black hat®
USA 2018
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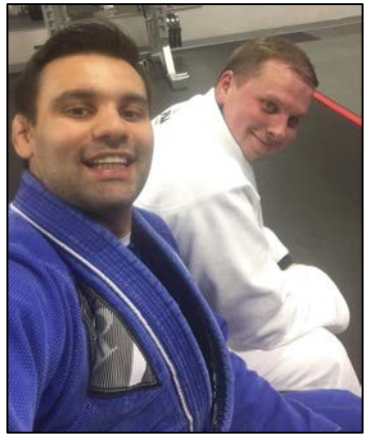
MANDALAY BAY / LAS VEGAS
HOW CAN SOMEONE WITH AUTISM SPECIFICALLY ENHANCE THE CYBER SECURITY WORKFORCE?
#BHUSA / @BLACK HAT EVENTS

Weaponized Autism: Outline of our Talk

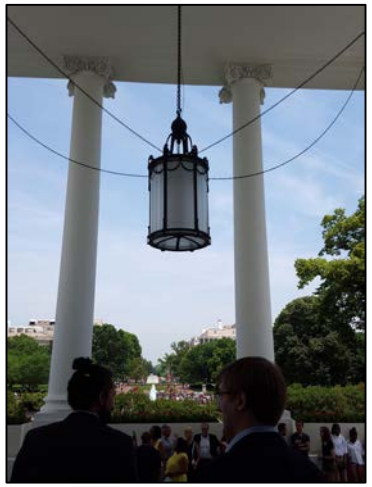
- Who We Are
- Defining Autism
  - Clinical Definition
  - Real World Definition
- The Research and Our Study
- Managing Personnel on the Spectrum
  - Skills and Advantages
- The Techniques and Solutions
  - Clinical and Theoretical
  - Real World
- Q & A

Rhett Greenhagen



- 10+ years working for the US Military and Intelligence Community
- Was primary investigator for the DoD's largest data center
- Public speaker at DEFCON, Multiple Bsides, THOTCON, HOU.SEC.CON, GRRCON, and many others
- Diagnosed with Autism at age 14

Casey Hurt



- Successfully managed many people on the Spectrum throughout 15+ years of being a supervisor.
- Former Chief of White House Information Assurance
- Managed a large DoD Security Operations Center
- Technical Director of 12 of the DoDs largest Data Centers

Dr. Thayer

- Multiples degrees in psychology, including Ph.D. in Industrial-Organizational Psychology
- Publications on autism and communication styles and integration in the workplace
- 10+ years experience with working with security professionals

The Definition

- Autism spectrum disorder (ASD) is a considered a developmental disability and is typically defined by a certain set of behaviors and is a “spectrum condition” that affects individuals differently and to varying degrees

- There is no known single cause of autism, but increased awareness and early diagnosis/intervention and access to appropriate services/supports lead to significantly improved outcomes

- Some of the behaviors associated with autism difficulty making eye contact or holding a conversation; difficulty with executive functioning, narrow, intense interests or focus; and sensory sensitivities

https://www.autismspeaks.org

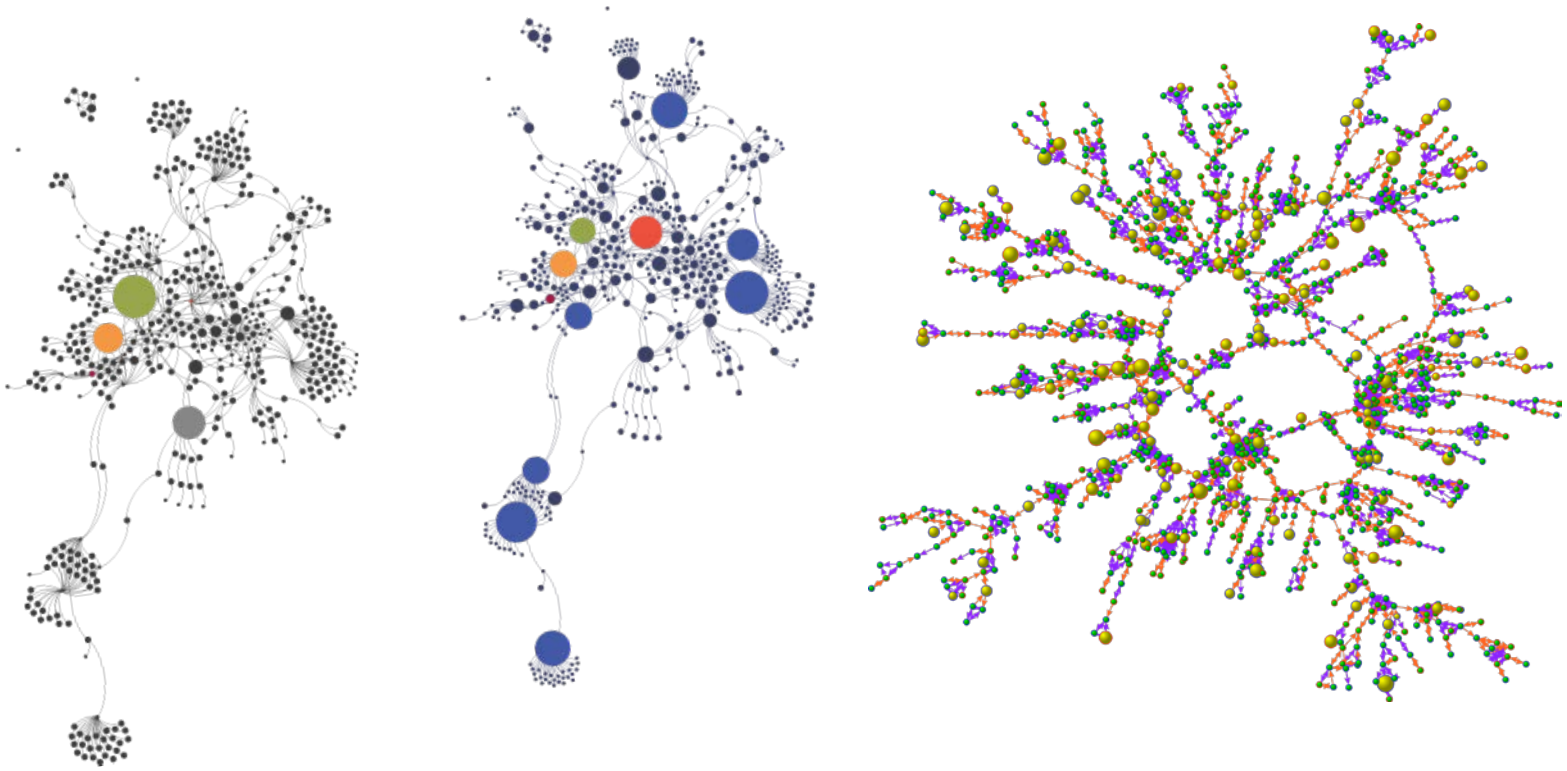
A Few Facts

- Autism now affects 1 in 59 children and 1 in 37 males
- Males are nearly five times more likely than women to have autism
- Autism prevalence figures are growing and it is quickly becoming one of the fastest-growing developmental disorders in the U.S.
- There is no “cure” for autism but there are skills and techniques to manage the symptoms
- Only 14% of adults with autism hold full time paid employment. Qualitative research and interviews indicate a high correlation of these individuals work in computer related fields, but there are no quantitative statistics to date.

https://www.autismspeaks.org

The Autistic Hacker

- Every person with Aspergers has one specific thing that they excel in above others.
- Link analysis in network theory - intelligence, counter terrorism, to computer networks.



Multiple white papers and published research.

Multiple research projects for APT research.

Developing algorithms and machine learning to build patterns in malware from APT groups in large data pools.

Publish research on patterns using Fitbit around classified locations, dating apps, researcher attacks.

The Autistic Hacker

- I was driven to the computer security industry due the constant new technologies being used, as well as the challenges it brings.
- Helped Law Enforcement agencies, both domestic and foreign profile foreign criminal actors. As well as develop studies based off of debriefings.
- I spoke to Israel Defense Forces Unit 9900.
- “Investigator profile” with people who are diagnosed with ASD.
- Some of the best jobs I find people with Aspergers are typically in SOC, Counter Intelligence, and Signals Intelligence jobs due to their capacity of identifying patterns

The Research

- Qualitative surveys and interviews with cybersecurity professionals with ASD have attempted to determine a correlation. However, this research remained heavily theoretical

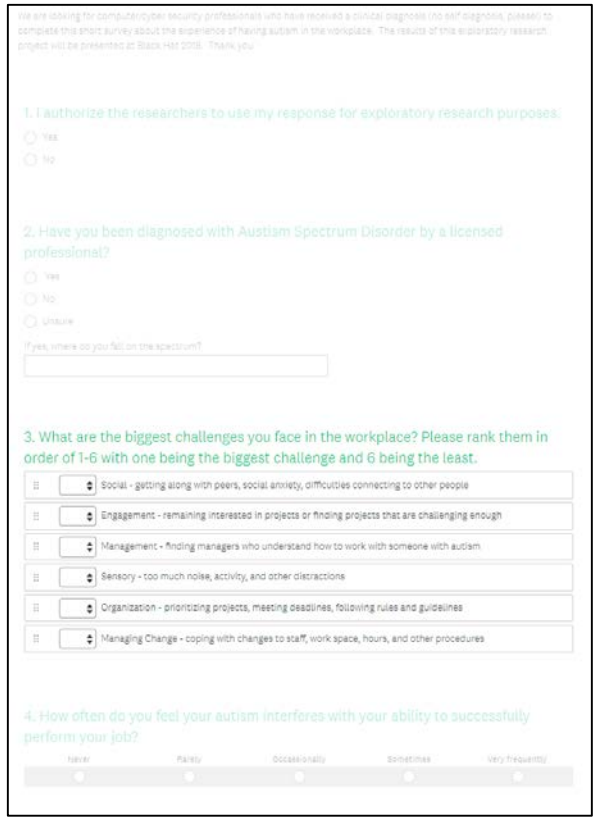
- To date, no quantitative statistics have been completed that identify the percentage of cybersecurity professionals with ASD

- 2017 study done by the National Crime Agency found indications that Autism Spectrum Disorder is more prevalent in amongst identifed cyber criminals than the general population

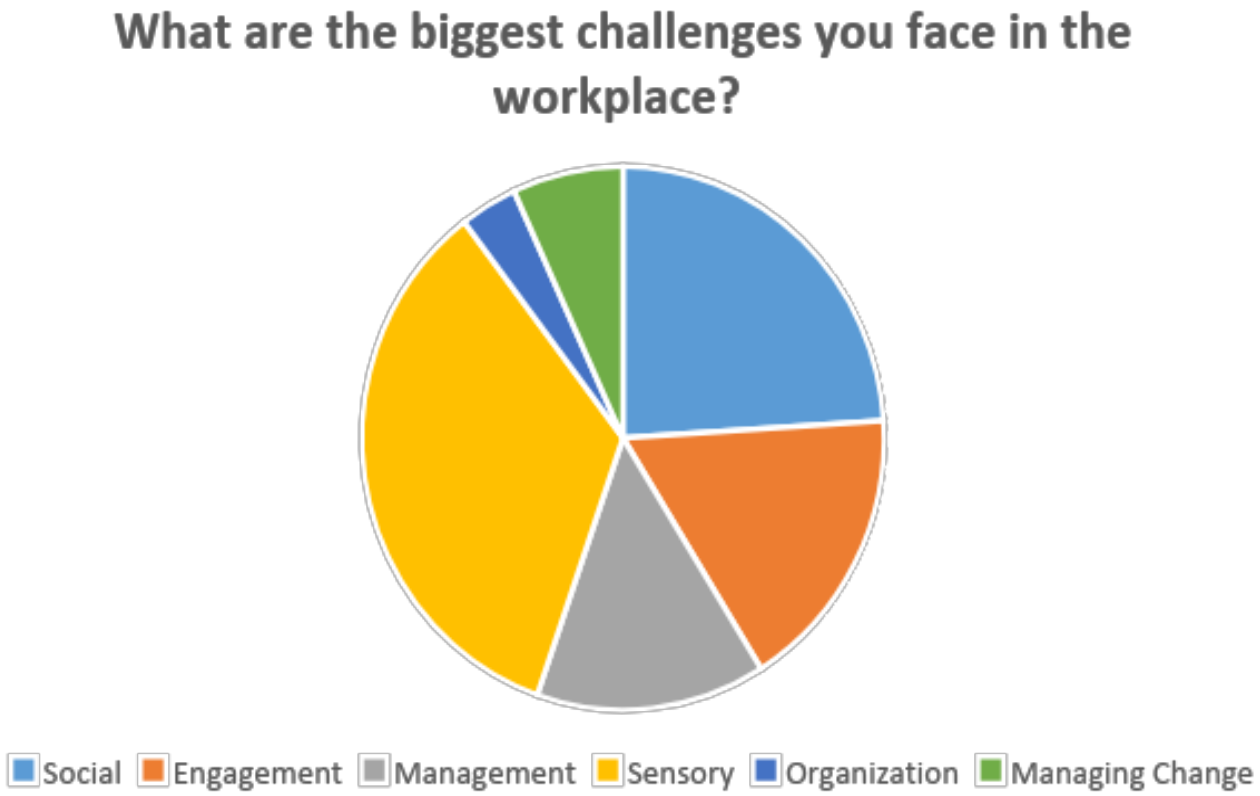
The Study

The questions and break down

6 questions with an option to leave feedback



The Questions



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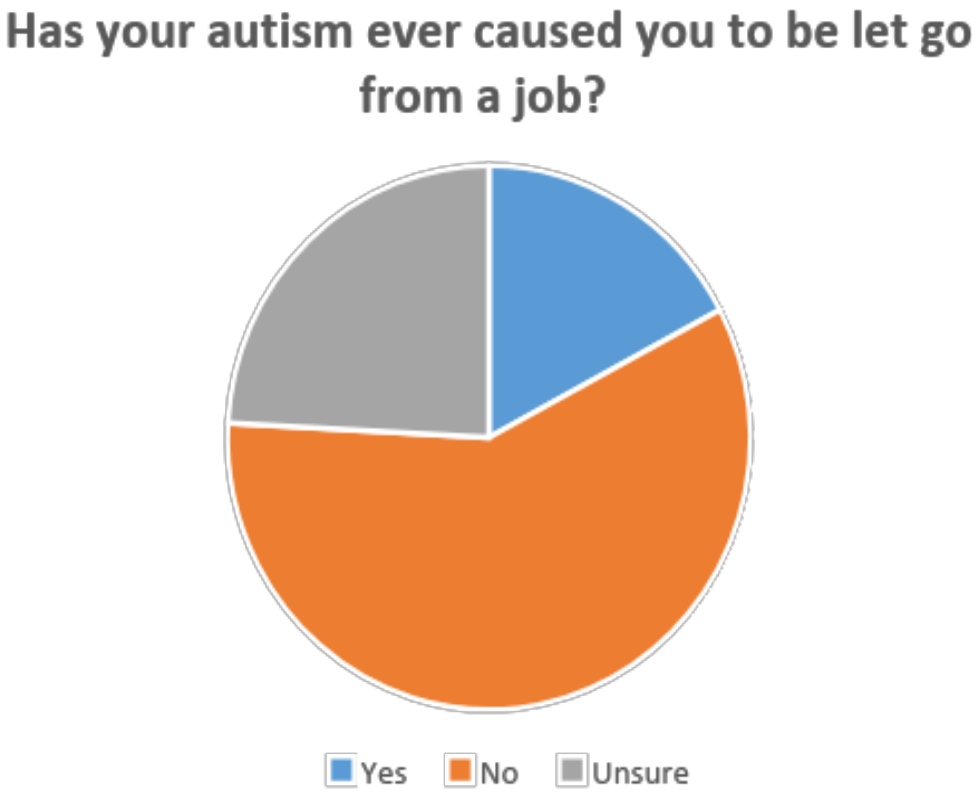

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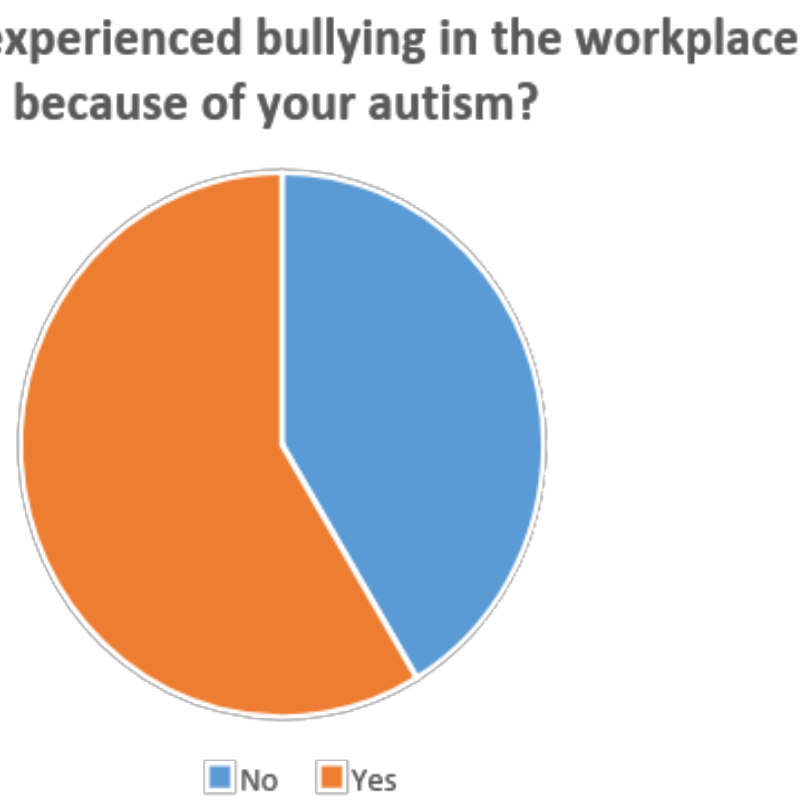

How this Study Helps

- Shows that over 50% of ASD employees feel like they are bullied at work
- Information points to better ways to build teams based on employee talent
- Shows how we can modify interview processes to find these talented people
- Shows the dynamic of arguments between ASD employees and their peers

The Skills and the Advantages

- Detail Oriented, Laser Focused, “Out of the Box” thinkers
- Ability to spot patterns others would likely not see
- When given the right tasks, can be 80% more efficient than others
- Keen memory and uncanny ability to apply knowledge

The Solutions - For Managers

- One-to-one sessions that are direct and provide specific and targeted goals with minimal distractions
- Educate yourself and your team on the nuances and behaviours of someone with ASD and take cues from the individual with ASD you are working with
- Maintain a frank and honest line of communication to provide boundaries and explanations for certain behaviors and relationships and to provide support
- Be sensitive to sensory issues such as ambient noise, high traffic social areas, and other issues that could provide challenges to focus
- Watching for bullying behaviors and co-workers and other indications of stressful relationships

The Solutions - For Individuals with ASD

- Get an official diagnosis - not a self diagnosis! Specially trained physicians and psychologists administer autism-specific behavioral evaluations in children but rely heavily on observation and personal interviews from a professional can diagnose autism in adults.
- Learn your strengths and weaknesses and what motivates or demotivates you
- Determine whether or not you wish to disclose your diagnosis with your employer. Human Resources and your manager are required to keep your diagnosis confidential if you wish to
- Should you choose to disclose your diagnosis, identify compensations techniques with your managers and co-workers

The Takeaways

- Someone with autism can greatly improve the efficiency and innovation of your cyber workforce.
- Getting a proper diagnosis will help an individual understand their strengths and weaknesses and how to utilize them for greater success in the workplace
- Managers must remain flexible with their workforce to allow a team with ASD personnel to thrive.