
- We need to accept each child as they are and celebrate their strengths
- We learn through play



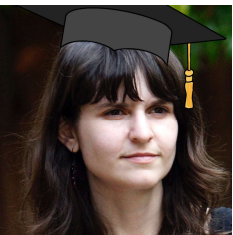
Autistic Traits

Negative View

- Fixated, perseverated
- Picky
- Inflexible
- Doesn't notice differences
- Slow processing speed
- Touches everything
- No filter
- Doesn't conform to social norms

Positive View

- Deeply focused
- Attention to detail
- Likes routine
- Accepting of differences
- Deep and creative thinking
- Kinesthetic learner
- Honest
- Not afraid to be themselves



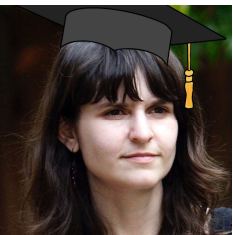
Dyslexic Traits

Negative View

- Doesn't listen
- Flips letters and digits
- Struggles with remembering simple facts
- Disorganized
- Struggles with writing
- Struggles with written expression

Positive View

- Visual learner
- Strong spatial awareness
- Strong episodic memory
- Creative
- Excels at drawing
- Strong verbal skills



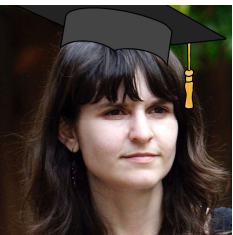
ADHD Traits

Negative View

- Distractible
- Impulsive
- Hyperactive, restless
- Intrusive
- Can't stay on point
- Forgetful
- Disorganized
- Stubborn
- Moody

Positive View

- Curious
- Creative
- Energetic
- Eager
- Sees connections others miss
- Totally involved in what they are doing
- Spontaneous
- Persistent
- Sensitive



Five Non-Negotiables

For supporting physical, emotional, social, intellectual, and creative needs

- Creation of psychologically safe environment
- Tolerance for asynchronous behaviors
- Time to explore, mature, and adapt
- Positive relationships
- Strength-based, talent-focused environment



Ways to Support Neurodivergent Individuals and Their Caretakers

Everyone is different, but...

- I homeschool my children
- I have been working part-time for the past six years
- Flexible working environment, schedule, location, and project-wise
- Learn to be aware of biases and preconceptions and actively fight them
- Be kinder to each other and create psychologically safe spaces
- Establish an open dialogue to “create a niche” for every individual



Neurodiversity in Cybersecurity

SANS

Thank You



Distinguished Technologist | Bridges Doctoral Student
yoneil@opentext.com | katrina.oneil@bridges.edu