



20

NDGiFTS

20

NeuroDiversity Giving individuals Full
Team Success

The Movement

*A Community Effort
Supporting Neurodiversity in the
Workplace*

“All efforts to improve neurodiversity understanding are key
to growing employment for this important group.”

-- Bank of America

-- AIB, Ireland

In support of this movement

WWW.NDGIIFTSMOVEMENT.COM



The following report was
created by volunteers to
promote neurodiversity in
the workplace.

*Together we can
change the world.*

Table of Contents

IMPORTANT: PLEASE READ FIRST	2
Welcome to the NDGiFTS Movement	3
Executive Summary	6
The Case for Investing in Neurodiversity	9
The Business Case	9
Unaddressed, Non-visible, Huge, Market Opportunity.....	12
A Brief Survey about Neurodiversity:The Results	13
Neurodiversity Challenges: Non-visible, Identity and Disclosure.....	16
Diversity, Equity & Inclusion Lack of Neurodiversity Focus	18
Federal Hiring.....	22
Internships / “Try-outs”	23
Impact on Social Economic and Cultural Diversity.....	26
Public Perceptions of Autism Spectrum Disorder	30
Voices of the Community	32
Managing Diversity Through a Culture of Confidence	33
Ask an Autistic: Autism and The Workplace Trainings	34
8 Proven Strategies to Attract and Retain Job Candidates on the Autism Spectrum	37
An Unwanted Hill to Climb: The Challenges Autistic Adults Face in Social and Occupational Settings	40
The Research Proposal	43
Background: What is Neurodiversity?	44
Background: Education	46
Background: Anxiety as Comorbidity	50
Background: Executive Functioning as a Comorbidity.....	54
Creativity: The Core of this Project	58
Proposed Studies	61
Supporters of the NDGiFTS Movement.....	66
Steps to Begin Embracing Neurodiversity	69
Some Macro Key Tailored Specific Actions for a University Overall.....	69
Prototype Framework Model Suggestion: Six Month Action Plan.....	69
References.....	71



PLEASE READ FIRST

IMPORTANT: PLEASE READ FIRST

This Notice is addressed to you as the Reader of this Report or any part thereof - read this Notice very carefully before continuing on to read our Report or any particular chapter or section of it

ALL readers have legal obligations that arise from reading this Report.

This Report, and all parts thereof, (including but not limited to) all chapters, all writing, all the writers' reference material, is the intellectual property of the individual writers and editors of the specific chapters.

None of the contents of this Report can be used by ANYONE without the express written consent of the individual writers and editors of the specific chapters.

Any infringement of the intellectual property of our writers or team will be a cause for legal action.

Anyone who has any questions on this, please email Ronan McGovern, Barrister-at-Law, The Honorable Society of Kings' Inns, Dublin - at email ronanmcgovern55@gmail.com

WE EXPECT AND HOPE THAT THIS NOTICE WILL NEVER COME INTO EFFECT - NEVERTHELESS, WE AS A VOLUNTEER SOCIAL MOVEMENT WHO ARE COMMITTED TO THIS CAUSE OF SOCIAL JUSTICE MUST PROTECT THE INTELLECTUAL CONTENT OF THE CONTRIBUTORS FROM BEING USED AND/OR EXPLOITED. WE KNOW YOU UNDERSTAND.

We hope you enjoy reading this document - and we welcome you, wholeheartedly, into our social movement.

WELCOME TO NDGIFTS!

NDGiFTS



Welcome to the NDGiFTS Movement

How can we motivate systemic change within organizations? Change within organizations requires a thoughtful process assessing and refining the whole organization and building in a model of sustainable cultural change. How can we encourage organizations to invest in this change? These are the guiding questions that have defined the creation of the NDGiFTS Movement and this publication. We have brought together over 70 contributors to this project including insight from over 300 conversations with various stakeholders over the last year. Our mission is to prove that neurodiverse individuals are worth the investment from organizations who stand to reap the reward of innovation and the ability to reinvent the future of the organization.

The following publication has three sections, each with different objectives. The first section, *The Case for Investing in Neurodiversity*, is focused on educating business leaders and the general population on the neurodiversity landscape in the workforce and how neurodivergent interplay with different aspects of organization initiatives. The second section, *Voices of Our Community*, provides perspectives from our neurodiverse community. You will find a variety of viewpoints, testimonials and guides. These are areas the neurodiverse wants you to be informed. Lastly, we propose a research study aimed at an academic audience. This encompasses our suggestions on studies that can help fuel a PR campaign highlighting the investments necessary to embrace a neurodivergent workforce. We hope this knowledge can inform the way managers and leaders in organizations operate and how we can create environments that allow them to thrive.

Our creation process was as unique as our community members! We had small teams of 2-5 individuals working across the world on each article within this publication. We held group review sessions and team meetings where we discussed some of the more complex and controversial areas. We don't believe there has ever been something created in this context over a period of eight weeks ever before. It was an amazing process of dedicated, intelligent, and compassionate volunteers/social innovation entrepreneurs.

When over 36 writers and reviewers come together, there will be different approaches and opinions when speaking about populations and circumstances. We encourage you to read with an open heart and understand that all efforts have been made to be sensitive and respectful to different opinions. Our intention is to increase employment and work satisfaction of those that are neurodivergent. We hope we have made you proud.

In this project we address workplace and societal challenges and overlooked opportunities impacting both neurodiverse individuals and organizations. It is important to take into consideration the areas below when discussing how neurodiversity equity and inclusion should be encouraged and supported not only in the workplace, but across multiple environments and demographics.

The neurodivergent individual, when appropriately supported and embraced, brings cultural and economic advantages to organizations (government, nonprofits, and corporations) in the workplace, including creativity, innovation, and entrepreneurial energy. We believe that a team that is cognitively diverse will lead to a certain innovative outcome of unquantifiable quantity and quality. To continue advancing workplaces, team processes, and synergies within workplaces would benefit from cognitive diversity. As we discuss below, innovation is going to come from having a group of "creative" thinkers that are diverse in mindset and experiences.

We understand that not all neurodiverse individuals have these capabilities and that there is a large portion of the population that may not align with our report or with the suggested initiatives. Our hope is that employers will reflect on their stakeholders in their workforce to really understand and respond to the emergent opportunities and needs. It is good for business and, besides, what good is it for the economy not to afford opportunities for everyone who

The logo for NDGiFTS is displayed in a large, white, serif font against a dark, blurred background of a city skyline at night. The letters are bold and clearly legible.

desires to work? Let us make the investment in our workplaces to be more welcoming and kinder for everyone, including by empowering neurodiverse individuals to draw on their best of abilities.

Our objective is for readers of this publication to understand the need to fund and implement research projects that will support the business case for making necessary organizational adjustments. You will read from the variety of contributors, many that are neurodiverse themselves, that the current business environment is stifling a significant portion of the workforce. It is time to change.

An important note: regarding this Stanford Business School Rebuild/Embark Innovation Sprint and the Stanford Neurodiversity Project at the Medical School: This Stanford Business Rebuild Innovation Sprint was designed as an eight-week Global Innovation Sprint to develop solutions for the wide range of challenges and opportunities we face as a society as we will emerge from the COVID-19 pandemic. Entrepreneurs and social innovators can collaborate with the Business School's Center for Entrepreneurial Studies. Our Team Rebuilds work ends on August 23. Our short term independent, entrepreneurial project, with a special focus on business organizations, is separate and distinct from the Stanford Neurodiversity Project (SNP) at the Medical School. That project is led by Dr. Lawrence Fung, who has done amazing pioneering work to put Neurodiversity on the World stage. Our Stanford Business Rebuild Sprint Team has its roots in the SNP as the initiator of the Rebuild work was Ronan McGovern, who worked as a Scholar with Lawrence at the SNP last year. Ronan has always taken great care to ensure that ALL our Rebuild work is in alignment with the SNP positive, strengths-based psychology mindset and with the Values, Principles, and Policies of the SNP. In fact, the Rebuild Team has been evolving into a social movement whose work will advance not only the Neurodiversity social justice causes but also Lawrence's SNP. That is the hope and expectation of Ronan, Tiffany, and the Stanford Rebuild Team.

We leave you with some food for thought. We encourage you to embrace the following good and principled business policies for harnessing and developing human talent's full potential globally. To harness something is to place it in the service of humanity in a sustainable manner. The principled and optimal way to harness the abilities of Human Beings is to care for human beings as part of a social contract / relationship. Wider society has a vested interest in Including Neurodiverse people in its workforces and engaging in full participation in society.

- Good and principled business managers and leaders set out to harness both human Talent, including Neurodiverse Talent, and the Earth. Principled business and managers are aware that all talent needs cultivating and that the resources of the earth are limited and need to be cared for. The underlying motive is valuable and worthwhile human achievement. Profit is a measure of success, but it is not the underlying motive.
- Good business is itself a fragile undertaking. Just as the earth and humanity cannot be taken for granted, the same is true of the business motive. The “market failure” that is represented by the unemployed and underemployed Neurodiverse potential workforce is an indicator that good and principled business and managers, sometimes – in some areas, “fall short of the ideal”.
- Human greed is a perennial reality - unprincipled leaders and managers have no interest in the human potential or dignity of others and see the Earth as an opportunity for exploitation. We need to be especially careful to protect Neurodiverse people who can be more vulnerable to being used.
- Human inclinations always need to be kept within bounds and this is not possible without effective government.
- Business needs the legal structures designed to protect human rights and dignity and to manage the resources of the Earth - a financial framework of business.



- The way in which the business world understands itself, its identity, its purpose and its societal role has a profound and pervasive role to play in shaping the wider culture of humanity. A large proportion of society's workforce are employed in business enterprises and everyone in society engages with corporates when they buy goods and services. We wish that business would see itself in a way that includes Neurodiverse people within its community,
- When business sees itself as simply concerned with 'business' the result is a blinkered and complacent society. Where anything other than profit making is dismissed as 'unreal', society loses its "soul" and people do become disenchanting and disengaged from society. We have witnessed this happening in relation to historically underrepresented minorities: we want to prevent this happening with Neurodiverse communities.
- It is both a political challenge for government and a moral challenge for business leaders to enter into dialogue with wider narratives, such as those offered by communities, such as the Neurodiverse community, religious traditions, so that the underlying motive of good business – worthwhile human achievement – is sustained.

— “ —

Lastly, please look for testimonials from non-tech neurodivergent within this publication. Their voices are here for you to hear.

— ” —

Sincerely,

Project Leads: Ronan McGovern, Tiffany Jameson, Susan O'Malley

Correspondence for this publication should be sent to Tiffany@gritandflow.com



Executive Summary

Our Objective: Quantify and leverage for the common good the extra creativity that comes both from the Neurodiverse individual and from the surrounding team.

We have a hypothesis based on our initial research that the extra innovation comes not only from the extra creativity of a neurodivergent but also from the extra work and perspectives that surrounding team members can have based on the neurodivergent novel thought patterns. We sought to investigate the following question:

How do we channel neurodivergent extra creativity capacity to produce innovation both from the individual and the surrounding team?

What started as a question has turned into a movement, The NDGiFTS Movement.

NeuroDiversity Giving individuals Full Team Success.

Significant Opportunity –

Untapped Talent for Creativity & Innovation at a time when society needs this the most

There is a considerable opportunity to utilize a currently untapped talent pool. Neurodiversity includes over 20% of human populations and is a cognitive diversity associated with autism, ADHD, dyslexia, and dysgraphia. The unemployment or underemployment rate in this group is high. This translates to a non-visible talent pool that leading companies are now beginning to identify and target in their global recruitment efforts.

We believe that there is a vast unaddressed opportunity for innovation that is represented by most Neurodiverse people who do not get to use their creative abilities – just when we need them the most.

"All efforts to improve neurodiversity understanding are key to growing employment for this important group."

In support of this movement -

Bank of America AIB, Ireland

NDGiFTS



Organizational DEI Infrastructures: Now is the time to include Neurodiversity

Currently, most organizations adopt a diversity model that emphasizes ethnicity, sexual orientation, and gender identity – and rightly so.... however, we believe the time has come to include the next population.....the Neurodiverse. It is time for Diversity, Equity, and Inclusion (DEI) to include cognitive diversity.

Many neurodiverse individuals have the knowledge, skills, and abilities to enhance organizational processes and address unsolved challenges. Workplace and societal challenges are overlooked opportunities impacting neurodivergent individuals. It is essential to take into consideration the areas below when discussing how neurodiversity equity and inclusion should be encouraged and supported not only in the workplace but across multiple environments and demographics. The neurodivergent individual, when appropriately supported and embraced, brings cultural and economic advantages to all societal organizations in the workplace, including creativity, innovation, entrepreneurial energy, and predictable impacts.

To continue advancing workplaces, team processes, and synergies, we believe organizations would benefit from cognitive diversity. Innovation will come from having a group of "creative" thinkers that are diverse in mindset and experiences. *There is a huge unaddressed market opportunity* benefit of organizations adopting a **Neurodiversity Strategy and enabling a team environment that leverages the extra creative capabilities of the Neurodiverse person(s) in the group.**

Including Neurodiversity in DEI: The data challenge

Based on NDGiFTS exploratory research and conversations, society must view Neurodiversity as diversity and include in DE&I organizational structure. Our team believes that the strengths-based approach of the Stanford Neurodiversity Project (SNJ) promotes the flourishing of the human person and the extra creativity of the individual.

There is a lack of reliable data, which is a challenge to measure the accountability of the implementation of Neurodiversity within organizations. The current statistics available, we feel, are not reflective of those that go undiagnosed or undisclosed.

BHAG for both Organizations & Society

Jim Collins and Jerry Porras discuss how highly successful visionary organizations use bold visions through "Big Hairy Audacious Goals" or BHAG. Our research has highlighted that Neurodiversity has the potential to be a Huge "Big Hairy Audacious Goal" for both organizations and society. We believe this can happen by creating team processes that allow individuals to take their creative potential and translate it into innovative products and services.

Neurodivergent offers a unique perspective, and cognitive diversity results in thinking differently. We seek to identify the missed creativity that will be uncovered through creating an environment to support creative potentials leading to more innovation within organizations. Autistics, for example, have cognitive skills that lead to novel approaches resulting from their exceptional memory, meticulously accurate representation, or rule-following (Roth, 2020). **Our initial research suggests that unleashing the untapped creativity and innovation of Neurodiverse people will create spillover effects of innovation within organizations, the global economy, and society.**

Neurodiversity will also bring awareness that all Human Beings must be enabled to flourish and fulfill their Human potential for life to be meaningful for all society. Better inclusion of Neurodiversity will lead to solutions for solving society's complex, inter-disciplinary problems through the disruptive, "out-of-the-box thinking" that is so-missing in today's attempts to address these issues. To have a genuinely inclusive society, the Neurodiverse must be included.



The NDGiFTS Movement Report

The final deliverable of our NDGiFTS Movement is a comprehensive report on the state of Neurodiversity addressing the question, *How do we channel neurodivergent extra creativity capacity to produce innovation both from the individual and the surrounding team?* We know that the path from creative potential to innovation requires climate, leadership, and team processes that harness individuals and allow them to thrive.

Within our report, we propose two research studies for funding by large enterprises that will provide evidence that neurodivergent have access to a higher portion of creativity. Expanding upon this evidence, we will run training groups to learn and inform practice on new team processes that unleash this potential and the ripple effects of creativity from others. We are already in discussions with Bank of America and Amazon's neurodiversity teams as potential funding sources and sites for this critical research.

We, NDGiFTS movement, have the confirmed support for this research of over 100 individuals globally, and we plan on using this active community as resources for implementation. Our team is cognitively diverse because we believe that we must practice what we preach. The depth and breadth of our collective experiences and expertise, in many cases, is based on the lived experiences of themselves or families that are Neurodivergent.

Our NDGiFTS Social Movement Plans for Media & Communications

We are developing a holistic media strategy to communicate and amplify our work. Even in the age of social media sharing, our team believes that it is imperative to have good media relationships and a PR strategy. NDGiFTS will develop a PR campaign targeting relevant reporters and news outlets covering education, human resources, management, career development and leadership to share our findings and recommendations.

Storytelling that touches any aspect of our work will then become material for all stakeholders to amplify to their various networks and channels across Twitter, LinkedIn, Facebook, Instagram, Reddit, and others. In fact, our plans for pilot with a leading technology corporation include storytelling as a tool for scaling worldwide. For a continuously unfolding story that will likely accelerate as our report becomes public, the variety of angles is virtually endless, not a "one and done". Ongoing media amplification that NDGiFTS guides and directs is a powerful tool for advancing our goals.

Conclusion

For too long, our model of what good looks like has been boxed into narrow definitions of how people think: what a typical approach is and what typical thinking patterns are. We should be thinking of our students, our colleagues, and collaborators not in terms of how they FIT IN but rather what they ADD.

We can all see and feel, intuitively, as humans that the power of our humanity is that we are all individuals who are unique. This is one thing which we have in common. Why then are we looking for things which are so standardized in our organizations?

We, as a society, need to move from a fixed notion, a sense of what fits to embracing the potential of a million unique ways of thinking. It is time to open our hearts and minds to the power of our collective uniqueness, our collective humanity.

Written by Ronan McGovern, Tiffany Jameson and Susan O'Malley on behalf of the NDGiFTS team. We would like to thank Karen Wickre and Peter Shea for contributing to the executive summary.

The logo for NDGiFTS is displayed in a large, white, serif font against a dark, blurred background of a city building at night. The letters are bold and clear, with the 'i' in 'GiFTS' being lowercase and smaller than the other letters.

The Case for Investing in Neurodiversity

The Business Case

Written by Maureen Dunne, Ronan McGovern, Betsy Furler, Victoria Dinielli

Reviewed by NDGiFTS Community

In this report, we make the case that organizations who include neurodiverse team members may not only improve their organizational culture but also reap strategic and financial long-term benefits as well. Our overall thesis is that neurodiverse talent brings a competitive advantage to business through increased innovation, out of the box thinking, specialized skills, and increased productivity and profits. We discuss the empirical justification and new lines of inquiry to support the case for future research exploration.

What Do We Mean by Neurodiverse?

Neurodiversity refers to individuals with differences in brain function and behavioral traits who are still part of what we might call “the normal variation in the human population.” The Neurodiversity Movement seeks to uncover the strengths (often invisible) and talents of neurodiverse people, and to focus on their strengths rather than their deficits. There are many definitions of what constitutes being under the Neurodiversity umbrella. For the following publication we will default to individuals that have a diagnosis or identify with any of the following:

- Autism Spectrum Disorders (“ASD”)
- Attention Deficit (Hyperactivity) Disorder (“ADD” / “ADHD”)
- Dyslexia
- Dyspraxia

To start, the unemployment statistics are clearly at odds with the value the neurodiverse could add in the workplace. The unemployment or underemployment rate for people with ASD is estimated to be over 85% and well above the rate for other neurodiverse groups (Roux et al., 2013). For people with ADD/ADHD, it is around 30% (Biederman & Faraone, 2006), while the Dyslexia unemployment rate is roughly 50%. And for people with Dyspraxia, it is over 65%.

Anyone who has been diagnosed with a difference in neurological functioning and who conveys outlying attributes or skill could be considered neurodivergent.
~ Marcelle Ciampi (Pen Name: Samantha Craft)

However, many such individuals also have tremendous potential for both creativity and productivity. In fact, in a recent pilot study by JPMorgan, individuals with ASD were found to be 92% more productive at a range of tasks



THE CASE FOR INVESTING IN NEURODIVERSITY

Page | 10

when compared to their neurotypical peers. At the same time, according to Manpower, 40% of global employers struggle to find the talent they need to succeed in organizational objectives.

Neurodiversity is just that: a different way of thinking that forges needed innovation into business culture. Another major point with regard to the importance of including the neurodiverse in organizations was derived from subjective interviews with neurodiverse individuals by Manning and Dunne (2018-2020) that will be published as part of the forthcoming collection “Ideas from the Edge: Interviews on Lateral Thinking” where they coined the term “neurodiversification portfolio.” This point originally came up when Manning wrote his own self-reflections in 2018 as an investment portfolio manager (who was diagnosed with ADHD as a young adult):

“I am struck by the seemingly powerful analogy to be drawn here with macro portfolio management, where one of the absolute necessities is to reduce total correlation among holdings. You may have the 10 best assets on the planet by every fundamental metric, but if they are correlated with each other, and each has a 10% chance of crashing at some point, then the day will come where your whole portfolio is wiped out. Similarly, you may have the 10 smartest people on the planet all in the same room. But if they all have 'correlated' cognitive tendencies, and each has only a 10% chance of being totally wrong about something very important to a corporate vision, then the day will come when they are all wrong at the same time about something that could present existential risk to the organization. Just as you can't find a portfolio management school in the world today that doesn't preach the necessity of asset diversification, we may eventually live in a time when you can't find a business management school in the world that doesn't preach the necessity of innovation by including neurodiverse minds. At any given time, my investment portfolio includes diversification across assets and companies should include what we would call 'neurodiversification.’” – *Brett Manning, Portfolio Fund Manager (Diagnosed with ADHD)*

Another useful quote comes from SAP:

“Having people who see things differently and who maybe don't fit in seamlessly helps offset our tendency, as a big company, to all look in the same direction.” – *Bessa, SAP's Autism at Work program.*

Another example appears in Forbes:

“In addition to creating a workplace inclusive of race, gender, and sexual orientation (to name a few), many organizations are seeking value in something even simpler, diversity of thought. In some industries that are known for being insular—think law or high-tech companies—seeking out talent with different thinking and problem-solving backgrounds is critical. Deloitte research underscores that diverse thinkers help guard against groupthink . . .” – *Selena Rezvani, Forbes Article, Five Trends Driving Workplace Diversity*

Finally, from Harvard Business Review:

“Innovation calls on firms to include people and ideas ‘from the edges.’” – *Harvard Business Review*

We can segment previous research into cost versus value indicators across multiple domains, including Innovation and out of the box thinking, productivity and subjective well-being. When examining the literature on autism spectrum disorders, for instance, there is evidence of cognitive advantages including pattern recognition, mathematical skills, and enhanced productivity. People with ASD have shown superior performance on visual-spatial tests such as block design (Shah & Frith, 1993), as well as the embedded figures test (Jolliffe & Baron-Cohen, 1997). People with autism have also been shown to be more consistent in rational decision making and less prone to errors of cognitive bias, including marketing gimmicks (Farmer et al., 2017).

In a recent article published in the Harvard Business Review (2017):

“...Managers say [ASD employees] are already paying off in ways far beyond reputational enhancement. Those ways include productivity gains, quality improvement, boosts in innovative capabilities, and broad increases in employee engagement. Nick Wilson, the managing director of HPE South Pacific—an

NDGiFTS



THE CASE FOR INVESTING IN NEURODIVERSITY

Page | 11

organization with one of the largest such programs—says that no other initiative in his company delivers benefits at so many levels”.

One of the core strengths that has been noted is productivity. ASD employees outperformed neurotypical employees in several pilot studies. Moreover, according to a June 15, 2020 article, JPMorgan conferred that “autistic people have special coding powers.” Anthony Pacilio, global head of JPMorgan's Autism at Work program, explains how the bank interviewed a candidate who had applied for a Java programming role without any training in that coding language: “*We interviewed him on a Friday and although he didn't know Java he said he would be able to learn it by Monday,*” says Pacilio. “*He did that using a few books and YouTube tutorials and by Monday he was proficient enough in Java to get the job.*”

Diverse teams have also been shown to make faster decisions and deliver 60% better results because, arguably, there is a tendency to focus on data and facts, according to a recent article published in the Harvard Business Review. In addition, global consulting firm McKinsey reported that companies in the top quartile for diversity on executive teams are 21% more likely to outperform on profitability.

There are also costs to not including the neurodiverse. Lost productivity indicators for ASD, for example, include:

- Economic cost to parent caregivers estimated at \$463 Trillion USD (Thomas Kirkwood report)
- Lifetime Economic Cost of supports is \$1.4-\$2.4M per person (Buescher et al, 2014)
- Estimated Lifetime Productive Value Cost in only economic savings would be approximately \$3M per person (\$50k x 60 years, rough estimate worked out by Dunne, 2017)

Moreover, in a case study derived from the DXC “Autism at Work Program” pilot study, results suggested the following: For every 100 individuals who were previously unemployed (and who were part of the program for 3 years) saved the Australian Government \$6m in unemployment benefits, social welfare costs and increased direct and indirect tax income.

Not only is there a cost to business innovation and society, there is also a cost to subjective well-being. A powerful example includes the experience of a young adult with autism who was unemployed for at least two years despite aggressive efforts to obtain a job (he explained that he submitted hundreds of job applications without success). As part of an inclusive coding bootcamp led by Maureen Dunne and funded by the Discovery Partners Institute, this young man realized that he had extraordinary coding talents for the first time. He even finished his independent project an hour early (when compared to his neurotypical peers) and won the Grand Prize for coding the Best Mental Health Game at the Hackathon Competition.

Through outreach and discussions with neurodiverse team members, we also discovered that many people with ASD feel that there has been too much emphasis on technology sector careers and that there are not enough available opportunities in other sectors where people on the spectrum might excel. The available talent in the neurodiverse community is quite broad and those who have skills and interests outside of the tech sector also wish to be valued.

Furthermore, simply from a policy standpoint, organizations that leverage diversity, equity, and inclusion (DEI) in the workforce reap rewards. Improved DEI statistics, for instance, have been known to correlate with a competitive advantage in winning government contracts and grants. This is self-evident, given that DEI statistics are a basis for consideration in many government contracts and grants. Empirical evidence also supports the idea that DEI results in greater Innovation: Companies with more diverse management teams produce 19% better revenues due to innovation and 9% higher margins when compared to their less diverse alternatives (Lorenzo et al., 2018).

NDGiFTS



Unaddressed, Non-visible, Huge, Market Opportunity

Written by Kevin Campbell

In today's volatile and uncertain world, having an "edge" in the competitive sense, will require drawing on the creativity and resourcefulness of people living on the very edges of our natural cognitive diversity. It will mean tapping into the innate advantages found in neurodivergent individuals – including, but not limited to, those of us with ADHD, Autism, and Dyslexia

The word "edge" can have different meanings depending on its context. In business, having an "edge" often means having a competitive advantage due to people, processes, or technology. On the other hand, "edge" can also mean being on the margins, the fringe, or outside the limits of a typical range.

As one Harvard Business Review article put it, "innovation calls on firms to add variety to the mix—to include people and ideas from 'the edges'" (Austin & Pisano, 2017). Companies that draw on the skills and talents of neurodiverse individuals are not only better positioned to weather our uncertain age, they are also likely to take hold of one of the largest unaddressed, invisible arbitrage opportunities available in the labor market today.

— “ —

"You are my second mother and my bestest friend"

~ said by one of the tween girls who was working with at a local school. There are tons of other overwhelming testimonials that I've received from my children and adults (globally).

Dr. Manprett Kaur

— ” —

The world today is no longer a game of averages, nor is it a game built for the average player. There was a time when companies and individuals could go-to-market with a compelling value proposition, fulfill their obligations, and remain relatively prosperous. That time is over. The pace of change is accelerating at a rate that is faster than the typical human's ability to adapt. But what about those of us who are atypical?

Scores of people with dyslexia, ADHD, autism, and other neurological differences have higher than average abilities when compared to their neurotypical peers. Differences in visuo-spatial abilities in those with dyslexia have been found to create advantages in fields related to science, technology, engineering, and mathematics (Austin & Pisano, 2017). Some researchers have found that people with ADHD have superior divergent and convergent thinking (White & Shah, 2006), leading to greater creative achievements (Boot et al., 2017). And

despite parents' annoyance with frequently being questioned about their child's "savant skills", a study from 2015 suggested that more than 70% of autistics had special abilities related to memory, visuo-spatial abilities, calculation, drawing, or music.

Furthermore, the ability to problem solve from first principles and outside social constructs (i.e., "group think") is a huge competitive advantage in business. A recent review by Austin & Pisano (2017) illustrated how neurodivergent people's ability to question and challenge social norms can lead to improved outcomes. Neurodiverse software testers at HPE strongly questioned flawed practices leading to smoother process launches and neurodiverse Customer Success Analysts at SAP solved customer problems using techniques others had overlooked.

NDGiFTS



A Brief Survey about Neurodiversity: The Results

By Sabrina M. Roblin and Susan O'Malley

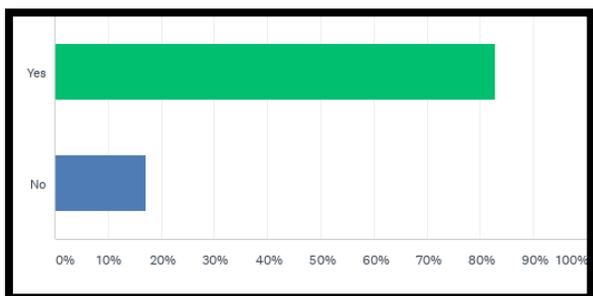
In August 2020, a survey was launched by the NDGiFTS Movement working group leaders and hiring agents. The survey was open for 10 days as an exploratory activity, to gauge their knowledge of neurodiversity and how it is being handled within their organizations. Questions spanned the topics of diversity training, hiring programs, barriers, interviewing, transparency in the organization, and conditions on the job. The respondents were in a cross-section of industries. 59% were in positions directly or indirectly responsible for hiring directives and 81% responded that they managed or mentored colleagues. Of the companies they worked for, 69% had 500 or more employees (14% of the companies were federal contractors).

Although there was a high awareness expressed among the respondents of the topic of neurodiversity and a majority have been through some type of diversity training, the survey showed that there are major gaps in the education and training needed in order to create cultural acceptance and the effective application of processes and support for neurodiverse individuals to be empowered in organizations. A high amount of stigma, bias and misperceptions are barriers to progress in this area.

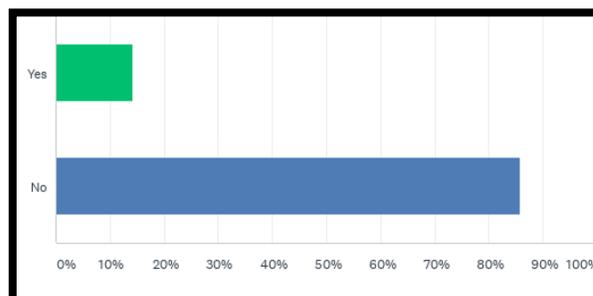
The survey results have been summarized further below.

Diversity Training

Although 86% have been through diversity training, only 12% said that neurodiversity was part of that training. 79% said that they were familiar with the terms neurodivergent or neurodiverse and the majority of respondents gave accurate responses when asked to define neurodiversity to the best of their ability. Only a few people answered that it was a mental illness or disability or said they didn't know, so the majority of respondents showed education and awareness of the terms.



Have you been through diversity training?



Does your diversity training include neurodiversity?

Hiring Programs

When asked about specialized hiring programs such as Autism@work, the majority of respondents were positive and supportive especially when they are properly integrated into a company culture and meet their intended outcomes, even though some had never worked with them. When asked if there was a D&I, DE&I, DEB&I leader in the organization, 61% said yes although when asked if there was a disability hiring program in the organization, only 31% said yes, and it's also interesting to note that only 8% had a neurodiversity hiring program and yet 14% had an autism hiring program. So, it seems there is more awareness of autism than neurodiversity as a whole.

Barriers

Responses to the question, "What do you believe are the most significant barriers to hiring neurodiverse talent?" gave insight into needed education and training on the topic and how to do it successfully. The responses included stigma, bias, misperceptions, culture, and lack of awareness, knowledge, and training. When asked, "What is the most significant barrier to promotion for neurodiverse individuals?", the answers were similar to the question above



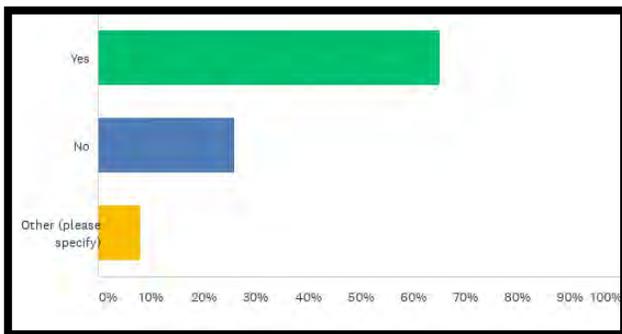
and included the ‘look and sound’ of leaders and executive presence as currently defined. No one at the top is normalizing empowered, neurodivergent talent.

Interviewing

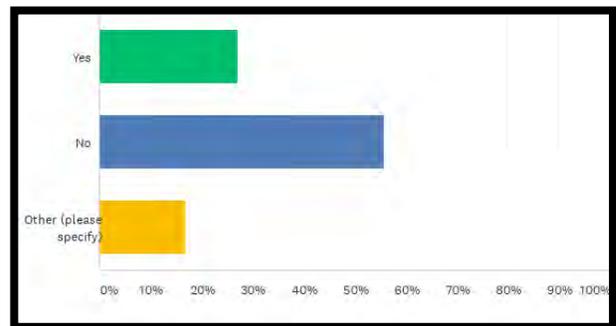
Asked if they used structured or unstructured interviews, 41% said structured and 48% said both. 65% said they offered accommodations for interviews. Only 17% said there are disclosed neurodiverse individuals that have a say in the recruiting process. In answer to whether candidates are asked to take assessments before they make it to the interview round, the majority of respondents said either no or it depends on the position for which they are interviewing.

Transparency

When asked if they thought their work environment encourages individuals to disclose their diagnosis, only 28% said yes. Only 35% said that accommodations information is accessible to individuals in the middle of the recruiting process. And only 25% said that new hires were made aware of the accommodations that are provided by their firm, 33% were unsure.



Do you offer accommodations for interviews?



Do you think your work environment encourages individuals to disclose their diagnosis?

On the job

33% of respondents said they have worked with a vocational program for hiring employees. 30% said they have a way to support individuals with learning disorders, 34% said they were unsure. 15% said they have a universal accommodation system or fund and 36% were unsure.

- When asked, “How do you empower neurodiverse employees in your firm?”, the majority said they were unsure, or they didn’t know. Only a few said through accommodation, flexibility and mentoring.
- When asked, “Do you have an Employee Resource Group (ERG) for disabilities?”, 19% said yes and 28% were unsure. When asked “If you have an ERG for disabilities, who runs it, and what are the main objectives?”, the majority said no or were unsure. A few said there was a group of volunteers and only one said there was an executive with two co-chairs leading a program.
- When asked, “Do you have an Employee Resource Group (ERG) for neurodiversity or autism?”, only 11% said yes and 21% were unsure. Of those who have one, five respondents said it is run by neurodiverse individuals or those with interest in the topic within the company.

Additional Information

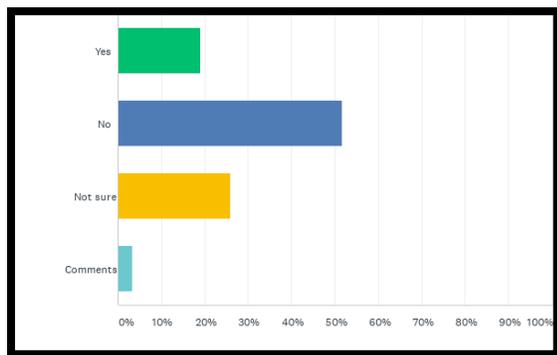
Two comments stand out in the additional information volunteered by respondents:

- “the biases at all levels of organizations mean that only 0.5% make it through the company to retirement - 99% of Neurodiverse people self-select out”

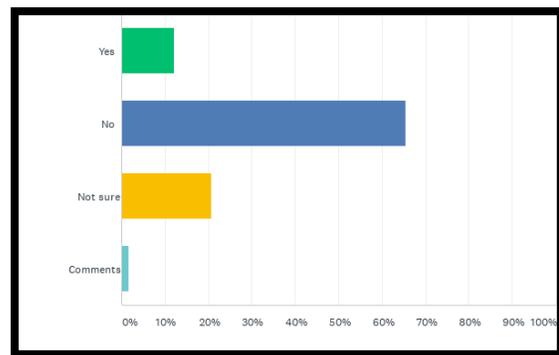


- “I was diagnosed with ADD late in life. I was recently fired after 20 successful years with an organization for not approaching work in the same way my new manager did. I did not disclose my ADD, at the risk of stigma and as there was no formal support, but also as my manager made it clear her expectations were that I do work in the same way she did and her manager supported her decisions. Most organizations have no support for a diversity in how people work or what they bring to the table. I am happy to be on the other side of that nightmare.”

Lastly, in response to the open-ended question **“Please define neurodiversity to the best of your ability”** we saw a wide range of definitions that people supplied as to what the term neurodiverse meant. In some cases, they had an abstract conception of the term, as a catch all or a category of things. A small number of participants listed more concrete definitions (for example: “Dyslexia, ADHD, Autism, Dyspraxia, Dysphilia, Dyscalculia”). A small percentage of respondents used language which is more directed towards different abilities, patterns, or styles. A small percentage used terms such as “illness” or “special needs”. This leads us to believe that opportunity exists for education in a preferred term for how to describe the term “neurodiversity” which a future campaign or public effort could potentially address.



Do you have an Employee Resource Group (ERG) for disabilities?



Do you have an Employee Resource Group (ERG) for neurodiversity or autism?



Neurodiversity Challenges: Non-visible, Identity and Disclosure

By Tiffany Jameson

Reviewed by Nicole Seaward

Just because you cannot see a person’s diversity, does not mean it is not there. We need to look beyond the external shell of an individual into a deeper level of human functioning, the mind. Neurodivergent individuals are those that identify as autistic or with autism, ADHD/ADD, Dyslexic or Dysgraphia. The challenge in the workplace is unique to this group for many reasons but the most substantial challenge is people do not view cognitive differences as diversity. Most people associate cognitive differences with a model of disability. If the color of my skin makes me diverse, shouldn’t the uniqueness of the way my mind functions also make me diverse? Diversity, external and on the deeper level, is beautiful and must be embraced.

Neurodiversity in the workplace has unique challenges. First, neurodiversity itself is non-visible. Generally, someone looking at a neurodiverse person will not be able to identify them as neurodiverse. Secondly, society currently insists that neurodiverse individuals identify as disabled to receive reasonable accommodations. Yet, a neurodiverse worker must disclose that they have needs to do their best work. The following presents research associated with non-visible, identity and disclosure as it pertains to neurodiverse workers. At the end this section, the complexity of the neurodiverse employment challenge should be clear.

There are both benefits and disadvantages to having a non-visible diversity. The benefit is that people are not immediately placing you in a bucket, common with visible diversities. The disadvantage is the tendency for non-visible disabilities to be misunderstood because it is not in a context the other individual has been made aware. For example, an autistic worker may come across rude due to lack of eye contact or blunt answers, when in fact, this is just who the person is. If the co-worker knew the individual was autistic, they may be able to put the behavior into the context of autism and look deeper into what is being said instead of how it is being said. Up to 96% of disabilities are non-visible meaning that the chance of misunderstanding a coworker’s intentions or context is high (RespectAbility, 2016). An additional challenge with non-visible disabilities is the episodic nature. There can be significant fluctuations in symptom severity, and often there is a progression of symptoms worsening over time

when interventions do not come in a timely fashion (Bonaccio et al., 2019).

“

After many years of trying to hide my differences and struggling to fit in, I still found myself up against discrimination in the workplace and unemployment despite being highly qualified and competent. Working at Ultronauts as a Recruiting and Engagement Coordinator has given me the opportunity to celebrate and use my unique strengths towards a greater purpose. Having a job where I am accepted and valued has helped me find a self acceptance I never thought was possible before.

Heather, recruitment team member

”

When it comes to identifying, many individuals do not identify as being disabled. Dachez and Ndobu (2018) made an enlightening statement when they wrote, “many [individuals] do not consider autism a disability in itself, but a characteristic that may put the person with autism in a situation of disability when the environment is not adapted” (p. 89). There is also the issue of separating the neurodiversity from the self. A trait may be positive in some contexts but create challenges in another, but that trait still is yours (Russell, Kapp, Elliott, Elphick, Gwernan-Jones & Owens, 2019). Many times, organizations and society impose an identity of needing to be cared for, when in fact they have a deserving place in the



organization by virtue of their contribution, not the identity given to them (Jammaers & Zanoni, 2020). Because of the placement of low expectations, the need to fit in, to avoid bullying, impression management or stigma, many individuals engage in camouflaging or masking behaviors to hide their neurodiversity, often at a high personal costs (Cage & Troxell-Whitman, 2019).

Disclosure is a personal decision for the neurodivergent. Many individuals are attracted to dedicated hiring initiatives because of the support provided and the openness that comes with being hired with full understanding of the person, requiring fewer camouflaging behaviors (Flower et al., 2019). Hiring managers would prefer the individual to relate their potential and contributions, and also where they cannot contribute (Mai, 2019). In general, many feel that the legal protections that come from disclosure, are not worth the fears of stigma, co-worker treatment, and negative attitudes (Patton, 2019). By not receiving the adaptation to correctly do their job, many neurodiverse are unable to maintain employment.

The objective of this section was to introduce the reader to challenges associated with neurodivergent employment. This context will be expanded upon by the various authors in the upcoming sections. Our hope is that readers will look at the workplace challenges in a new light and reflect on how you and your organizations can address these challenges.



Diversity, Equity & Inclusion Lack of Neurodiversity Focus

By Victoria Dinielli, Sonia Allinson-Penny & Tiffany Jameson

Reviewed by Nicole Seaward

The Diversity and Inclusion (D&I) field has experienced exponential growth over the past decade. The basic formula for diversity is rapidly evolving. It is no longer simply a matter of creating a heterogeneous workforce, but using that workforce to create the innovative products, services, and business practices that can set a company apart and give it a competitive advantage in the marketplace. **The NDGiFTS Movement has taken notice and has concern, as organizations aiming to be truly inclusive employers are excluding such a significant demographic, the neurodivergent, from their D&I initiatives and goals.**

Today, diversity and inclusion efforts are de rigeur for almost all companies. Diversity is a key driver of innovation and is a critical component of being successful on a global scale. Senior executives are recognizing that a diverse set of experiences, perspectives, and backgrounds are crucial to innovation and the development of new ideas. When asked about the relationship between diversity and innovation, a majority of respondents agreed that diversity is crucial to encouraging different perspectives and ideas that foster innovation (Egan, 2011).

Regarding the advancement of new ideas, a diverse and inclusive workforce is necessary to stimulate creativity and guide business strategies. Multiple voices lead to new methods, new services, and new products. Having this variety of workers truly encourages out-of-the-box thinking. Furthermore, companies no longer view diversity and inclusion efforts as separate from their other business practices and recognize that a diverse workforce can differentiate them from their competitors and can even help capture new clients.

Inclusivity needs to become paramount throughout the organization!

According to Forbes Insights, “Fostering Innovation Through a Diverse Workforce” survey (Egan, 2011), most companies have robust programs and policies in place to ensure the recruitment and retainment of diverse employees. Nearly every company in the survey (97%) has instituted formal diversity and inclusion strategies. Gender is the most common demographic factor incorporated into organizational diversity and inclusion initiatives. 81% of respondents indicated their companies acknowledge gender in their diversity and inclusion efforts. That was followed by ethnicity (77%), age (72%), and race (70%), with only about half of the surveyed companies **(52%) including disability** as a factor in their D&I programs (Fig. 1, Egan, 2011).

The business case for diversity and inclusion is intrinsically linked to a company’s innovation strategy. Multiple and varied voices have a wide range of experiences and this can help generate

new ideas about products and practices. “A diverse and inclusive workforce brings the different perspectives that a company needs to power its innovation strategy” (Egan, 2011, p. 5). **Unfortunately, neurodiversity is not**

NDGiFTS



commonly included in diversity and inclusion programs, even among companies with strong reputations for being positive environments for people with disabilities. According to our analysis, **only 37%** of the companies included in DiversityInc's (2018) article "Top Ranked US Companies for People with Disabilities" specifically mention "neurodiversity" as part of their D&I initiatives.

Widespread lack of neurodiversity inclusion within organizations, and the collective missing out on the benefits it can provide, is likely to have been caused by a number of factors. One explanation is that talent is invariably excluded as companies focus on hiring generalists within their organization. This approach is now being challenged by those employers seeking innovation "from the edges" by deliberately building neurodiverse teams. Second, a lack of awareness and education has created processes, practices and workspaces misaligned with many non-traditional workers.

As HR priorities are being mandated directly from the C-Suite, there is an evolution within corporate environments focused on talent and innovation. Creativity is key, not only to thrive, but to survive. According to research by McKinsey, the most prominent development of this accelerating war for innovations is the severe decline of the average lifespan of S&P 500 companies, which has been going down, from 61 years in 1958 to currently only 18 years, with 75 percent of current S&P 500 companies expected to disappear until 2027 (Capozzi et al., 2014).

Barriers: Our Findings

Qualitative desk research was undertaken, whereby publicly available information for sixty-seven companies (mostly global, with main operations in the US and Europe) was assessed. Companies were sourced using the Refinitiv 100 Global D&I Index (2019), DiversityInc's Top 50 Companies for Diversity (2020), World Economic Forum's 'The Valuable 500' (n.d.), and the Autism@Work Playbook (Annabi et al., 2019).

- Neurodiversity is still relatively new to the broader D&I agenda (2013 start dates even for the frontrunners) and other companies are watching the early pioneers to better understand the practices that would best support hiring and retaining neurodiverse employees.
- A recent poll by the Chartered Institute of Personnel and Development (2018) shows 72% of HR professionals do not consider neurodiversity in their people management practices. In fact, 17% did not know whether or not it was included.
- A lack of awareness of the commercial benefits neurodiverse individuals can bring to the workplace. Instead, hiring neurodiverse employees is predominantly seen as being exclusively a social benefit to wider society, i.e., "the right thing to do", rather than an immediate commercial benefit for the hiring company itself.
- Unconscious bias
- Middle management fails to execute diversity programs adequately (Egan, 2011)
- Budgetary issues prevent greater implementation (Egan, 2011)
- Too focused on survival in the current economy (Egan, 2011)
- Failure to perceive the connection between diversity and business drivers (Egan, 2011)
- Inadequate attention from senior leadership (Egan, 2011)
- Other priorities related to managing the workforce currently take precedence (Egan, 2011)
- An unfounded misconception about the cost of accommodations for neurodiverse employees. The facts are that most accommodations come in at \$500 or less (JAN, n.d.).
- A lack of awareness of the scope of talent available beyond tech roles



- A Top 50 company in DiversityInc (2020) highlighted that the biggest challenge for them is the hiring manager's fear of hiring someone with a disability
- Hiring managers overly rely on HR to drive the neurodiversity agenda, when in fact people leadership is a collective topic and should be predominantly driven by the business.
- HR departments are often overwhelmed and under-invested, so they focus on high volume, standardizable tasks. The chance of offering alternative recruitment processes that are person-centric and play to the strengths of neurodiverse employees are therefore minimized.
- HR technologies are also built on standardization. The scope to offer alternatives to an interview (such as a short placement or a presentation, as seen in those companies that are front-runners) is limited.

There are many questions as to how human resources, D&I, and corporate social responsibility efforts should align. According to De Stefano et al. (2018), a framework is needed that allows all three of these areas to work in harmony to create a diverse workforce. To date, this has not frequently occurred. Gould et al. (2020) performed a content analysis on 34 corporate social responsibility reports for organizations nationally recognized in D&I. They found mention of employee resource groups, supplier diversity and targeted hiring plans, but failed to discuss in any form how systemic change within the organization was occurring to create sustainable employment for disabled and neurodiverse workers.

A systematic approach is required when it comes to employer strategy and implementation of D&I initiatives and goals to be inclusive of the neurodiverse population. Korn Ferry's D&I strategies are shown in the image below.



Systemic approach to building a Neurodiverse inclusive organization
 Adapted from "The Korn Ferry Diversity and Inclusion Maturity Model: A new understanding"

In order for change to occur, organizations need to create and implement strategies into their D&I programs to specifically address the neurodiverse population and align those initiatives with their business priorities utilizing a systematic approach. Korn Ferry's (2020) article "Creating Opportunity Through Inclusion" outlined the following strategies:



Inclusive Leadership - with senior leadership fully committed and accountable for the D&I strategy and its implementation

Structural Inclusion - building transparent, equitable talent management processes and practices that minimize bias in the system

Behavior Inclusion- shared responsibility principles to design and deliver inclusion learning journeys for employees at all levels – individual contributors, managers and senior leaders

Driving Change - create a culture of trust and belonging. Track and measure outcomes. Enable feedback loops and listening channels. Embed diversity and inclusion in the organization's DNA through the use of tools, technology and effective change management

It is estimated that around 10% of the population is neurodivergent (CIPD, 2018), and up to 85% of autistic college graduates are unemployed or underemployed (Autism Speaks, n.d.). Employers that choose to overlook neurodiversity are missing out on great talent. Now is the time to act and drive change to ensure neurodiversity is a significant part of the diversity and inclusion agenda. It is time to awake this sleeping giant so everybody can flourish.



Federal Hiring

Written by *C. Natalie Lui Duncan*

Federal agencies have adopted inclusive practices to hire, recruit, and retain individuals with disabilities. In accordance with the Rehabilitation Act of 1973, Federal agencies are obligated to hire individuals with disabilities. Specific requirements are laid out in the U.S. Equal Employment Opportunity Commission's (EEOC's) Management Directive (MD) 715. Executive Order 13161, issued by the President on July 26, 2000, served as a call to action to advance the goal of hiring 100,000 individuals with disabilities into the Federal government over 5 years. Subsequently, Executive Order 13548, issued by the President on July 26, 2010, charged Federal agencies to serve as models of excellence in the hiring of people with disabilities and to commit to increasing the recruitment and retention of those with disabilities.

Individuals with disabilities may be hired under a special Schedule A hiring authority, which enables candidates who meet minimum eligibility qualifications to be hired non-competitively. They must provide the Agency with written documentation of their disability. As featured on the U.S. Office of Personnel Management website, Federal agencies may leverage use of the following excepted hiring authorities to facilitate the hiring of individuals with disabilities (OPM.gov, n.d.):

- **Schedule A, 5 CFR 213.3102(u), for hiring people with severe physical disabilities, psychiatric disabilities, and intellectual disabilities.** This excepted authority is used to appoint persons with severe physical disabilities, psychiatric disabilities, and intellectual disabilities. Such individuals may qualify for conversion to permanent status after two years of satisfactory service. Severe physical disabilities include but are not limited to blindness, deafness, paralysis, missing limbs, epilepsy, dwarfism, and more.
- **Schedule A, 5 CFR 213.3102(11) for hiring readers, interpreters, and personal assistants.** This excepted authority is used to appoint readers, interpreters, and personal assistants for employees with severe disabilities as reasonable accommodations.

Those eligible to be considered under the Schedule A hiring authority or their servicing HR Specialist, are to complete Standard Form 256, which defines what conditions legally constitute a disability upon hiring. While the term, neurodiversity, is not explicitly referenced, 02 - developmental disabilities such as autism and 90 - intellectual disabilities are considered targeted disabilities. The demographic data captured through the SF 256 enables Federal agencies to gauge the extent to which they are achieving their annual disability hiring goals.

Typically, each Federal agency's HR organization designates a Special Emphasis Hiring Program Manager to conduct recruitment outreach to raise awareness of employment opportunities within the Agency and current / projected job vacancies to targeted populations at colleges and universities (e.g., Gallaudet University) and in virtual recruitment forums. Federal agencies may offer Reasonable Accommodations to job applicants and employees at their formal, written request, supported by medical documentation. It may mean authorizing a special interview and / or making special work arrangements based on the unique needs of the individual. Every Federal agency has an Office of Civil Rights that compiles, aggregates, and develops reports analyzing data pertaining to the hiring, recruitment, and retention of individuals with disabilities.

The term, neurodiversity, is not commonly used across the Federal government. In daily discourse, specific disabilities are typically not culled out and highlighted for discussion. There may be opportunities to raise awareness of challenges faced by individuals who meet the definition of neurodiverse among hiring managers and HR professionals, the talents they bring, and how Federal agencies and the American people may benefit by strengthening its pipeline of neurodiverse talent.



Internships / “Try-outs”

Written by Professor Sarah Soule and Ronan McGovern

Internships or “Try-outs” allow for a mutual learning experience, where both the organization and its managers and the intern can learn from, and get to know, each other. Research shows that internships (or try-outs) can reduce bias and allow for positive outcomes for women and minorities. We contend that this research is applicable for neurodiverse individuals as well.

In the best organizations, internships play a key role in building creative capability such that the organization can reinvent its future and the future of its customers and clients. Interns can also be a source of very important feedback, which can turn the company towards its future and away from its historical invested core business. In addition, interns can provide insights on new culture behavioral requirements.

Neurodiverse interns provide the cognitive diversity that can help shape a corporate culture and that can build into the culture the self-renewal capability. Neurodiverse interns can be key also be “change agents” by involving key stakeholders, developing a resonant vision, that people can “rally around”, and enabling the right interactions that unleash potential.

While interns help organizations, it is also clear that organizations can help interns. Internships allow the intern to discover their purpose and to chart and develop their career path. We believe that organizations can empower and enable Neurodiverse interns through work experience to identify:

1. *“Unique Offering to the World”* and this is likely in the differentiated “middle” / interface between various domains / disciplines. We believe that some Neurodiverse peoples’ capability in this space is a strength that society needs right now – at a time when the deep, functional, expert disciplinary approach of all organizations has been evidently be shown not to work. This lack of integration and multi-disciplinary approach has led to the failure of having a cohesive society, where complex problems need to be met by a multi-disciplinary approach - to meet the common good
2. Their capacity for extra creativity / innovation – which, based on our Research, is non-visible to and untapped by the world’s organizations

Hiring Neurodiverse Interns

Examples of the breath and width of internships that organizations include:

- Strategy
- Analytics
- Banking
- PR and Communications
- Training and development
- HR
- Accounting and finance
- Operations
- Cloud
- Branding
- Sales and marketing
- Product management
- Program management
- Retail / Consumer

We strongly recommend that organizations develop as broad a list as possible, that does NOT limit (through biased thinking) the full range of human possibilities that everyone, including the Neurodiverse, are capable of.

Example Area: Role of Finance and Business Partner

Our team has seen Neurodiverse being empowered to deliver data and other insights to key business units within organizations. These “partnerships” occur not only with business units but also with organization’s customers. Through this Role, Neurodiverse people can a deep understanding of the company’s businesses because building the right data-based measurement and problem-solving tools makes them think deeply about the businesses.



This work could give Neurodiverse the opportunities to engage with and get to know senior leaders and for leaders to learn from these interactions. It can also give the interns an insight-based boost to their career development.

Business Internships: Examples include internships in the following areas:

- Financial Strategy and Planning
- Finance-orientated Analytics
- Banking
- HR
- Finance Operations

Example Area: Technical / Engineering / Science

- While organizations need to be alert to the danger of “stereotyping”, our team believes that Neurodiverse can get the opportunity to show their extra creativity in engineering, scientific and technical Roles.
- In particular, in this competitive world, interns can leverage this extra creative capacity to generate innovative technologies, innovatively designed products and innovate services.

Example Area: Cross-Functional Problem-Solving, Scale-able solutions

- Our team believes that Neurodiverse Interns have the capability to solve complex, complex, cross-functional real-world “problems-to-be-solved”.
- In the world’s leading technology organizations this can start from a “Design-by-Diversity” approach, applying “Universal Design” tools. By doing so, this enables scale-able solutions across global platforms to be implemented, also leveraging the power of cloud computing.
- By identifying patterns and by “connecting the dots” across domains, Neurodiverse interns can create Innovative solutions. These can be used to deliver automated decisions at scale for all the business units of the organization across the world.

Technical, Engineering, and Research internships: Examples include:

- Data Analytics
- Software
- Applied science of every discipline
- Product and service development – particularly online services

Best Practices

Broad Exposure to Different Areas

First and foremost, the internship should not reinforce neurodiverse stereotypes. Corporations can facilitate this most effectively through arranging for substantial engagement and interactions in the pursuit of an important and complex business problem to be solved. We believe that the best approach is for interns to work on a variety of projects across business units. These rotations have the potential to both accelerate their career and to reduce the impact of bias.

We recommend that interns are “rotated” around different business units so that managers get to see and understand the wide range of human capabilities so that the neurodiverse interns are not “pigeon-holed” into engineering, science, data analytics or technical roles. Bias would be less likely, interns would get to build relationships and also see all aspects of the business, having a much better all-round experience.

Organizations can provide classroom training and interactive online education – tailored to the learner “difference” cognitive profile of the intern.



Feedback

The intern's manager should provide one-on-one feedback weekly on the intern's performance. The intern should get feedback from a wide range of managers so that a 360-degree view is obtained.

Feedback should be given based on specific goals in terms of agreed (at the start) deliverables, identified skill development areas and project expectations.

Mentorship

We recommend that organizations provide every intern with a tailored mentor as well as a manager. They can advise the Neurodiverse intern on maximizing their success and guide them on their career choices.

Trained mentors and managers can provide guidance on work, give feedback, review progress against key deliverables and work to address any obstacles. They can also help Neurodiverse build networks.

Attention to Potential Biases

We recommend that managers watch out for any barriers or myths related to meritocracy regarding Neurodiversity. We would design team-work structures designed to uncover any bias and to produce more innovative, objective results.

Attention to Team Structure, Informal Networks, and Organizational Culture

We would watch out for the interplay among team structure, informal networks and organizational culture and the impact that this has in enabling performance and innovative solutions.

There are three “design principles” to enable Neurodiversity:

1. eliminate conditions that allow bias to flourish.
2. make managers a key part of the design, and
3. foster a sense of responsibility and peer accountability.
4. Interns should be empowered to “say the things that need to be said”, who are willing to “have the difficult one-on-one conversations. In the end, we all want culture change - and this includes cognitive diversity.



Impact on Social Economic and Cultural Diversity

Written by Cathy Farmer & Louis Chesney

Reviewed by Eric Abrams & Sean Greenlee

The NeuroDiversity GiFTS team understands and acknowledges the concept of intersectionality, which is the complex, cumulative way that the effects of multiple forms of discrimination (such as racism, sexism, and classism) combine and overlap, especially in the experiences of marginalized individuals or groups (Crenshaw & Kimberle, 1989). In our investigation, the team found a sub-group of individuals with a set of identities crossing disability and other categories, such as race, class, gender, gender identity, immigrant status, religion, and aging. In speaking about their own experiences of neurobigotry and other forms of discrimination, they describe how multiple forms of discrimination (such as racism, sexism, homophobia, and others) combine with the disadvantages that neurodivergent people face (Kapp & Steven, 2020). Because the Neurodiversity team finds the issue merits further discussion by the individuals, we chose to amplify their voices. Neurodiversity conditions such as Autism Spectrum Disorder (1 in 59, four-to-five times more often in males than females) (CDC, n.d.), ADHD (5-7%, 3 times more often in males than females) (CDC, n.d.), and dyslexia (5-17%, more often in males than females) (“Dyslexia: What brain research reveals about reading”, n.d.) are on the rise, in many cases doubling over the past few decades. Many neurodiverse individuals do not receive a diagnosis or receive a misdiagnosis such as Conduct Disorder (CD) and those that relate to multiple considerations (e.g., being at the intersection of LGBTQ and black identities) listed below are the ones at highest risk.

Race considerations

Morénike Giwa Onaiwu, Lydia X. Z. Brown and E. Ashkenazy each identify as an autistic person of color (PoC). They are widely recognized advocates in the areas of disabilities (including ADHD and Dyslexia), HIV and AIDS, and gender-based issues. The first anthology on race and autism, "All the Weight of Our Dreams," was published by E. Ashkenazy, Morénike Giwa Onaiwo and Lydia X.Z. Brown, in 2017. The authors raise the visibility of autistic PoC by elevating personal stories and images of the intersection between autism and race (Brown, Ashkenazy & Onaiwa, 2017). For example, there are disparities between Black households with autistic children and their White counterparts in terms of material hardship (80% vs. 59%), such as difficulty paying bills (62% vs. 39%), impacting access to vital resources and supports (Anderson et al., 2020). Disparities were also found between the same groups regarding diagnosis rates. In a study by Mandell et al. (2009), children who are Black, Hispanic, or of other race/ethnicity are less likely than White children to have a documented ASD. Regarding misdiagnosis, Mandell et al. studied Medicaid claims data from 1993 to 1999 and found that “Black children were identified as having ASD later and were more likely to be diagnosed with conduct disorder or adjustment disorder than were White children.” In our examination of information, the Native American neurodiverse community is impacted significantly, with limited resources and for the most part only access publicly available resources through Indian Health Services.

From reflecting on her own research and experience, E. Ashkenazy believes that there are further challenges that people with ADHD, autism, dyslexia and from a minoritized group may face: Struggling with cultural expectations, being punished for not following community guidelines, living with shame/hiding, feeling out of place, and struggling with power dynamics and understanding hierarchies (Brown et al., 2017). An additional added impact is that we interviewed multiple individuals across ethnicities, who are impacted by those with neurodiversity and uncovered a machismo culture that interferes with acceptance, timely proper diagnosis and treatment.

LGBTQ and gender considerations

Research on ASD and members of the LGBTQ community has been extensive. A recent study published in Nature Communications performed a meta-analysis of five datasets, concluding that 3-9% of transgender and other gender-diverse adults may be autistic, which outpaces the general global population by 1-1.5% (Warrier et al., 2020). While studies differ about the prevalence of ASD among people who identify as LGBTQ, it is crucial to raise



the visibility of autistic-LGBTQ individuals by elevating personal stories of the intersections across autism, gender identity, and sexual orientation. In response to this, Eva A. Mendes and Meredith R. Maroney published a collection of narratives on LGBTQ and autism, "Gender Identity, Sexuality and Autism: Voices from Across the Spectrum" (Mendes & Maroney, 2019). Depression and anxiety rates are higher within the autistic-trans community than the non-autistic cisgender population, according to a study by Murphy et al. (2020). "Although no super additive effect of trans identity and autism on depression and anxiety rates was observed, depression and anxiety were highest in autistic-trans individuals, which were markedly higher than those in the non-autistic cisgender population. Therefore, future research must focus on further exploring the mental health outcomes of autistic-trans individuals" (Murphy et al., 2020). From reflecting on their own research and experience, Mendes and Mahoney (2019) both believe there are further challenges an autistic LGBTQ individual might encounter: Being questioned on their sexual orientation or gender identity, having delayed sexual development, having difficulty finding a community, and facing financial obstacles. There is a dearth of research regarding intersections of LGBTQ identities and ADHD or dyslexia. Further studies are needed to accurately capture statistical data.

ASD is more than four times more common among boys than among girls. ASD females are often diagnosed later, as the diagnostic tools, based on research samples, are more aligned with males. "Scientists in recent years have investigated several explanations for autism's skewed gender ratio. In the process, they have uncovered social and personal factors that may help females mask or compensate for the symptoms of ASD better than males do, as well as biological factors that may prevent the condition from developing in the first place. Research has also revealed bias in the way the disorder is diagnosed" (CDC, n.d.; Szalavitz, 2016).

Immigrant considerations

Children with ASD, ADHD, and dyslexia within immigrant families are more than twice as likely to lack the usual source of care, including physicians not spending enough time with the family, compared with nonimmigrant families. Additionally, the lack of insurance coverage is an important factor in mitigating health care issues for immigrant families. Then compounded, not only are the entire families often in hiding, the ASD family member is often hidden within the immigrant community, which is often because of the varieties of cultural stigma from not being neurotypical; these people are often "shunned" within the immigrant community (Lin et al., 2012). In many cases for immigrants, their first language is not English causing barriers in many aspects of life, including education, treatment, and employment. As referenced under the racial considerations, machismo is also observed in the immigration community, causing challenges for the neurodiverse population.

Religion considerations

Religious culture shapes a family unit's beliefs about neurodiversity. These religious cultures are often defined as the values, beliefs, language, rituals, traditions, and other behaviors that are passed from one generation to another. The majority of religions associating with family goals give the neurodiverse a boost with positive values. However, the impact from religion and neurodiversity sometimes stems from guilt of the parents, guilt that the diagnosis was because of their diet, environment or inherited, not scientifically based, that the parent(s) were the cause of the neurodiverse condition causing significant added family stress (Ennis-Cole et al., 2013).

Low socioeconomic considerations

According to the National Autism Indicators Report of 2020 from the Autism Institute at Drexel University, the challenges for impoverished families with spectrum individuals is often a matter of choosing between providing food on the table, versus getting needed treatment and support for family members who are on the spectrum. Half of all high school students on the spectrum live in low-income households (defined as households below 200% of the federal poverty level) ("National survey of children's healthy 2016-2017", 2017). Children with ASD from low-income households tend to have both poorer health and higher parent-reported autism severity than their peers from higher-income households. One in every five children with autism (22%) lives in households with a single mother. For many reasons, these ASD family members are not getting needed care and attention. The financial hardships

are profound and need to be considered when looking at conducting research and/or supporting solutions (Anderson et al., 2020).

Autism Spectrum: Findings published in *Jama Pediatrics* report that the lifetime cost for an individual on the autism spectrum is \$2.4 million on average when an intellectual disability is involved (40%), and \$1.4 million when it is not (Buescher et al., 2014). The *Journal of the American Medical Association* reports that as of 2013, annual personal healthcare spending for total individuals with ASD in the US was \$3 billion (Dieleman et al., 2016).

ADHD: Attention-deficit/hyperactivity disorder (ADHD) affects 39 million people worldwide; in isolation, it doubles annual health care costs, and when associated with comorbid mental health problems, it quadruples the costs. (Fleming et al., 2017). As of 2013, annual personal healthcare spending for total individuals with ADHD in the US was \$23 billion, according to the *Journal of the American Medical Association* (Dieleman et al., 2016). Moreover, the combined yearly societal costs, including health care, education, and productivity and income losses associated with ADHD, ranged from \$143 to \$266 billion in the US. Note that adults with ADHD incurred more of these costs (\$105-\$194 billion) than did children with ADHD (\$38-\$72 billion). For adults with ADHD, the most significant cost driver was productivity and income losses (\$87-\$138 billion) (Doshi et al., 2012).

Dyslexia: It is important to note that we do not have statistics about the total societal costs of dyslexia in the US. In the UK, however, a report published by the Every Child a Chance Trust (2009) estimated that “the total resulting costs to the public purse arising from failure to master basic literacy skills in the primary school years are estimated at between £5,000 and £43,000 per individual to the age of 37, and between £5,000 and £64,000 over a lifetime. This works out at a total of £198 million to £2.5 billion every year” (p. 5). In dollars that translates to about \$260 million to \$3.3 billion. Considering that there are five Americans for every Briton, dyslexia and the effects of nonintervention give a cause for concern in the US as well.

Aging considerations

A recently published piece in the *Spectrum Autism Research News*, “Growing old with autism” by Rachel Nuwer, cites: “... the most insidious, and under-appreciated, culprit is a world that often feels unfriendly to those who are different. Many autistic adults engage in camouflaging, trying to act like a neurotypical person by hiding autism traits. This masking can be stressful, and stress can raise the risk of heart disease, stroke and suicidal thoughts and behaviors. Without adequate support, some autistic adults may also experience Autistic Burnout a phenomenon characterized by chronic exhaustion, loss of skills and other consequences. “Looking at health in older adults with autism can tell us something about the result of a lifetime of the lived experience of being autistic, of the discrimination that comes with being autistic,” says Lauren Bishop, assistant professor of social work at the University of Wisconsin-Madison.

Many older adults with autism have been misdiagnosed, often incorrectly diagnosed with Schizophrenia. Diagnosing adults with autism is hard as most of the tests are designed for children. These tests also ask for details about life as a youngster and older adults often with deceased parents. This information is inaccessible, reducing access to many services that could help them secure housing and medical care.

Social isolation can increase health issues. Based on knowing many folks with ASD who are in mid-life, loneliness, feelings of alienation and a sense of rejection are common among autistics that often can lead to depression. This is especially elevated when ASD adults have little to no housing options based on low income and cost of living. In many cases, these adults are best situated when placed in the very few supportive group homes. Based on anecdotal evidence, access to counseling and group activities also drastically declines after high school, leaving many autistic adults adrift (often called “the cliff”). “They’re underemployed, and they miss out on social opportunities,” says Christopher Hanks, medical director of the Center for Autism Services and Transition at Ohio State University in Columbus. “They don’t get to participate in the things that will often get the rest of us out of the house and keep us healthier, emotionally and physically.” This hinders their innovation and severely limits their ability to publicly showcase their creative side.

Important to note regarding research and adults on the spectrum, only about two percent of funding for autism research supports studies on the needs of adults, according to a 2016 report (Newer, 2020).

Conclusion

In conclusion, the NDGiFTS composite will consider all individuals, including the underserved (where well-being is not always the top priority). Socioeconomic and cultural issues often leave the most vulnerable behind. This includes the majority of the ASD population. These intersectional factors and access limitations present themselves in physical, emotional, and mental health symptoms such as depression and anxiety. These are the many who are creative and innovative but who are being shunned and hidden away. They are in the room but never allowed at the table. This causes a loss of quality of life. Who knows what gifts they could have bestowed on society? This research composite does not exclude anyone who is Neurodiverse.

Recommendation

Ashkenazy provides initial steps parents, family members, friends, service providers, and community members can take to put these issues at the forefront of efforts to address them. While these steps are specific to race, they apply to other categories, such as class, gender, gender identity, immigrant status, religion, and aging.

- Listen to and welcome the stories and insights that autistic people of color have to share with us.
- Provide a safe space and platform for autistic people of color and make it a point to hear their voices with sincerity.
- Be the change. It takes only one person, and then another, and another, and so on to clear away old thought patterns and ignorance and to provide fertile grounds for new approaches and ways of thinking.
- Monitor assumptions and realize that an approach that works for one person might not work for another.
- Invite autistic people of color to speak at universities, symposiums, conferences, and community gatherings that bring the very people together who can enact significant change.
- Brainstorm your own creative ideas and then run them by autistic people of color (Brown et al., 2017). [This team suggests having PoC at the onset.]
- The opinions E. Ashkenazy presented are hers, and it is important to remember that each person's lived experiences--their family, culture, and home lives--are unique. These factors may be more important to their identity than how they appear to others (Brown et al., 2017).



Public Perceptions of Autism Spectrum Disorder

Written by Peter Shea

Early Cultural Perceptions of Autism

While awareness of Autism as formal diagnosis began in the 1930's and 1940s with the work of Hans Asperger and Leo Kanner, Autism did not really enter the wider public consciousness until the late 1980's with the success of *Rain Man*, a film starring Tom Cruise and Dustin Hoffman, in which Hoffman plays Raymond Babbitt, an autistic savant who cannot manage basic social interactions but has phenomenal ability with mathematical calculations. Prior to *Rain Man*, the public perception of people with autism was seen almost exclusively through their deficits.

Changes to the Perceptions

Hoffman's performance in *Rain Man* played a crucial role in increasing not only general awareness of autism, but also an appreciation that people with autism may possess attributes that allow them to excel in certain domains. In addition, the emergence of the personal computer industry in the late 1970s and early 1980s and its growing prominence in popular culture led to greater attention being paid to individuals who excelled in technical fields, many of whom displayed traits (intense fixation on a subject, difficulty with social interactions) associated with high-functioning autism.

Around the same time (early 1980's) the pioneering work of the Austrian pediatrician Hans Asperger was belatedly published in English, decades after it had been first presented in German-language journals. The children that Asperger wrote about were called, 'little professors.' This nickname is significant in that it represents a shift away from a traditional cultural paradigm in which people on the autism spectrum were viewed solely through a deficit lens. The reference to "professors" suggests a growing awareness that cognitively diverse people could make unique and significant contributions to society. As "Asperger's Syndrome" entered the general lexicon, it also led in turn to the use of the term, *Aspies* which helped create a sense of identification and community to many previously isolated individuals.

In the mid 1990's the writer and neurologist Oliver Sacks published a book entitled, *An Anthropologist on Mars*, about neurodiverse individuals. The title of the book was inspired by a remark made by one of its subjects on what it was like to be neuro-atypical. The subject was Temple Grandin, an expert on humane methods of killing livestock. In the ensuing years, Grandin would become the most known person with autism in the world and one the most cherished spokespeople for her community. In the next decade, Grandin would publish her own book about the experience of autism entitled *Thinking in Pictures: My Life with Autism*. Grandin's book led the way for other people with autism to self-disclose their condition and write about it. (For example, *Look Me in the Eye: My Life with Asperger's* by John Elder Robison.)

Positive public perceptions of people with autism also benefited from the emergence of "blogging" as a new way to reflect upon and share personal experiences. A significant number of prominent blogs are devoted to autism and are either written by people who are on the autism spectrum or by people who have family members on the autistic spectrum. (By 2020, the number of blogs devoted to autism was large enough for autism blogging to qualify as its own widely recognized sub-genre.)

The emergence of confident, capable people on the autism spectrum discussing their condition helped create an atmosphere in which people with other forms of neurodiversity opened up about their experiences. (In 2015, *Chasing Kites: A Memoir About Growing Up with ADHD* by Tom Nardone was published.)

Apart from personal narratives, the image of people with autism possessing unique positive traits has been reinforced in popular fiction. The 2003 best-selling novel *The Curious Incident of the Dog in the Night-Time* by Mark Haddon presented a teenage sleuth on the autism spectrum in a story that offered both a murder mystery and an imaginative projection of the world inhabited by someone on the autism spectrum.



The medium which has been most active in sympathetic explorations about the lives of people on the spectrum is film and television. Films portraying autistic people in a positive way include *Mozart and the Whale* (2005), *Extremely Loud and Incredibly Close* (2011), and *Please Stand by Me* (2017). American television programs with autistic protagonists include *Boston Legal* (2004), *The Good Doctor* (2015) and perhaps, most famously, *The Big Bang Theory* (2007) a comedy which has been a success around the world and includes a lead character, Dr. Sheldon Cooper, who is widely seen as having a textbook case of Asperger's Syndrome. The Sheldon Cooper character was so popular that it inspired a spin-off series about the character's childhood, *Young Sheldon* (2017).

Autism in the Workplace

People on the spectrum have traditionally struggled with finding success in the workplace. Their behavioral quirks combined with their difficulty navigating social situations makes conventional employment extraordinarily challenging. However, the increased public awareness of autism coupled with a growing appreciation of the unique qualities to be found in neurodiverse people has led to some promising developments. A number of employers, recognizing that the talents of people with autism could provide their organizations with a competitive edge, have begun workforce recruitment initiatives centered on people with autism.

Among the organizations that have sought to create employment opportunities for people on the spectrum include Microsoft (Microsoft Autism Hiring Program), SAP (Autism at Work program), Hewlett Packard (HP Spectrum Success Program), and Auticon (which posts on its website, "Autism is not a processing error, it's another operating system.") In addition, at least two books, *An Employer's Guide to Managing Professionals on the Autism Spectrum* by Marcia Scheiner (2017) and *Autism Works: A Guide to Successful Employment across the Entire Spectrum* by Adam Feinstein (2019) have been published in the last five years to help assist with this trend. And in 2017, autism at work programs got an additional boost when the Harvard Business Review published an article entitled, "Neurodiversity as a Competitive Advantage."

Potential Future Trends

With an increased awareness of the need to create a more generally inclusive society, autism advocates have a tremendous opportunity to build pipelines for people with autism to make a contribution in the workplace. However, this will require concerted effort to ensure that neurodiversity is included in the diversity support work being done by both colleges and businesses. Also, professional development and training needs to be created that is targeted towards the needs of neurodiverse individuals who generally have challenges in conventional learning settings. Given the evolution of learning design in the 21st century, this appears to be an ideal moment to create such support by organizations willing to embrace a vision that is both innovative and inclusive.

With an increased awareness of the need to create a more generally inclusive society, autism advocates have a tremendous opportunity to build pipelines for people with autism to make a contribution in the workplace.



Voices of the Community



The neurodiverse community is vast and comprised of many different career interests and abilities. A common theme among us is that we want our differences to be appreciated and we want to be valued for the unique perspectives we can bring to the workplace. Many of us believe that our cognitive differences are a form of natural human variation and we want to be seen as the same by our peers and coworkers, equal and valued for our ability to contribute.

We want a seat at the table and our voices to be heard. The term neurodiversity is not used to minimize the challenges that are associated with our diagnosis, but rather to change the conversation from one focused on our deficits to one that empowers us and focuses on the diverse perspectives we have and bring to the workforce. We desire meaningful, fulfilling employment that values us as individuals and we are present

across all industries. Autistics don't prefer technology, but this is the industry that has largely emerged as supportive employers who value our skills and abilities. Our community desires a future where all industries embrace and support neurodiversity in the workplace.

Call to Action for Neurodiverse Individuals

- Establish a recruiting pipeline by engaging neurodiverse student leaders to build stronger neurodiverse communities on college campuses so that it is easier for companies to reach out to them for career opportunities. This also applies to Disability Administration at colleges across the country because they should encourage and empower more neurodiverse leaders to build more sustainable and genuine communities on campus.
- Neurodiverse professionals should begin to build a networking group to create more spaces where neurodiverse professionals can discuss how they approach situations in the workforce. This will hopefully result in more neurodiverse individuals being their authentic selves in the workforce, and this will encourage neurodiverse job seekers to feel comfortable disclosing during the interview process. These groups will strengthen the recruiting pipeline because groups could work with local colleges and organizations to build long-term relationships with neurodiverse students.
- Overall, the more neurodiverse individuals in the workplace, then the greater opportunities to collect data about how to optimize the work experience for this population. The lack of information then makes it challenging for companies to implement Neurodiversity programs because there are still many unknown variables in having a more neurodiverse workforce. With more ND individuals speaking out, this will only make the path easier for ND individuals to enter the workforce in the future.

Thank you, Nicole Seaward and Cole Hasserjian, for their introduction to this section.



Managing Diversity Through a Culture of Confidence

By Michael Ashburne, Manager, Aspiritech

I've had a number of odd jobs over the years, nothing you could call a career. After graduating from Central Michigan University, I sort of weaved my way through multiple employment industries, working as assistant manager at The Gap, a legal secretary, and a freelance copy editor. I didn't know why at the time, but I just never found employment that I felt was a good fit for me.

As a Neurodiverse professional of color, it certainly has been an interesting journey getting to the point where I am now. The excellent support that I have received is the primary reason why I am able to work as a Consultant at a Big 4 Accounting Firm. I am a proud Berkeley graduate (Go Bears!!!!), and I was one of the few Neurodiverse students at the Haas School of Business. I feel that my attention to detail, resilience, and my ability to build a strong support network is due to the experiences that having Autism has presented. As a Consultant, I have to remain focused on the problems that the client is facing, and I believe that my Autism helps me maintain perspective on the issues and needs of the client. I am proud to be Autistic, and I hope that it's more accepted to be openly Neurodiverse in the near future.

It's not easy disclosing being Neurodiverse in the workforce. I waited until after my internship with the firm to disclose because I wanted to prove to the firm that I can work in a professional environment. Unfortunately, many Neurodiverse folks do not disclose due to the fear of potentially being disrespected in the workplace. This culture has to change if businesses want to be serious about increasing Neurodiversity in the workforce.

At age 39, I was diagnosed with autism. Since I was diagnosed relatively late in life, I had "passed", so to speak, as neurotypical for a time. But passing is very different from excelling, and it was this burden of passing that was relieved when I came to work in a place that not only celebrates neurodiversity, but actually enables neurodiverse folks like myself to be successful.

I started, like many other employees, as a Junior Analyst, with absolutely no experience in software testing. I was promoted twice within three years at Aspiritech, first to QA Lead and recently to QA Multi-Client Manager. I work on some of Aspiritech's largest testing projects, including performance testing for Bose and Zebra Technologies.

What's been so different for me about working at Aspiritech is the atmosphere of encouragement. Whereas at another company, a person might get written up or reprimanded for being different.

Aspiritech helps me put my special talents to work. Within two to three months of starting with the company, I was being encouraged to train the even-newer hires, and just a few months later, the QA senior manager asked if I'd like to take the lead on a project for a new client. Recently I was promoted again. Now as a multi-client senior manager, I have the chance to recognize the talents in my team members and use the affirming management techniques that I learned from my managers.

Together we grow the culture of confidence that is Aspiritech. I think nurturing people to use their talents and recognizing the value that each team member contributes doesn't just help people on the spectrum work better and be happier, but it's what makes people better people in general.



Ask an Autistic: Autism and The Workplace Trainings

By Marcelle Ciampi, M.Ed. (aka Samantha Craft)

Warning! Many trainers teaching about autism in the workplace have little to no lived experience of autism. That's like a man teaching about what it's like to be a woman or a mother teaching what it's like to be a son—or akin to a person with 20/20 vision explaining what it's like to be blind. Some argue that you don't need to have ADHD, or mood disorders, or the like to teach about those conditions, so why would you with autism. And that's just my point! Questions like that. Those type of questions highlight the extreme need for autistic voices (and neurodiverse voices) in training, because we KNOW autism is much more than a developmental condition, that it's not a mental health condition, and that it is, to many individuals on the spectrum, a culture, a way of life, and an identity.

Autistic individuals ought to teach about living as autistic individuals because we live as autistics! It's very simple. Here is what I explained in a recent social media posting:

A panel of all men talking about best practices for including more women in leadership roles in the organization. . .

A panel of all Caucasians talking about best practices for giving voice to ethnic minorities in the community . . .

A panel of all non-autistics talking about inclusion for autistics in the workplace . . .

Inclusion discussions are often exclusionary for autistic people. Non-autistic consultants sharing what it's like to be autistic. Conferences about autism excluding the autistic voice or bringing in one or two token autistics. Non-autistic trainers explaining the challenges autistic adults face in the workplace.

It is common practice for a consulting firm to teach a training course about best workplace practices related to autism and to provide outdated, wrong, or discriminatory information. Many of the consulting firms associated with autism in the workplace don't have one single autistic on their training team. Many have not consulted with autistic individuals regarding their training materials. Some don't know basics, like our perspectives concerning the terminology 'with autism' and 'autistic,' what *neurodiversity* is, and the complexities of coexisting conditions. Most couldn't name more than one or two autistic advocates or authors, talk about the divisions in the autism community, or recall the history of autism. Many leave out touching base on the autistic population over the age of 30, autistic individuals of color, autistic LGBTQ individuals, or females on the spectrum.

Autistics are represented in all shapes and sizes, all colors, all ages and creeds, all genders. Autistics include the unemployed and the professional with multiple degrees. They include experts in technology and literature, the individual communicating through assistive technology to compose a book, and the individual advocating for autistic people through keynote speeches. Autistics include individuals receiving governmental assistance and individuals who are philanthropists and founders of charitable and service-oriented organizations. Autistic people are a fundamental part of the spectrum of society, businesses, faith houses, and families. We are more than capable of representing ourselves. We can be found in HR, teaching, medical, and psychological fields. We have the credentials and the smarts and the lived knowledge to teach about autism. If you truly want to increase the employment rate for autistics, hire autistics beyond entry-level jobs and tech jobs. Include us as job coaches, community managers, recruiters, teachers, mentors, and trainers. Hire from a broad spectrum.

Not too long ago, my oldest son texted me from his university dorm, "Mom! The abnormal psychology textbook has autism all wrong!" On another day, my youngest, homeward bound in our van, queried about an assignment in which he had to present the topic of Asperger's. He declared, "I don't get it, Mom. These descriptions don't make



any sense. The lack of sense of humor, not getting sarcasm, not having empathy . . . why are these things listed, if they are all wrong?"

I correspond with autistic adults around the globe, and not a week goes by without someone reporting prejudice, discrimination, or stereotypical labeling. An autistic project manager for a health organization (who also serves as an information technology product specialist and owner of an animal shelter), shared, "I am Mexican. In my country the autistics are marginalized, society looks at us as *incompetent, foolish* . . . To us autistics, it costs us double or triple effort to make others recognize and value our talents." A concerned mother messaged me: "The reasons given by the two psychologists in deciding that she (my daughter) does not have ASD were: she made adequate eye contact (she was wearing dark glasses and has trained herself to look at peoples noses), she displayed imagination and, she had empathy!! I asked the assessors if either of them had researched how females present with ASD and neither of them had."

To avoid misinformation, employers should go to the source.

A senior project manager at a pharmaceutical technology company in the UK concurs—go to autistics. He advises "Each of us is different . . . an employer should get their information regarding our needs from us directly and not media-based literature or standard stereotypes."

The way someone perceives a disability or condition, and makes sense of it, directly affects how that person will perceive an individual with a disability or condition. Perception mars one's thoughts and affects behavior. While a beneficial perception of autism has the potential to open doors of opportunities for autistics, on the flip side, a negative perception of autism has the potential to breed bias, prejudice, and segregation. Any inclusive dialogue about autism ought to involve the concept of individual and cultural perceptions of autism spectrum conditions.

In one panel discussion (*Autism at Work: Releasing Talent and Harnessing Creativity*), a panel member conveyed the powerful effect of one's perception and outlook. Essentially, the member looked at both sides: the potential obstacles an employee might encounter on the job, and the potential for success on the job. This type of practice—examining the full picture, including the pros and cons of a personality attribute (of all employees)—is an example of an effective way to implement change in the workplace culture and establish further appreciation of diversity.

When members of diverse groups of society openly share from their experience and provide living examples, their words lead to new perceptions and appreciation.

Many trainers in the field of autism and the workplace call themselves *experts*. This dumbfounds me. I mean, I've been studying autism for years, have over 2,000 hours behind my belt, and I am autistic, and so is my son, and my professional/personal partner, and many, many coworkers and friends; and I'm still uncovering new truths and information about autism spectrum conditions and the autistic culture. It truly takes someone with beaucoup-research-smarts and constant immersion in the autism population to even begin to grasp the enormous task of teaching about autism. Human resource specialists and business majors and job coaches have their unique set of tailored skills and talents, but their strengths don't equate to understanding autism—unless they are autistic or immersed in the culture.

In a recent news media clipping, when asked how a technology company was accommodating autistics, the business manager (as she hovered above a lowly seated autistic, hunched over in his office chair) stated, flatly, that she was teaching other employees to "talk bluntly to their coworkers with autism." That was the extent of advisement the manager had to offer. I had to wonder who trained her.



”

My fundamental interests are psychology and social injustice with the idea that I have the power to make a positive difference in the lives of others. In my eyes, computers lack a living essence and could never captivate my attention and curiosity the way the humans do. I enjoy writing but not code, I'd prefer to produce research that helps expand our understanding of human differences. When I think of people wronging others, I ignite and am drive by a passion to create equality, particularly in the workplace. Computers don't experience social injustice, so they don't need someone like me advocating for them. I don't think my career interests could ever be satisfied in the technology industry.

”



8 Proven Strategies to Attract and Retain Job Candidates on the Autism Spectrum

By Marcelle Ciampi, M.Ed. (aka Samantha Craft)

Here are several strategies for attracting and retaining autistic job candidates, based on my six years of experience working as a recruitment manager and community manager for a U.S. quality engineering firm, Ultronauts Inc. Founded in 2013, Ultronauts Inc. (formerly Ultra Testing) is on a mission to demonstrate that neurodiversity is a competitive advantage for business.

Understand autism from different perspectives

Take time to read up on autism, including cultural and historical context by respected journalists. Examples of two well-received books are: *NeuroTribes: The Legacy of Autism and the Future of Neurodiversity* and *In a Different Key: The Story of Autism*. Consider professional accounts from well-known experts in the autism field, such as psychologist Tony Attwood and job coach Barbara Bissonnette.

To gain a greater understanding of autism from a personal perspective, review first-hand accounts from actual autistics, including videos, live presentations, blogs, and books.

For large companies, with many employees, look into bringing on an autistic as a community manager (or similar job title), to serve as an autism expert during companywide meetings, managerial sessions, and/or monthly newsletters.

Move beyond the basics of common knowledge about autism

An effective approach to hiring a neurodiverse workforce involves not just understanding commonly known aspects about autism but knowing the possible reasons behind the facts. Most recognize, for example, that autistics sometimes use limited eye contact; but how many know the reasons behind the lack of eye contact? How many know it's not often a choice but a necessity for both controlling anxiety levels and accurately processing input?

Likewise, knowing the reasons behind a person's tendency to over-explain or under-explain is more helpful than just knowing there is likely to be differences in communication style. Keen observations, such as recognizing that poor posture during an interview might be a result of poor ligament structure, adds empathy and understanding to an encounter, instead of mere facts and statistics.

Recognize autistic individuals have multiple skill sets, not just one stereotypical subtype

Stephen Shore, in a autism-related webinar stated: "There is a certain sector of us, on the autism spectrum, who are IT geeks; and for those of us who are, we can make incredible contributions to the world of information technology." He goes on to say, "... but my question also is what about everybody else? What about people who have skills in other areas? And what about people who are perhaps more significantly affected with autism? What type of employment are we going to find for these individuals?" (From *Embracing Autism*, a webcast with Dr. Stephen Shore, Oct. 25, 2016.)

Don't typecast an autistic individual into one particular job role. Autistics are as unique in their skills and aptitudes as any other human being. Though autistics often share some common attributes with others on the autism spectrum, such as exceptional pattern seeking ability, vocational skills and interests vary. Some on the autism spectrum are drawn to the field of teaching, writing, and counseling. Other autistic individuals make fine lawyers and doctors. Some perform well with repetitive, predictable tasks. When considering an autistic workforce, the possibilities are limitless.

You never know what an employee might bring to the job. As Steph Diorio, in her YouTube: *On the Archival Job Hunt Whilst Autistic*, shares, "I have all these amazing work qualities. I'm extremely creative and innovative. I am phenomenally focused. Every employee I've ever had in the past has been amazed at how much stuff I can get



done in with the level of accuracy that I get done in such a short amount of time ... I'm always going to try new things, to bring new ideas ...”

Spell out your hiring process in detail

Let candidates know exactly what to expect and eliminate surprises and unpredictable outcomes. Provide a recruitment process overview document, spelling out in detail the steps of the hiring process. Share the document with candidates who apply for positions or post the document on the company website. Include timelines, answers to commonly asked questions, and exact persons to contact with concerns. Update and adapt the document as needed. Like many inclusive hiring practices, establishing clear guidelines benefits everyone.

Provide alternate ways for job candidates to “sell” themselves

There are several reasons persons on the autism spectrum might have an arduous time selling themselves. One reason is a tendency to want to be entirely transparent and forthcoming, and not knowing what information to offer out fully nor what to hold back. Other challenges include not wanting to brag, appear overconfident, or worrying in general about how another is interpreting their words. Many autistics have faced continual rejection, bullying, and shaming. Be open to candidates expressing their skills and experience in multiple ways:

- Email correspondence
- Cover letter
- An alternative resume
- A traditional resume
- An essay
- A remote assignment
- Remote interviews
- Probationary (paid) remote training
- Job shadowing
- A candidate’s LinkedIn page, website, blog, or YouTube showcasing skills

Look at unique ways to attract potential candidates

Use word of mouth in social media channels, such as Asperger’s and Autism Facebook groups. Create and post online articles about your company and how you welcome a neurodiverse workforce. Tag #autism on a Twitter job posting. Get in touch with an autism advocate and/or autistic author for leads and resources. Establish a network with job coaches, vocational counselors, governmental, and autism agencies. Steer away from massive job boards that won’t necessarily attract the candidate pool you are addressing. Consider job boards that specialize in individuals with disabilities and/or autism.

Adapt the interview process to fit the needs of individuals with autism

When interviewing autistics there are multiple effective strategies an employer can use. Consider the following:

- An introductory video from the interview team.
- A public list of general interview topics (teamwork, work experience, promptness, organizational skillsets).
- The same questions for everyone with a precise scoring grid.
- An autistic as part of the interview team, review board, or interview strategist.
- Remote interviews without visuals.
- Non-abstract interview questions with concrete examples and few questions that can be answered with a simple “yes” or “no.”
- Follow up questions to ask, if a candidate’s response is very brief. What to say if a candidate’s response goes beyond the allotted time.
- Limit and refine “socializing” questions (teamwork, clubs).



- Re-asking questions that received initial low scores and inviting a candidate to send a follow-up email with clarification or additions.
- Avoid company-based tardiness or rescheduling and explain exactly when you will get back to the candidate. Make sure to follow through.
- Explain feasible next steps and provide a realistic timeline.
- Provide courteous, well-thought-out rejection letters with a link to a resource site or a free service, such as a training video.
- Remember many autistic job seekers have faced repeated rejection. Know candidates have likely had ongoing anxiety from Day 1 of the hiring process. And recognize your own biased assumptions.

Maintain the recruitment process as a continual work in progress

Look at what's working and what's not and implement change. Work closely with the recruitment team to ensure the company is incorporating practices that encourage inclusion and promote success. Continue to reinforce transparency in all elements of the hiring plan. Solicit and welcome feedback in the form of a survey at the completion of the hiring process. Continue to seek out resources about the workplace and autism. Address concerns as they arise and remain open minded.



Part of my job duties (at Ultronauts Inc.) include community outreach related to neurodiversity, as well as continual readings, research, and writings associated with best workplace inclusive practices and hiring practices. For any company or agency leaders considering or actively involved in seeking out neurodivergent employees, I highly recommend two things: 1) consider hiring someone who is neurodivergent to serve as a community manager or job recruiter and 2) consider multiple ways and roles in which an individual with brain variances might contribute to the workplace, not just one. And remember, we aren't all tech savvy but have many other talents to offer.

Taken from <https://www.linkedin.com/pulse/how-i-became-community-manager-neurodiverse-tech-company-ciampi/>



An Unwanted Hill to Climb: The Challenges Autistic Adults Face in Social and Occupational Settings

By J. David Hall, M.Div.

As the parent of three diagnosed autistic persons, and as the founder of Life Guides for Autistics, I've devoted untold numbers of hours to serving autistic persons and documented around three thousand hours of direct one-on-one coaching with autistic persons in service through our non-profit organization. In doing so, I've gathered a great deal of empirical evidence as to the challenge's autistic adults face in social and occupational settings.

Autistic persons, who have been a vital part of our combined social history and civilization, have been subjected to unwarranted, unnecessary discriminations and lack of appropriate engagement from the majority of neuro-typical humanity.

Based on anecdotal evidence, the overarching challenges facing autistic adults in today's culture are three-fold. They are an ongoing state of disconnection, lack of understanding between autistic and non-autistic persons, neurological processing differentiations, and the reality of sensory processing disorders, among other co-occurring conditions.

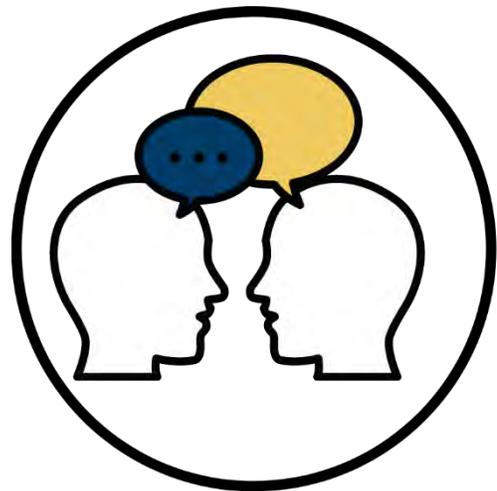
Among most autistic persons, there exists an overarching confusion about social conformity in all cultural constructs. In other words, neurodivergent or autistic persons, seem to operate in a state of disconnect from most social normality's in a majority neurotypical, or non-autistic culture.

This has nothing to do with any lack of empathy on behalf of autistic persons. I've witnessed the majority of autistic persons demonstrate a startling degree of empathic awareness, understanding while in the presence of other autistic individuals. However, it seems when autistic and non-autistic social interactions occur, the union produces an oil and water reaction. Bereft of any intentional outreach, the adaptation of understanding differing perspectives, autistic persons are left "in the cold."

How impactful is this first condition in causing challenges for autistic persons trying to succeed in life socially, occupationally, relationally? Considering there are almost no aspects of human existence that are unaffected by human social constructs, interactions, the range of this conflict is unfathomed. It is one unHINGING nearly every attempt autistic person makes to be understood, conform to social constructs, and get along with their non-autistic peers.

What is the antidote for this difference in human frequency, this dissonance in understanding which affects the social and occupational success of autistic persons? Quite simply, it is the requirement for intentionality in harmony, and in opening new perspectives. Not on the part of autistic persons - who have done the lion's share of trying to be understood, but on the part of non-autistic persons who must intentionally bring themselves into seeing life through the eyes of autistic persons.

Recently, an autistic adult revealed he'd been told confidentially, by a non-autistic peer, that his "problem" revolved around the fact he lacked "guile." So, while autistic persons may be loyal, dedicated, disregarding material gain over the importance of service to others, the very presence of their authenticity is regarded as a detriment and an article of ridicule by those who reject such "niceties" in favor of winning at all costs.



Among all of the autistic persons I've met, and there have been hundreds, I've yet to meet one who I would consider to be devious in character. Incompatibility aside, the reality is the guileful will naturally take advantage of the innocent. Autistic persons are perpetually at a disadvantage in such environments. The high cost of the resulting discord is shared among all persons, not just the autistics. These unnecessary, wasteful misunderstandings strike at the bottom line for workplaces, and at the bottom line of relationships.

The next critical challenge faced by autistic persons is the lack of acceptance as their minds work in unique, often non-conventional ways.

The author Steven Covey, in his book, "The 7 Habits of Highly Effective People," wrote of a workplace interaction where one deep thinker was being challenged for not seeming to be "productive" enough. But as Covey implored in his book, this person once thought of an idea that made his company a million dollars.

Once, I listened in stunned silence as an autistic man tearfully revealed to me he'd been sacked by his large corporate employer because he'd disregarded protocols, chain-of-command in bringing an idea directly to leadership, an idea which would have streamlined a technical process, saving the corporation millions of dollars a year. To him, it was a concrete, logical thought – bring the idea to those who could engage it. In a logical world, it makes perfect sense. Sadly, in a setting that is averse to respecting differences in neurological processing, it cost one brilliant autistic person his job.

To borrow from the lyrics of the 1996 song, "Pepper," *"Cinnamon and sugary and softly spoken lies. You never know just how you look through other people's eyes."* The words are especially true of autistic persons as they struggle mightily, often painfully, with the dance of appearances seemingly a masterclass being taught by neurotypical persons.

Contrary to our prevalent warped cultural narrative, autistic persons are, in fact, not defective. The vast majority of autistic persons are not intellectually disabled (ID). Autistic persons are not broken in some way, an outcome of vaccines. Most autistic persons are not yearning to be fixed. What they are is differently-abled in how their unique minds operate.

This neuro-distinctiveness among autistic persons lends itself to an uncanny ability to process differently from the majority of their neurotypical peers. In all fairness, it may not be a better form of thought process. Still, if it is respected, nurtured, and not intentionally or otherwise suppressed, it may prove transformative to business, to communities, and beyond.

Finally, in working directly with many autistic adults over the years, I've not encountered a single autistic person who's not demonstrated some aspect of what is referred to diagnostically as Sensory Processing Integration Disorder (SPD). Regardless of the more technical aspects of this neurological condition, the simple fact is SPD causes stress, anxiety among autistic persons at home, in the workplace, and beyond.

Imagine for a moment, a co-worker who is quietly working on projects at their desk, and then later, they acquiesce and attend a company party. At the party, they are subjected to loud music, jostling co-workers, bright lights. The co-worker soon stiffens and suffers a meltdown or shutdown, is unable to be consoled by others, leaving the party in tears.

Do you think it doesn't happen? It happens all of the time with autistic persons and is quite costly to them interpersonally and occupationally. In fact, I've known many autistic persons who always ride upon the edge of a potential storm of sensory overload when they are away from their safe sensory environment.

Most autistic persons, especially those who have become adept at "masking" or hiding their neurological differences, find ways to circumvent their sensory challenges. Some are not so good at it, and they spend much time bordering on burn-out or falling into the deep well of burn-out.



Perhaps a hundred years ago, in a quieter era minus cellphones, the often breaking through of thousands of noises, electronic interruptions, autistic persons were much more able to find a sense of regulation, peace in their homes, workplaces, other settings.

Today, most autistic persons live their waking moments running through an endless maze of sensory overloads. One of our organization's autistic clients lived haunted by the routine trash truck dumpster emptying large metal bins, which happened like clockwork every Wednesday. The loud, banging noises blocks away would drive him into his closet to hide under a pile of clothes.

While simple, non-costly workplace accommodations might blunt such sensory intrusions into the equilibrium of autistic persons, most workplaces and their neurotypical leaders remained blithely unaware of the sensory sensitivities of autistic persons in their workplaces.

Sadly, in my workplace advocacy roles, I've encountered business leaders - who faced with basic, virtually no-cost accommodations for an autistic worker would instead force a firing, endure costly litigation, and the loss of community respect rather than take the higher road to a constructive outcome for all.

As we continue to forge onward in the service of autistic persons, this one thing remains clear; a sea change is now within reach of all who would accept the neurological differences of autistic persons. It is time for us to begin rolling back our long history of misunderstanding of these unique individuals. It is time for us to reach out for a new perspective, an understanding which will bring us into a sense of harmony, in recognition that there is a place for all minds, all human persons in our culture.



The Research Proposal

Hypothesis and Research Question

We have a hypothesis based on our initial research that the extra innovation comes not only from the extra creativity of a neurodivergent but also from the extra work and perspectives that surrounding team members can have based on the neurodivergent novel thought patterns. We sought to investigate the following question:

How do we channel neurodivergent extra creativity capacity to produce innovation both from the individual and the surrounding team?

Significant Opportunity – Untapped Talent

There is a considerable opportunity to utilize a currently untapped talent pool. Neurodiversity includes over 20% of human populations and is a cognitive diversity associated with autism, ADHD, dyslexia, and dysgraphia. The unemployment or underemployment rate in this group is high. This translates to a non-visible talent pool that leading companies are now beginning to identify and target in their global recruitment efforts.

We believe that there is a vast unaddressed opportunity for innovation that is represented by most Neurodiverse people who do not get to use their creative abilities – just when we need it the most.

The following is an academic-style report proposing a research study into the creative ability of neurodivergent. We understand that not all neurodivergent will exhibit increased creativity, but we hypothesize that there will be a significant pattern of increased creativity for this group. We will begin by discussing “What is Neurodiversity?” written by a neurodivergent individual, Cole Hasserjian. Next, Corey Hollemeyer will take us through a review of neurodiversity and the education system. Corey is the mother of a neurodivergent child.

From here, we will discuss the comorbidity between the neurodiverse population with both anxiety and executive functioning. We intend to demonstrate that measuring these two areas may lead to identifying patterns of neurodivergent individuals. The section on anxiety as comorbidity is written by two neurodivergent individuals, Nicole Seaward & Hari Srinivasan. Executive functioning is covered by Natalie Drozda, Ph.D., and Sabrina Roblin. Both Dr. Drozda and Sabrina are allied to the neurodivergent.

Next, we will dive into the core of our study’s focus on creativity. Tiffany Jameson, mother to neurodivergent young adults, will scope creativity and innovation for this research and discuss the contextual factors that allow creativity to be translated into innovation. The dual-process theory of creativity is presented as the lens we recommend interpreting the results of the studies.

Finally, Syntyche Jennings a mother of neurodiverse children, Anita Scott, and Tiffany Jameson provide a brief design for three studies on the creative potential of neurodivergent individuals. The studies are suggestions to researchers and organizations to understand better how to define and embrace the contextual factors required to take an idea to implementation. We believe that the changes an organization makes to promote neurodivergent creativity will enable the entire organization.

We want to thank Nathaniel Barr- Scientific Advisor, BEworks; Professor of Creativity and Creative Thinking, Sheridan College, for his guidance on this area of our report.

NDGiFTS



Background: What is Neurodiversity?

Written by Cole Hasserjian

Reviewed by Hari Srinivasan, Sydney Coleman, Marga Ortigas-Wedekind

Neurodiversity is a relatively new term that has begun to shape the conversation surrounding disability. Neurodiversity is commonly associated with Autism; however, the term also encompasses individuals with Dyspraxia, Dyslexia, Attention Deficit Hyperactivity Disorder (ADHD), Dyscalculia, Tourette Syndrome, and other cognitive conditions (Sparx, 2020). At its very heart, neurodiversity views cognitive differences not as a deficit, but rather as variations in cognitive approach. The idea attempts to celebrate and harness cognitive variations, not to make individuals feel inferior for their differences. Neurodiversity encourages individuals to embrace their uniqueness but acknowledges their diagnosis still, so that appropriate services and accommodations may be provided if needed (Walker, 2019). Many individuals are self-diagnosed. The concept dismantles the notion that there is such a thing as a “normal” functioning brain and posits, instead, that all minds are different.

The neurodiversity movement is not centralized, which has resulted in some inconsistencies in the usage of the terms surrounding this movement. Dr. Nick Walker, an autistic advocate, and interdisciplinary educator, clarifies that neurodiversity itself is “the diversity of human minds, the infinite variation in neurocognitive functioning within our species” (Walker, 2014, p.1). He explains that neurodiversity is “a biological fact...not a perspective, an approach, a belief, a political position, or a paradigm” (Walker, 2014, p. 1). The neurodiversity movement is the social justice movement that seeks “civil rights, equality, respect, and full societal inclusion for the neurodivergent.” The neurodiversity paradigm is a specific perspective that views neurodiversity as “a natural and valuable form of human diversity.” According to Walker (2014), when an individual, “diverges from the dominant societal standards of “normal” neurocognitive functioning, they don’t “have neurodiversity, they’re neurodivergent.” Thinking of neurodiversity in terms of “neurotypical” and “neurominority” helps bring further nuance to the conversation. Those with a cognitive function like “the dominant societal standards,” are considered to be neurotypical. In contrast, those with a similar form of neurodivergence are a part of a neurominority group (Walker, 2014).

Neurodiverse conditions are complex, and there is much uncertainty surrounding individuals and their families when given a diagnosis. Scientists and researchers have puzzled over the source of many of these conditions. For example, the Dyspraxia Foundation observes that “although the exact causes of dyspraxia are unknown, it is thought to be caused by a disruption in the way messages from the brain are transmitted to the body” (Dyspraxia Foundation, 2018). Writer John Elder Robison, who has Asperger’s, reports that neurological differences are the result of “normal, natural variation in the human genome....ADHD and other conditions emerge through a combination of genetic predisposition and environmental interaction; they are not the result of disease or injury” (Robison, 2013, p.1). According to the Centers for Disease Control and Prevention (CDC), the rate of individuals on the Autism spectrum in the United States is about 1 in 54 children. The rate of diagnosis is four times greater for boys (CDC, 2020), but recently there has been a surge in female diagnosis, especially later in life. The CDC estimates that between 2000 and 2018, the rate of diagnosis amongst children on the Autism Spectrum has increased by about 150% (Scutti, 2018). Increasing awareness around neurodiversity of late has led to a growing number of adults getting a diagnosis. These ever-increasing numbers of neurodivergent individuals, along with public awareness, have driven the incentive for a movement to empower neurodiverse individuals.

There is a growing acknowledgment that individuals with cognitive differences need to be accepted in society. In 1998, Judy Singer, a sociologist on the Autism spectrum, coined the term neurodiversity because she rejected the notion that Autism is a disability. Along with other advocates, she rejected the belief that Autism was a condition that should be cured (Walker, 2019). John Elder Robison, a neurodiverse contributor to Psychology Today, also finds the idea of natural variation to be “more appealing than the alternative — the suggestion that I am innately bad or broken and in need of repair” (Robison, 2013, p. 1). Robison equates his distaste for the conversations surrounding curing Autism to how other groups would “detest talk of “curing gayness” or “passing for white” (Robison, 2013). If Autism is viewed as just a disability, then there would be a greater tendency to see individuals on the spectrum as ‘less than’ due to the negative stigma surrounding disabilities. Neurodiversity, on the other hand, has evolved into more of a social and civil rights movement for the neurodiverse. While the neurodiversity

NDGiFTS



movement has begun to become more mainstream, there is still much work to be done to improve the lives of neurodiverse individuals.

Even as the neurodiversity movement has begun to gain traction, some have found flaws with its messaging. Moheb Costandi, a molecular and developmental neurobiologist, acknowledges that the campaign has “empowered many with autism,” but he argues that it can “romanticize autism.” Costandi also contends that the movement “favors the high-functioning and overlooks those who struggle with severe autism” (Costandi, 2020, p. 1). Another point of criticism is that there is too much focus on Autism, with the other conditions that fall under the term are not usually highlighted when neurodiversity is discussed. Advocates would push back to those remarks by pointing out that the movement is pushing to make more inclusive spaces for everyone considered to be neurodiverse. Neurodiversity efforts have their fair share of critics; however, there is a greater emphasis amongst advocates to shape the society’s perception of neurodiverse conditions.

The public discourse surrounding neurodiversity is still full of misconceptions and does not provide a platform for neurodiverse individuals to speak out. The media in the United States tends to portray neurodiverse individuals as savants or as people who require 24/7 care. Some individuals do indeed fall into either category and their experiences should not be discounted. However, many neurodiverse folks will not fall into those categories. Many organizations that claim to advocate for neurodiversity perpetuate these stereotypes and rarely empower Neurodiverse voices. For example, Autism Speaks, the largest organization that focuses on Autism research, has less than 10% neurodiverse representation on its board of directors. According to the Autistic Self Advocacy Network (ASAN), Autism Speaks has “used the language of acceptance and understanding to push resources that further stigmatize and treat autistic people as burdens on our families” (Bever, 2019). Autism Speaks is not alone; other organizations dealing with neurodiversity are perpetuating negative stereotypes and do not have many neurodiverse voices at the table. As a result, these types of organizations negatively shape the public conversation surrounding disability. The neurodiversity movement is trying to shift the discourse to highlight more of the positives that come with a more inclusive and diverse society.

There are many services and charitable institutions that focus on addressing neurodiverse lives, however, most of them are geared towards children and parents.

The neurodiversity movement is attempting to address the issues that many neurodiverse individuals have had to face. There are many services and charitable institutions that focus on addressing neurodiverse lives, however, most of them are geared towards children and parents. This results in messaging and services that do not have an emphasis on supporting neurodiverse adults, resulting in fewer services and options for them. There is an increasing number of both children and adults diagnosed with neurodiverse conditions than ever before, which indicates that there are going to be neurodiverse adults who will be seeking to live independently, have relationships, and enter the workforce.

One of the most significant challenges facing the neurodiversity movement is creating a sustainable model to increase neurodiverse representation in the workforce. According to the National Indicators Report by Drexel University, fewer than 1 in 6 neurodiverse adults are in full-time employment. According to the report, there is an 85% unemployment rate among adults with Autism with a college degree in the United States, and that “42% of autistic students who had special education in high school had no paid job in the first six years after leaving high school” (Austin & Pisano, 2017, p. 1). Multiple studies have also concluded that adults with ADHD, Dyslexia, and other Neurodiverse conditions tend to have a higher unemployment rate than the rest of the population (Bailin, 2019). The analysis from the report concluded that neurodiverse candidates are frequently passed upon due to negative unconscious biases, resulting in an untapped recruiting pool. A small number of corporations, mostly in tech, have recently begun to seek out neurodiverse individuals, recognizing the benefits of having a more neurodiverse workforce. Companies are beginning to implement neurodiversity programs; however, the hiring practices across the corporate world are far from equitable (Austin & Pisano, 2017).



Neurodiversity is a topic that is beginning to enter conversations, from the boardroom to dining rooms across the globe. Harvey Blume, a journalist for The Atlantic, wrote that neurodiversity might be “every bit as crucial for the human race as biodiversity is for life in general” (Blume, 1998). Young climate change activist Greta Thunberg described her neurodiversity as her “superpower” (Costandi, 2020). Robert Austin, a professor of information systems at Harvard Business School, claims that “Neurodiversity [is] a Competitive Advantage” (Austin & Pisano, 2017). Having a neurodiverse condition does not indicate that there is only going to be struggle; what the neurodiversity movement is attempting is to provide individuals with hope. Hope for the person facing the obstacles of Tourette Syndrome, for the parent of a child with Dyscalculia, for the autistic with the knowledge, skills, and abilities, but has not had much success with interviews. Individuals should not have to hide who they are to feel that they fit in. Fundamentally, this movement aims to make those with a neurodiverse condition feel more comfortable with their authentic selves.

Background: Education

Written by Corey Hollemeyer

Reviewed by Nancy Pistol & Kyra Marcano

Autistic adults want to work to support themselves and being able to work is a quality of life issue. To be clear, the rate of unemployment for autistic individuals is terrible. A report from Drexel University authored by Roux, Rast, Anderson, and Shattuck (2017) stated that only 14 percent of autistic adults worked outside the home for pay from July 2014 to June 2015. Unfortunately, no data is available concerning how many autistic adults obtain a college degree, at a time when having a college degree is often necessary in order to obtain competitive employment. Undoubtedly, the passage of legislation regarding education of disabled people has played a key role in the fact that some autistic individuals have been able to complete college; however, there are widely cited poor completion rates. In addition, research into the lives of autistic adults has been limited.

As discussed in an article by Villegas (2017), the federal public policy surrounding education of disabled people started in 1975. The Education for All Handicapped Children Act (EHA) made into law the right for handicapped children to receive an education. Prior to this, disabled children were not allowed at school. The next public policies enacted were the Individuals with Disabilities Education Act (IDEA) and the Americans with Disabilities Act (ADA), both in 1990 (Villegas, 2017).

IDEA required an emphasis on the use of least restrictive environment (LRE) and mandated the use of individualized education programs (IEPs) (Villegas, 2017). (Please see appendices A and B for more information regarding the IEP process). LRE means that students should be placed in educational settings with their non-disabled peers to the maximum extent possible. IEPs are customized for each student, which consist of achievable objectives and goals. They are created by an IEP team, composed of special education teachers, parents, the student (if appropriate), and other involved parties such as relevant clinicians and advocates. The ADA makes discrimination of disabled people unlawful and is therefore another important factor in achieving equality in all areas of life for autistic people.

Because of the federal requirements set forth by the EHA, IDEA, and the ADA, school districts had to start offering certain healthcare services on-site if they are necessary for the educational success of people whose IEPs include these services. Two important therapeutic services for autistic students are speech therapy and occupational therapy. In autistic individuals, speech ability can range from non-speaking to developmentally age appropriate. Some of the common problems in verbal individuals are with articulation and pragmatic language usage.

Because language usage is key to educational success, this health service is necessary for most of these students to be successful. Occupational therapy has to do with helping individuals to function as independently as possible by finding creative ways to adapt (sometimes with the usage of accommodations). For example, many autistic



individuals are highly sensitive to sound—particularly, loud noises. Many solutions could be proposed such as managing the volume of an environment or allowing the individual to wear noise cancelling headphones when appropriate.



Life cycle of special education under IDEA in Pennsylvania (as an example, states may vary).

The EHA, IDEA, and ADA legislations combine to form protections for people with disabilities in all areas of life but especially in the education and employment arenas. In the United States, part of living a healthy life includes the right for all people to receive an education and the right to be judged on personal merits when seeking employment for financial support. According to OhlmsteadRights.org’s article, “The American with Disabilities Act of 1990- ADA” (n.d.), disabled people have been discriminated against in the U.S. since its inception. Disabled children were banned from schools, and they were frequently removed from their families and permanently placed in institutions. During the civil rights movement, people began advocating for disabled people. This became known as the disability rights movement (OhlmsteadRights.org, n.d.).

All three policies have played a role in guaranteeing an accommodative and appropriate education for disabled children. Each piece of legislation has gone a little further to secure rights for disabled individuals; however, whether or not the legislation has been effective in delivering positive outcomes for disabled individuals is a matter of debate. Part of the problem is that at age 21, disabled people age out of the special education system, according to Snow (2015). The multiple services and specialized help that they receive is cut off, and there is no system in place to take over when this occurs. This is referred to as the services cliff (Snow, 2015).

Transition plans are supposed to be put in place, but this process is frequently neglected, and it serves no purpose if there are not enough employers prepared to provide a supportive framework. According to a 2015 Drexel University report by Roux, Shattuck, Rast, Rava., and Anderson, “most special education students say that employment is their primary intended outcome after high school” (p. 21). Unfortunately, this report also states that only 58 percent of autistic students had a transition plan in place by the age required by law (Roux et al., 2015).

As stated by the National Education Center for Statistics’ webpage, “Children and youth with disabilities” (2019), during the 2017-2018 school year, seven million children ages 3-21 were receiving special education services under IDEA. This means that a great number of children are being identified as needing special education services and are receiving an individualized education according to their needs. However, what good is any of this if disabled people and autistic individuals cannot get a job even after completing higher education? The ADA forbids disparate treatment of people with disabilities, but it has not been effective for autistics.

This determination is made by looking at the unemployment numbers for disabled people, and more specifically autistic individuals. A news release from the Bureau of Labor Statistics entitled, “Persons with a Disability: Labor Force Characteristics Summary” (2019), stated that the unemployment rate in 2018 for all disabled people was eight percent. This was twice the rate of those with no disability. To clarify, this unemployment rate of eight percent was based only on people who were looking for work within a four-week period prior to taking the survey. In



addition, only about 20 percent of people with disabilities even work. This is in comparison to about 66 percent of non-disabled people who work.

What must be stated about this situation is that many disabled people want to work but often give up after a lengthy and unsuccessful search for financially adequate employment. There are also low-income thresholds for some safety net programs. This can result in working for low pay but losing support. Essentially, this can mean no improvement in one's financial situation by working in a low paying job. As already stated, the report by Roux et al. (2017), only 14 percent of autistic adults worked outside the home for pay from July 2014 to June 2015. Given the poor employment numbers associated with autistic adults, it is safe to say that the current policies are not enough.



The report by Roux et al. (2017) cites a few reasons for why more research is desperately needed in understanding the life of autistic adults. The reasons given are: about 500,000 autistic children will become adults in the next 10 years, most of our lives are spent being adults, only 1 percent of all autism-related research spending is targeted toward adults, and the area of adult life has the least amount of available data for autistic people. This report had two goals relevant to this paper's topic. The first goal was to learn more about some of the core attributes of autistic adults and their outcomes. The second was to understand differences in services utilization and outcomes in different subgroups of autistic individuals (Roux et al., 2017).

The survey information that was analyzed in the report by Roux et al. (2017) was obtained from the Adult Consumer Survey (ACS), and the survey included 3,520 adults ages 18-64 with autism. Survey participants were recipients of developmental disability services through their respective state agencies. Because of this, this survey does not have the validity of a random sample; however, it still provides valuable insights into the lives of autistic adults. It is important to note that only autistics with a severe impairment are typically able to access developmental disability services; therefore, this study does not account for autistic adults who are ineligible for services (Roux et al., 2017).

There are many interesting findings reported by Roux et al. (2017), one finding was a difference in spoken language usage among age groups of autistic adults. "Younger adults with ASD were more likely to use spoken language as a primary means of expression than middle aged adults with ASD" (p. 11). Given that this survey was conducted from 2014-2015, and middle age was defined as 45-64, this provides strong evidence that Early Intervention Services and additional therapies that went into effect due to IDEA have had a positive impact (Roux et al., 2017).

IDEA was made law in 1990. Therefore, the youngest members of the middle age group would have been born in 1969. This was long before there were government supported Early Intervention Services. In addition, schools were not required to utilize an Individualized Education Program (IEP). Therefore, services like speech therapy were not taking place in the school environment.

The survey defined young adults as 18-24 (Roux et al., 2017). The oldest adults in the young adult group would have been born in 1990—the year that IDEA went into effect. Therefore, all of the adults in this group would have been eligible for an IEP and likely also had speech therapy services as part of their program. The higher verbal language usage in this group reflects that.

There were other important findings. Of note, 25 percent of autistic adults reported they did not get all needed services (Roux et al., 2017). In addition, "half (51%) of adults with ASD had at least one health condition in addition to ASD" (Roux et al., 2017, p. 12). It was also found that "over half of adults with ASD [Autism Spectrum Disorder] had at least one mental health condition (including anxiety, mood disorder, psychotic disorder, and/or other mental



illness) in addition to ASD” (Roux et al., 2017, p. 13). Finally, there is the very important finding (as already mentioned) that only 14% of autistic adults surveyed had a paid job, although half of the unemployed surveyed want to find work (Roux et al., 2017).

The findings in this report are quite bleak apart from being able to infer a correlation between the onset of IDEA and verbal language usage being significantly higher among younger autistic adults. Progress has been made here, and this justifies continuing the current approaches regarding language development. Adults with autism are facing many challenges to employment. A significant number are not receiving needed services, and a significant number of these individuals have another health condition or mental health condition (Roux et al., 2017). Having just one of these problems would be a challenge but adding comorbid health and mental health conditions means that a highly coordinated effort among professionals in these areas will be required to have a streamlined and holistic approach to ensuring employability of autistic people.

From an economic standpoint, an article by Buescher, Cidav, Knapp, and Mandell (2014) stated that autism support services for a person without a cognitive disability costs the United States \$1.4 million over everyone's lifespan. This is a total of \$232-262 billion annually. In addition, most of this money is spent on adults—about \$175 billion compared to \$61 billion for children (Buescher et al., 2014). These costs are staggering. Better and more efficient solutions need to be found and research completed to discover what exactly is hindering these individuals from finding employment.

Part of the diagnostic criteria for autism is an impairment in social skills and communication. As discussed in another prior section of this paper, there has been tangible progress in the number of autistic people who primarily use verbal language compared to the past. This overcomes one huge potential barrier to employment. However, anecdotal evidence shows that most autistic people have a great deal of difficulty in preparing a good resume. Then, if they are fortunate enough to get an interview, they lack the social skills that are typically expected in an interview situation. Outreach to corporations needs to be done in order to educate human resources and hiring managers about what to expect. In addition, an individual's behaviors should be viewed in context and an objective determination made about whether those behaviors really would affect job performance.

The expected result of the current policies in place are better educational outcomes for students. As some autistic people are able to graduate from college, these policies have some good effects in that regard; however, this brings up a new question. What is the purpose of education? It is not enough to learn how to be a good student and adapt to the classroom. The end goal of these interventions and efforts should be to help create employable adults who are able to live as independently as possible and who can financially support themselves as much as their ability allows. In conclusion, progress has been made over the last 40 years towards improving the quality of life for autistic individuals. But, given their unemployment rate, much work also remains undone.



Background: Anxiety as Comorbidity

By Nicole Seaward & Hari Srinivasan

Reviewed by Kamel Webster

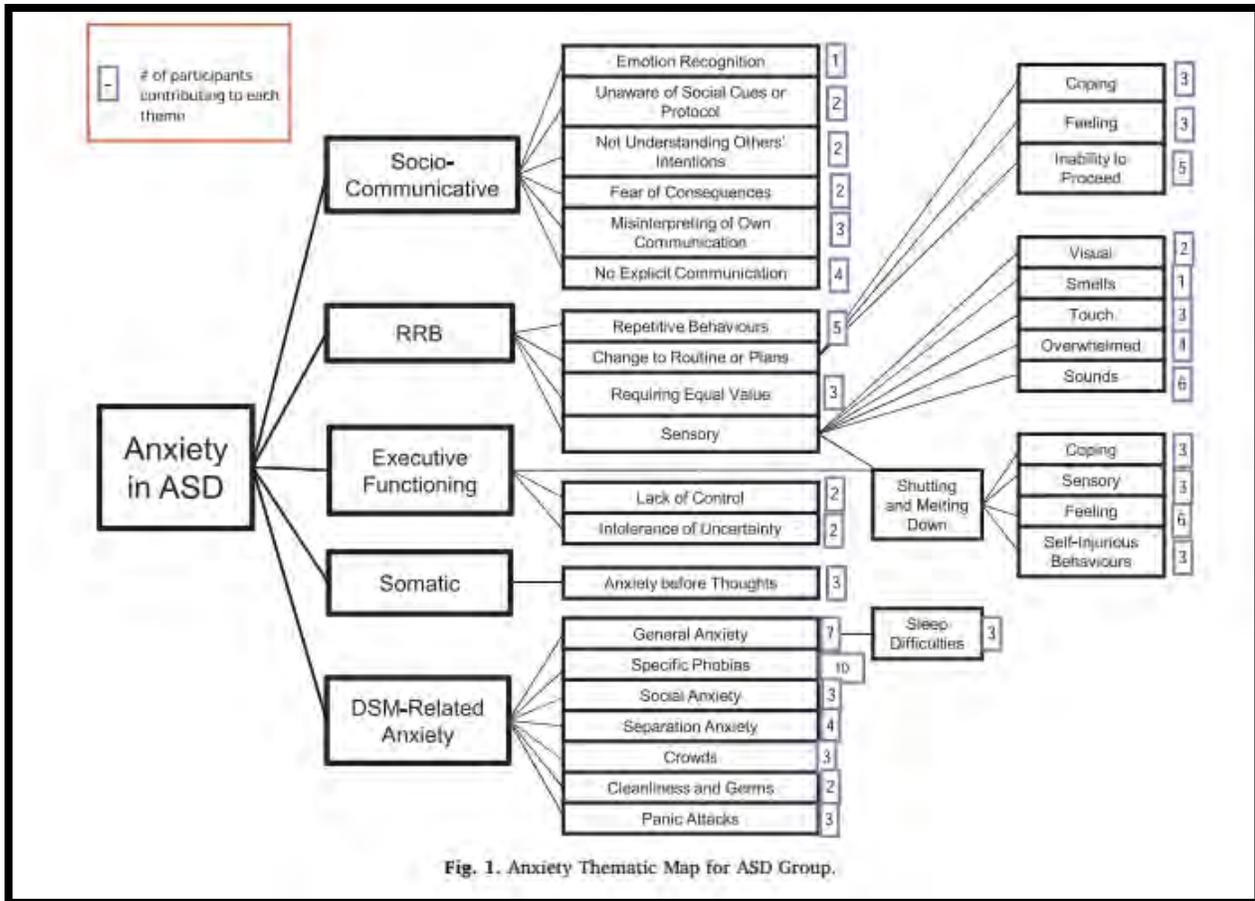
Overview of Anxiety

Anxiety is a universal human experience that triggers the impulses to fight, flee, or freeze. Symptoms of anxiety include “persistent feelings of restlessness, irritability, difficulty concentrating, sleep disturbance, fatigue, nausea, diarrhea, and muscle cramps” (Bandelow, Michaelis, & Wedekind, 2017). Anxiety is the result of both biological and environmental factors. “Childhood adversity, stress, or trauma” contribute to the development of anxiety disorders with the age of onset being around eleven (Bandelow, Michaelis, & Wedekind, 2017). Anxiety can be extremely intense and result in illness and lost time at work or from school. Chronic, pervasive anxiety is often characterized by excessive worry, rumination, and anticipatory anxiety. This generally results in avoidance behavior which reinforces anxious feelings (Riordan & Singhal, 2018) and can impact one’s participation in daily life.

While optimal anxiety increases performance, too much can have a detrimental impact, and when left untreated, anxiety can cause significant functional impairments (Riordan & Singhal, 2018). When one is experiencing anxiety, the state of arousal can be so distracting that learning and memory are negatively affected (Riordan & Singhal, 2018). Furthermore, anxiety can disrupt relationships as well as social development (Riordan & Singhal, 2018). Common treatments for anxiety include both therapy and pharmacological treatments. It is important to identify and treat severe anxiety, but also to recognize the occasional benefits of anxiety in its milder forms.

Autism Spectrum Disorder (ASD)

Anxiety is common in those who are autistic as a result of sensory sensitivities, societal expectations, disclosure, and camouflaging. The illustration by Halim, Richdale, & Uljarević (2018) below provides a succinct overview of the many causes of anxiety in autistics. Estimates of the co-occurrence of anxiety and autism range from 40% (Rosen et al., 2018) to 48% (Smith, Ollendick, & White, 2019). Furthermore, research has shown that the added presence of anxiety can significantly impact quality of life (Smith, Ollendick, & White, 2019). Autistics prefer routines and when one is disrupted this can cause significant stress to the individual. Therefore, the management of the “intolerance of uncertainty” is an important factor in addressing anxiety in autistics. (Hwang et al., 2019).



Taken from Halim, Richdale, & Uljarević, 2018

In addition to the factors noted above, there are various ways in which the social environment can cause or exacerbate anxiety in autistic individuals. One of the authors of this section, Hari Srinivasan, has autism, ADHD and Dysgraphia. He can testify to the pressure of constantly trying to fit into “normal” societal expectations beginning in childhood. Since the societal “normal” itself is ill-defined, it is akin to chasing a moving target which is a constant source of stress. The result is constantly facing gatekeeping at every step, be it in education, social opportunities and in the field of employment.

Autism can be both visible and invisible both of which can contribute to anxiety in their own way. For instance, Srinivasan’s autistic traits, with atypical body mannerisms and limited speech, are very visible. Therefore, disability-related stigma may exist, whether overt or subtle, from employers and co-workers from the start. Those with an invisible form of autism face the dilemma of trying to camouflage their autism or disclosing their disability in order to avail of the ADA accommodations; either choice contributing to anxiety. In addition, a common misconception is that autism somehow magically disappears in adulthood, when in reality, years of therapy have only served to ‘mask’ some of the more overt atypical mannerisms. This means that anxiety associated with being autistic continues into adulthood though the intensity of anxiety may well depend on an individual's physiology and resilience.

Untreated anxiety will negatively impact entering the workforce, sustaining employment and enjoying the quality of life one expects from productive employment. Another author of this section, Nicole Seaward experienced autistic



burnout after too many years of camouflaging and trying to fit in as “normal” in the workplace. Seaward experienced daily panic attacks and anxiety related to work that eventually became too much and she temporarily lost many of her executive functioning skills making independent living difficult and working impossible. Autistic burnout is still a new term and is characterized by “chronic exhaustion, loss of skills, and reduced tolerance to stimulus” (Raymaker et al., 2020, p. 136). Autistic burnout has serious consequences that can be reduced when the proper supports are in place and the individual no longer feels the need to hide their autistic traits (Raymaker et al., 2020).

Attention Deficit Hyperactivity Disorder (ADHD)

ADHD presents varying degrees of challenges in the areas of hyperactivity, inattention, impulsivity, concentration, productivity, memory, and focus. Comorbid and ‘hidden impairments’ are common among those with ADHD, including anxiety (Adamou et al. 2013). In fact, nearly 25% of children diagnosed with ADHD had some form of anxiety disorder (Bilgiç et al., 2013). Many of the challenges associated with ADHD “generate anxiety-provoking situations” (Bilgiç et al., 2013). Individuals with ADHD may struggle to maintain their focus which can impact task completion. Their memory might be poor due to being distracted while intaking information and learning. In other studies, a physiological link has shown that anxiety in the ADHD population correlates with lower neural activity or poor performance with visuospatial working memory tasks (Meer et al., 2017).

Srinivasan points to his experience of ADHD as a cause of anxiety. In his case, ADHD can mean an impulsive fidgeting body, which society does not regard as an appropriate social mannerism. There are also some internal conflicts when ADHD is combined with autism - ADHD can mean a certain need for newness (easily bored) which conflicts with “sameness” that the Autism desires. Depending on the situation, environment and topic, attention itself can go from hyper focus to inattention. The level of body activity too can go from hyperactive to hypoactive. Having to navigate the terrain of a potentially unaccepting social or workplace environment on top of the uncertainty of your own body reaction creates for constant anxiety laden scenarios which affect productivity.

Dyslexia

Anxiety is often higher in dyslexic individuals due to the near constant challenges related to learning, subsequent feelings of inadequacy, and fear of failure (Carroll & Iles, 2006). Dyslexia is marked by challenges with writing and reading, along with functioning memory, processing speed, organization, and time management. As a result of these challenges, dyslexics are associated with “depression, anxiety, lower self-esteem, and often, behavioral problems” (Livingston, Siegel, & Ribary, 2018). Weak reading skills can contribute to lower academic achievement which has shown to lead to an increase in levels of social anxiety (Carroll & Iles, 2006). Negative emotions from living with dyslexia can contribute to “lower self-efficacy and competency relating to work, and increased work anxiety” (Livingston, Siegel, & Ribery, 2018, p.126). The challenges of dyslexia start in the early years of education, continue into adulthood and can impact success in the workplace.

Dysgraphia

Dysgraphia can be developmental or acquired through injury and is characterized by difficulty with the physical act of writing or typing due to challenges with fine motor skills (Tafti & Abdolrahmani, 2014). Difficulty with gripping a writing utensil, typing written words, discerning units of language (especially new words), and managing working memory contribute to frustration and low self-esteem (McCloskey & Rapp, 2017). Furthermore, when an individual is focused entirely on writing words, they are not fully able to concentrate on learning and therefore can fall behind. The experiences of repeated failures, bullying, and loneliness associated with dysgraphia are tied to increased levels of anxiety (Biotteau et al., 2019). As mentioned above, feelings of anxiety lead to avoidance behaviors and this can result in the dysgraphic individual opting out of experiences that will increase their education and chances of engaging in fulfilling employment.

Srinivasan offers an explanation of his experience of dysgraphia as related to motor apraxia, motor memory, motor planning issues and even dysregulation in the ability to form a body schema. There is more to writing than just the ability to grip and pick up a pen or pencil and scribble on paper. There is a lot of motor planning involved, in what



direction the hand should move, by how much, at what angle, the font size, and the spacing. These tiny adjustments can be hard for a person with poor fine motor skills. A whole sequence of movements go into writing each letter. A poor body schema means the brain is constantly trying to keep track of where the hand is in space and time on top of the other tasks involved. For a typical person, these movements are embedded in their motor memory, making the writing task automatic, but motor apraxia and poor body schema means that such sequences of motor movements take much longer or do not make it into the motor memory. So, the act of writing itself ends up as a laborious task of having to motor plan all over again each time and distracts from the attention and thinking processes. Srinivasan can see the letters in his head but is never quite sure if he will be able to pen it on paper, which leads to tremendous anxiety. He says his motor instinct is to write his name, as that is an activity he was made to do over and over again in his special education years. When compared to writing, the act of typing, though it has its own challenges, seems a relatively easier motor task, as it requires the press of just a single key for each letter most of the time.

Summary of Comorbidity in Neurodiversity

All neurodivergent individuals are unique, though anxiety seems to be common to many of them (Tafti & Abdolrahmani, 2014). Individuals may not be aware that their work performance or behavior is being impacted by anxiety. Deficits in social interactions and transitions are a challenge for many who are neurodivergent and may further contribute to anxiety. There is also a great deal of stigma with neurodiversity, which creates anxiety around disclosure and impacts emotional health (Livingston, Siegel, & Ribery, 2018). By understanding and accepting the challenges associated with neurodivergence and working to increase self-advocacy, employers can reduce employees' stress and anxiety. The goal is an accepting, welcoming environment, creating a win-win for both employers and neurodivergent employees.

Life's challenges include facing the uncertainty of societal expectations, in addition to dealing with autism's core features, such as sensory sensitivity, repetitive behaviors and sameness behaviors, and other less discussed issues like lack of a body schema and poor fine motor skills in Srinivasan's case. He feels that anxiety is a very real and often unacknowledged comorbidity of neurodivergence, though the intensity of anxiety may depend on an individual's diagnosis and resilience. While anxiety management and coping techniques can be useful, helping employers understand neurodiversity and create an accepting workplace may do even more to develop resilient employees. The neurodivergent mind, when nurtured in the right environment, has much to offer in the workplace, including creativity and innovation.



Background: Executive Functioning as a Comorbidity

By Natalie Drozda and Sabrina Roblin

Executive Functioning Defined

Executive functioning (EF) is a term that encompasses a wide range of high-order mental processes and cognitive skills that allow people to thrive. These abilities include: inhibitory control (suppressing behaviors and avoiding distraction), working memory (holding pieces of information in mind simultaneously to be able to work with them), cognitive flexibility (transitioning from one situation or thinking task to another), planning and organization (goal-oriented behavior), and even emotion regulation (Crum, 2017; Hutchison & Phillips, 2018; McGarrity, Huebner, Smith, & Suchy, 2020). The Center on the Developing Child of Harvard University (n.d.) states that working memory, mental flexibility, and self-control are essential for executive function and self-regulation, but children are not born with these skills, they are born with the potential to develop them. Environmental conditions can help or hinder the development of the skills associated with EF. The neural networks that are responsible for emotional regulation mature in a person's 20s (Giedd, 2015). Thus, the seeming impulsivity and moodiness of teenagers may not be surprising. As humans mature, they are better able to pursue long-term goals rather than impulsive short-term pleasures (Giedd, 2015). This is instrumental in the world of work. However, neurodiverse folks often have differing EF profiles that persist into adulthood, (e.g., ASD and ADHD) (Bramham et al., 2009). Furthermore, minority stress can influence EF (McGarrity et al., 2020). Though the McGarrity et al. (2020) article was not about neurodiverse folks, it is worth recognizing that minority stress can be very real for this community as well, which could potentially influence their EF and subsequent work performance and creativity.

Autism Spectrum Disorder (ASD)

Some individuals with ASD have needs related to executive functioning. Research has supported that individuals with ASD exhibit a number of EF differences or deficits, when compared to those without (Bramham et al., 2009). When compared to individuals without ASD, those with ASD self-reported more emotion processing problems and daily executive functioning problems, with higher executive functioning issues related to a lower quality of life among those with ASD (Dijkhuis et al., 2017). Specific domains assessed related to EF in this study included: inhibit, shift, emotional control, self-monitor, initiate, working memory, plan/organize, task monitor, and organization of materials (Dijkhuis et al., 2017). These same aspects of EF were assessed in a study focusing on higher education students with ASD. It was found that self-reported daily EF contributes to the prediction of academic success, with planning and organizing being the best predictor (Dijkhuis et al, 2020).

When compared to a control group, 60 percent of individuals with ASD had poorer social functioning and researchers noted that adapting to social environments may be a challenge for individuals with ASD (Otsuka et al., 2017). Individuals with ASD also exhibit atypical presentation on several abilities including social cognition and neurocognition. Regarding social cognition, individuals with ASD demonstrated atypicalities in mentalizing and emotion perception, this included inferring a person's mental state by looking at their eyes and perception of others' emotions (Otsuka et al., 2017). Regarding neurocognition, individuals with ASD demonstrated atypicality in detail-focused processing, cognitive flexibility (related to ability to shift focus or tactics when solving a problem), and visuospatial working memory (Otsuka et al., 2017). Lastly, a study on adults with ASD found "prominent deficits" occurring in flexibility and metacognition, as well as planning and organization, all of which were related to broader functioning (Wallace et al., 2016). Adults with ASD may take longer to plan and complete certain tasks than those without (Branham et al., 2009).

Taken together, these findings may translate to individuals with ASD feeling isolated in the workplace, not always understanding feedback, misreading social cues, feeling overwhelmed, feeling confused after interactions with coworkers, needing added support around transitions and planning. These differences in executive functioning may necessitate accommodations at work for people with ASD so that they can contribute to their best ability. This may



include, for example, having explicit and clear directions, flexible hours or deadlines when possible, and regular check-ins with supervisors.

Creativity is a broad concept and can include divergent or flexible thinking. While the dominant discourse surrounding individuals with ASD may seem to negate their creative abilities, research has shown that they can, in fact, be creative (Hetzroni et al., 2019), sometimes generating more creative responses than control groups (Kasirer & Mashal, 2014). More research is needed.

Attention Deficit Hyperactivity Disorder (ADHD)

ADHD is one of the most common neurological disorders and often persists into adulthood according to the Centers for Disease Control and Prevention (n.d.). It is characterized by consistent inattentiveness, hyperactivity, and impulsivity that is present before the age of 12 and not better explained by another disorder as per the DSM 5 (2013). These characteristics must cause some disruption in daily functioning to meet the threshold for diagnosis. In children this may look like having difficulty taking turns, talking a lot, getting up when it is expected that they sit (e.g., in school), fidgeting, forgetfulness, being easily distracted, and areas for growth including overall impulse control (CDC, n.d.). In adults this may look like having difficulties with impulsivity, prioritizing, focusing, remembering plans, multitasking, coping with stress, and organizing (Mayo Clinic, n.d.).

Some individuals with ADHD have needs related to executive functioning (EF). Research has supported that individuals with ADHD exhibit a number of EF differences or deficits, when compared to those without (Bramham et al., 2009). When compared to adults without ADHD, adults with ADHD tend to have more problems regarding inhibition, emotion regulation, working memory, and planning (Ting, 2020). This includes possible challenges related to difficulties withholding responses (Bramham et al., 2009). Neuroscience evidence suggests that brain activity may look different for adults with ADHD. Brain activity patterns measured by EEGs (electroencephalogram) differ in individuals with ADHD; specifically, central beta activity was linked to emotional control deficits in adults with ADHD, but this was not so in the control group (Li et al., 2019). Working memory issues may inform some of the inattention that individuals with ADHD experience that lead to occupational problems (Barkley & Murphy, 2010).

These research findings help to illuminate some of the behavior and thinking patterns of individuals with ADHD and how their work may be influenced. Individuals with ADHD may need assistance in planning, task completion, flexible deadlines, and scheduled supervisor check-ins. In terms of creativity, more research is needed to include the ADHD community. What is available suggests that originality and elaboration are strengths among students with ADHD (Gollmar, 2001).

Dyslexia

Dyslexia is complex and can affect people in different ways. The International Dyslexia Association defines dyslexia as “a specific learning disability that is neurobiological in origin” (“Dyslexia at a Glance”, n.d.). It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction.” Behavioral signs can extend far beyond problems with written language and can show up as early as pre-school. Outward signs include letter or number reversal, difficulty reading and spelling, difficulty with left versus right, trouble following multi-step directions, and slow handwriting that is difficult to read (dysgraphia). Dyslexia is often comorbid with dysgraphia and ADHD (Frith, 1999).

A recent meta-analysis by Booth et al. (2010) has highlighted that children with a reading disability have difficulties in several areas of executive functions, including maintaining relevant information in working memory, inhibition of irrelevant information, and accessing material in long-term memory. The reduced performance of individuals with dyslexia in memory span tasks involving both verbal and visual-spatial modalities may be interpreted as an



expression of deficient functioning of the Central Executive component of working memory. These aspects of dyslexia could absolutely cause someone to have trouble organizing their thoughts, as well as starting and finishing work. Frustration can also play a role. Trouble with reading and writing can be discouraging, making it hard to stay motivated.

Dysgraphia

Dysgraphia refers to (a) the language-based difficulties involved in constructing meaningful and effectively structured expressive writing and (b) ongoing weaknesses in spelling and punctuation that affect a student's capacity to express their ideas with clarity. Persistent handwriting difficulties associated with an impairment in motor coordination are now commonly understood to be a particular aspect of Developmental Coordination Disorder (previously known as Dyspraxia). Students with Dysgraphia have extreme difficulty getting their thoughts both in order and then down on paper. They may take longer to write than the average person and may express discomfort or stress while doing so. People with dysgraphia can also have dyslexia, leading some people to mistake symptoms between the two. Many students with Dysgraphia also have Dyslexia.

Dysgraphia has not been researched as much as the other areas of neurodiversity. Handwriting is a complex activity that entails an intricate blend of cognitive, kinesthetic, and perceptual–motor components. In order to produce a hand-written product, the child needs to simultaneously activate sensory-motor and cognitive skills, devise an idea, plan the structure of the sentence syntax and spelling, attain motor-orthographic integration to create the text, and to appraise the obtained result. (Rosenblum, 2018) In Rosenblum's research, among the children with dysgraphia, inhibition, emotional control, working memory and monitoring significantly correlated with the mean writing pressure and stroke height.

Commonalities

Much of the literature on ASD and ADHD focuses on children, some studies have suggested a similar EF profile among the two diagnoses, while others have been more contradictory (see literature review in Branham et al., 2009). Branham et al. (2009) study on adults with ASD and ADHD yielded that while both exhibit EF deficits, the specifics may be possible to differentiate (Branham et al., 2009). For example, both individuals with ADHD and ASD exhibited some differences in planning abilities, suggesting those with ASD may take longer to plan in some instances, while those with ADHD may spend less time planning in some instances (Branham et al., 2009). ASD, ADHD, Dyslexia, and Dysgraphia all appear to have some commonalities concerning EF functioning, particularly including working memory and emotional regulation; however, it is notable that a lot of research still needs to be done and existing literature often focuses on children.

Taken together, findings seem to suggest that differences in working memory is an executive function commonality among the different neurodiverse categories explored in this section, as well as the potential for frustration/emotional regulation challenges.

Summary

The global economic, cultural, health and climate change challenges companies face are complex and demand thinking creatively and differently than in the past, in order to generate workable solutions. In order to maximize the creative thinking in organizations to meet these challenges, we have an opportunity to identify the gifts and talents of neurodiverse individuals in their own right and the conditions that have them thrive on teams in organizations rather than comparing them to neurotypical individuals and finding them deficient.

For example, research has supported the notion that people with ADHD characteristics are more likely to reach higher levels of creative thought and achievement than people without these characteristics. Recent research by Darya Zabelina and colleagues have found that real-life creative achievement is associated with the ability to broaden attention and have a "leaky" mental filter— something in which people with ADHD excel. Recent work in cognitive neuroscience also suggests a connection between ADHD and creativity. Both creative thinkers and



people with ADHD show difficulty suppressing brain activity coming from the “Imagination Network” (Kaufman 2016).

The contributions of famous neurodiverse individuals such as Greta Thunberg, Temple Grandin, Woody Allen, Michael Phelps, Audra McDonald and Bill Gates, show us what is possible. In fact, efforts have begun in the workplace. Microsoft, a leading global technology organization founded by Bill Gates, has a Chief Diversity Officer, along with funding to research Neurodiversity. Not all neurodiverse individuals will be successful in organizations, just as not all neurotypical individuals will be, and changing the how of getting to desired outcomes in an organization can be challenging due to the resistance of both established processes and thinking. More experimentation, education and research are needed, but setting up the conditions to thrive could include educating managers and employees in ways that normalize, show the benefits of having neurodiverse individuals in an organization, and how to set up the conditions that ensure they are productive and thrive in their work. Conditions for neurodiverse individuals could include working from home, frequent check ins with an accountability partner, and early training in how to identify and self-manage executive function challenges for success.



Creativity: The Core of this Project

By Tiffany Jameson

Reviewed by Susan O'Malley, Syntyche Jennings & Anita Scott

Creativity is one of the most complex concepts to define with a recent review of academic literature uncovering 100 unique definitions (Said-Metwaly, 2017). These definitions covered various areas, including:

- Cognitive processes associated with creativity
- Personal characteristics of creative individuals
- Creative products or outcomes
- Interaction between the creative individual and the context or environment (Said-Metwaly, 2017, p. 241).

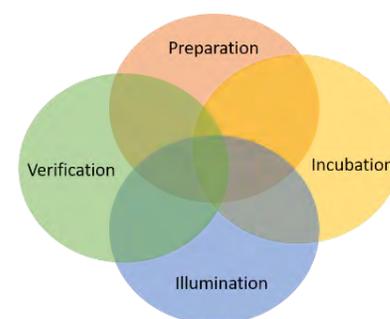
The variety of definitions acknowledge that all factors that promote or inhibit creativity are considered within the meaning (Thompson & Lordan, 1999). To view creativity through one lens, like divergent thinking, discounts application, and motivation of creativity versus the act of creating thoughts (Said-Metwaly et al., 2017).

Creativity is also a process that requires identifying a “problem” then requiring and evaluating the feasibility of those solutions (Boot et al., 2017). An individual must also have the motivation to turn existing knowledge into new knowledge through this process (Amabile, 1996 as cited by Boot et al., 2017).

The Process of Creativity

Creativity itself is a process of preparation, the incubation (idea formation), illumination (how to implement), and verification. Individuals with ADHD appear to be more generally engaged during the idea formation stage (Boot et al., 2017). In contrast, autistic individuals enjoy breaking down ideas in extreme detail for execution using their “exceptional memory, meticulously accurate representation or rule-following” (Roth, 2020, p. 498). Autistics have been found to generate more novel ideas (Best et al., 2015). We believe this is a benefit of their outlook and directly related to creativity (Amabile, 1996).

Regardless, the individual must have the motivation to be creative, and this usually involves special interests, or as Hunter et al. (2012) refers to many of the KSAOs (Knowledge, Skills, Abilities, and other competencies) identified in their interactionist model of innovative achievement. Winter-Messiers (2007 as cited by Goldfarb et al., 2019) describe special interests as “those passions that capture the mind, heart, time and attention of individuals with AS [autism spectrum], providing the lens through which they view the world” (p. 142). This is one of many examples of the characteristic traits of neurodiverse already available as creative potential for employers. It is up to the employers to implement the contextual moderators we will discuss below to allow this creative potential to become an innovation.



The four stages of creativity

Creativity Leads to Innovation

Too often, innovation is used synonymously with creativity. The fact is creativity allows innovation to happen. Paul Hobcraft describes innovation as “the fundamental way the company brings constant value to their customer’s business or life, and consequently their shareholders and stakeholders.” Hobcraft’s definition aligns with how we define the value proposition of having creative employees. These employees provide novel ideas and approaches that enable innovation to happen. To stay alive as a business, you must innovate. To innovate, you must have creative team members. As a famous movie once said, “if you build it, they will come.” This is also the case with creative employees. Nurturing an environment where each employee is comfortable in their skin and has the autonomy to use their strengths to address challenges, is the only way to access this creative side.



Creativity Requires Contextual Factors

The figure below describes the interactionist model of innovative achievement (Hunter et al., 2012), and it is developed from the human resource talent acquisition perspective. Many neurodiverse individuals have the Knowledge, Skills, Abilities, and Others (KSAOs) to offer the creative potential to an organization. The challenging part for organizations is the contextual moderators necessary to allow the creative potential to evolve into innovative output. Researchers identified that in the appropriate environment, creativity ability is distinct from the more general cognitive ability (Hunter et al., 2012). Findings also support that personality exerts sizable effects on creative achievement (Hunter et al., 2012). Hunter et al. (2012) recommends attracting and retain creative potential, elevated levels of autonomy are necessary, as is tolerance for risk-taking, and the encouragement of diversity of expertise.



Taken from
<https://www.ideatovalue.com/inno/nickskillicorn/2016/03/innovation-15-experts-share-innovation-definition/>

Climate of Inclusion

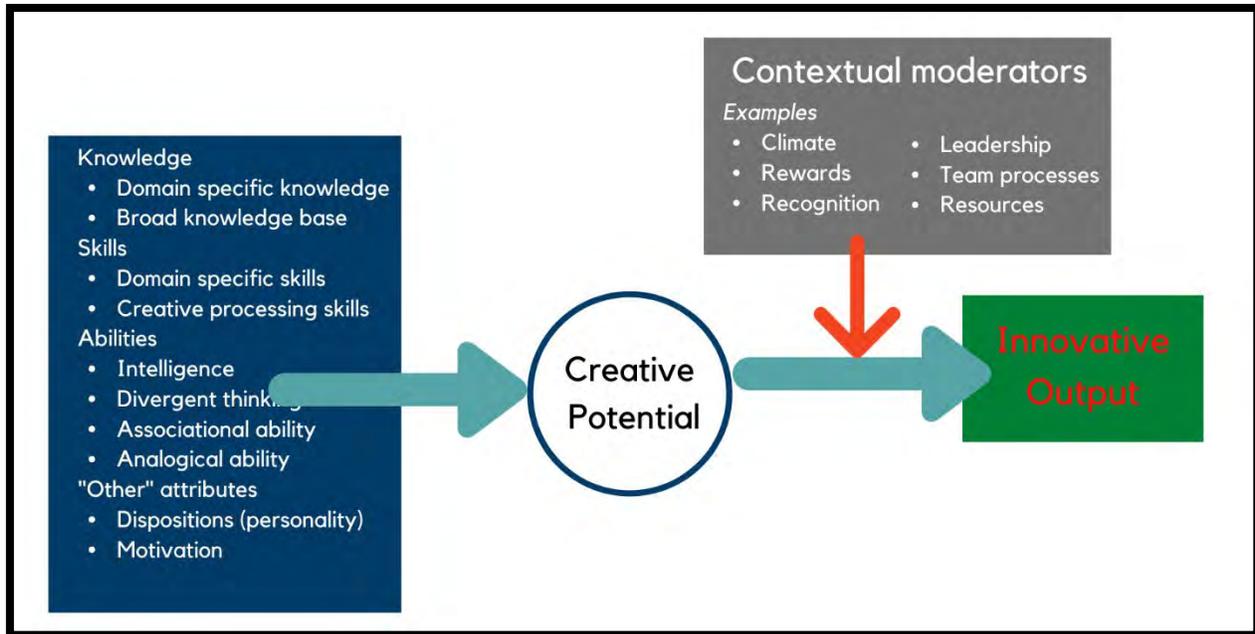
Expanding on the importance of the contextual moderators identified by Hunter et al. (2012) is beyond the scope of this paper. For this section, the focus will be placed on climate and team processes. A climate of inclusion is a perception by employees that the organization values diversity through the promotion and implementation of diversity management systems (Li et al., 2019). The critical word to note with climate is that is the perception of the employee. Research has also found that inclusion itself is a perception, or personal feeling, an individual has within their environment (Goodall, 2019). Taken together, an inclusive climate is difficult to quantify but essential for all employees to feel included.

Team Processes: The Need for Cognitive Diversity

Team processes are another important concept when it comes to enabling creative potential to create innovative output. When it comes to diversity in teams, it once again comes down to perception. Generally, when people differ, they quickly form categorization with a team resulting in sub-team and inter-team bias disrupting the flow of creativity (Rahmi & Indarti, 2019). Usually, classification occurs through visual, or surface-level diversities. Here, we aim to discuss deep-level diversity, such as cognitive diversity. Adapting Vegt and Onne's (2003, as cited in Rahmi & Indarti, 2019) definition, "internal characteristics of a team such as differed way of thinking, knowledge, skills, view of the world, and beliefs about what is right and wrong" (p. 300). Teams will benefit from cognitive diversity when the appropriate climate is present, a norm of open-mindedness, and the shared perception of team members (Rahimi & Indarti, 2019).

There is another important piece to consider when moving from creative potential to innovative output. Described clearly in Theodore Levitt's (2002) article, "*Creativity Is Not Enough.*" Approaching problems with novel solutions may be a strength of one individual, but as Levitt writes, "What is often lacking is not creativity in the idea-creating sense but innovation in the action-producing sense, i.e., putting ideas to work." We believe this is where the importance of team processes comes into play. Team processes, designed to enable team members the "space" to look at a problem differently, will require a path to execution. As we have previously discussed, some neurodivergent individuals may find the creation of the path to execution difficult to organize. A strong team will realize the strengths of one member, and compliment with the strengths of another. These "cognitive diversities" will allow the varies stages of idea formation to planning, to selling within the organization, then to implementation. Without different skills within a team, the cycle of an idea will never begin and the novel idea will fail without ever being tried.





Taken from Hunter et al. (2012)

Dual-process Theory of Creativity

For our purposes, we have selected to view this through a lens of dual-process perspective on creative thought. Adopting a dual-process meta-theoretical perspective allows for exploration of the relations between associative and executive processes, and the roles of intuitive and analytical thought, in the genesis and evaluation of new and useful ideas (see Barr, 2017). This approach is amenable to understanding creativity from a domain-general perspective, with more specific models and theories framed in dual-process terms possible to understand creative cognition within domains (e.g. dance, science, writing). Barr (2017) explains this best as he asks, “would one expect the same cognitive processes to subservise both an improvised interpretative dance and the genesis of a novel scientific theory?” (p. 24). Creativity can be construed as applying differential interpretive lenses and processing mechanisms on what one feels, hears, and sees. These processes are a result of a mixture of associative and executive processes, and research is unravelling the interplay between brain regions associated with these types of thought.

Given the unique neural dynamics apparent in neurodiverse individuals, it is reasonable to expect that they exhibit unique cognitive activity amenable to creativity. We also believe that the individual must be in a safe and nurturing environment allowing the natural creative processes of this group to happen, and not be stifled by rigid and psychologically unsafe environments. In other words, the individual must experience intrinsic motivation to innovate (Said-Metwaly, 2017), as previously discussed, the contextual factors provide the ability to take neurodiverse creative potential and transform it into innovation.

There are many shared characteristics of neurodiverse individuals. Drozda and Roblin (2020) outlined above the comorbidity between neurodiversity and executive functioning. Presented also is the comorbidity between neurodiversity and anxiety (Seaward and Srinivasan, 2020). Boot et al. (2017) highlights the attention-focus challenges of many neurodiverse individuals and explains “The defocused processing of task-unrelated information during creative tasks may activate uncommon associations, resulting in original combinations of information” (p. 1). Under the assumption that both executive functioning may be an area of traditional deficit and anxiety may be increased in the neurodiverse population, we are recommending three research studies.



The research studies we are recommending are described below. Study 1 is a survey. We believe we can query individuals that identify as being neurodiverse by applying a scale for executive functioning, a scale for anxiety and, another scale for creativity. We hypothesize that there will be a negative correlation between executive functioning and creativity. Additionally, we hypothesize that there will be a positive relationship between anxiety and creativity. From these findings, we strive to move into our second Study.

Our second recommended study is taking the findings from Study 1 and moving into neuroscience to further prove these hypotheses. Neuroscience allows us to see within the brain areas that are activating. Using neuroscience, we will seek to validate our initial findings. We hypothesize that individuals with neurodiversity will demonstrate more use of creative areas of the brain.

Separate from Study 1 and Study 2, we have engaged with many potential partners to study group dynamics. Through facilitating groups like those provided by EIC Partners, or through within organization studies by partners like Bank of America, we can study what contextual factors aid in the development of a cohesive working environment that includes neurodiverse team members and fosters innovation. We hope to guide organizations on the best practices for creating inclusive, innovative teams full of all forms of diversity, those skin-level, and deeper levels.

Proposed Studies

by Tiffany Jameson, Syntyche Jennings & Anita Scott

Reviewed by Nicole Seaward

In the next section, we will present a simple outline for two dependent studies to use science to inform organizations that making the systemic changes necessary for neurodiverse people to thrive is worth the effort. In Study 1, to determine if there is a significant relationship between executive functioning and creativity or anxiety and creativity. We hypothesize that neurodiverse individuals are likely to have unique pathways to creative ideas.

As we have discussed, both are common comorbid conditions for the neurodiverse population. Additionally, neuroscience research by Omar Khalil and team (2019) have shown activation in the creation portion of the brain for individuals deemed low in executive functioning or anxiety prone. By sampling from individuals that identify with neurodiversity and exploring their outcomes on both executive function scale and anxiety scale in relationship to outcome on a creativity scale, we will have the necessary information to develop Study 2. In Study 2, our intent is to take our preliminary findings to the neuroscience laboratory and test neurodiverse minds and creativity. We hypothesize that neuroscience will provide the substantial evidence necessary to launch into a campaign promoting these findings and furthering the business case for systemic change within the workplace to support neurodiverse employees. Study 3 examines workgroups and the benefits of deep-level differences in the form of cognitive diversity. We believe using training-groups with mixed cognitive diversities like neurodiversity will inform team dynamics for fostering innovation through enhancing contextual moderators for innovation.

Study 1: Quantitative Assessment

Neurodiverse individuals are affected by anxiety. Individuals with ADHD appear to internalize the primary duality of idea creation and formation stages while autistic individuals engage in secondary duality for detailed breakdown of steps ready for execution. Individuals with ADHD may struggle as anxiety has been correlated with lower neural activity. Autistic individuals experience a loss of many executive functions that result in a loss of cognitive flexibility and goal-oriented behavior that relate to creativity. Furthermore, creative behavior appears to increase because of motivation that arises from autistic individuals because of internal rewards. Creativity is understood as a dual process of idea and execution. In that duality, the expression of creativity can be seen in output as a permanent product for measurable analysis.



R1: Is there a negative correlation between executive functioning and creativity for individuals that identify as autistic, ADHD, dyslexic, and dysgraphic?

Hypothesis: Lower executive functioning, higher creativity

R2: Is there a positive correlation between anxiety and creativity for individuals that identify as autistic, ADHD, dyslexic, and dysgraphia?

Hypothesis: Higher anxiety leads to higher creativity

Creativity is often seen as a skill that needs to be learned overtime. In organizations, this skill is often listed as a KSAO that is sought after in the beginning stages of application and interview. Because Neurodiverse individuals are affected by anxiety, if findings indicate a positive correlation between anxiety and creativity for individuals who identify as neurodiverse, working from this end would give an advantage to organizations who want to hire neurodiverse candidates. This also means if a finding is made that there is a negative correlation between executive functioning and creativity, support for neurodiverse individuals can be further examined.

Companies have found in management large numbers of leaders consider innovation to be attributed to success (Barsh et al., 2008), however, most were unsure how to advocate this key outcome in their own companies. The major outcome and advantage of this study is to achieve innovative outcomes in which workplace creativity drives success. Context factors in which the employers create an environment that supports creativity are beneficial for neurodiverse individuals.

As it is understood that environment and context factors have an impact on creativity, the findings from this study may give further insights into what key qualifiers that promote creativity are needed for employers to express in organizational leadership initiatives. These evidentiary findings will have a valuable impact on what way changes in the workplace can affect neurodiverse individuals. Continuing to build on necessary components that address the evolved needs of workplace systems could be an essential step that makes neurodiversity initiatives for innovative companies more comprehensive by making a thorough investigation in how creativity is correlated to executive functioning and anxiety.

Study 2: Neuroscience Study of Creative Cognition

We believe the use of neuroscience technologies can provide an evidence and non-subjective element to our study. We therefore propose the necessity to expand Study 1 to a neuroscience study of creative cognition. Approaches within neuroscience for investigation into creativity range from generation of more versus less original ideas, the role of individual differences (Fink & Benedek, 2013), ideational fluency, the degree of novelty, flexibility of the mind (J.P. Guilford, 1950), as well as the Torrance Tests of Creative Thinking (E.P. Torrance, 1950), Mednick's Remote Associates Test (S.A. Mednic, 1962), and Guilford's divergent productions tests (J.P. Guilford, 1967). The literature continues to describe the nuances of measuring creativity within an individual (Said, Fink & Benedek, 2013), with studies identifying that different types of creativity in the brain can be observed on the neurophysiological level.

Providing scientific evidence of the creative value of neurodiverse individuals (identified as autistic, ADHD, dyslexic, and dysgraphia) is key to affect systemic changes within organizations given historically their evolution hinges on science paving the way. To illustrate, meditation crossed over into the mainstream (infiltrating organizations like General Mills, Goldman Sachs, Nike and Google (Levin, 2017) after neuroscience (using various brain imaging techniques) provided concrete evidence that the practice positively changes brain structure (Lazar et al, 2005) resulting in business benefits including increased productivity and creativity (Gruzelier, 2009). While this discovery occurred in 2005, crossing the chasm into the mainstream took another decade requiring awareness campaigns touting benefits that would serve organizations.



Through neuroscience we aim to similarly prove neurodiverse individuals are more creative. With this evidence, coupled with the fact that creative thinking is one of the most important (if not the most important) assets a company has (Florida R, Goodnight J., 2005), organizations will have the necessary motivation to invest in and institute systematic changes.

A noteworthy aspect of this study is its potential to benefit society as a whole given every person's brain works differently. Organizations investing in thoughtful processes to refine and cultivate conducive environments that promote creativity amongst neurodiverse individuals ultimately lay the foundation for others to successfully contribute and thrive to the benefit of the organization, and ultimately the betterment of the world.

Study 3: Team Dynamic using Training Groups

We have expressed the benefits of tapping the creative potential of the neurodiverse population. As discussed, the contextual moderators are significant factors in converting creative potential into innovation for an organization. The third study we are recommending is a group experiment to identify, document, and inform practice for the conversion of creative potential into innovation. As outlined in Hunter et al. (2012), contextual moderators fall into the following categories: Climate, rewards, recognition, leadership, team processes, and resources.

The purpose of the study is to identify skills, strategies, and tactics that enable workgroup members to convert the creative potential of team members into innovation. We believe this research can expand current research on cognitive diversity by Meissner and Wulf (2017) and Reynolds and Lewis (2017) on the influence on team execution. Mello and Rentsch (2015) explore the expansive definitions of cognitive diversity. For Study 3, the following definitions will be adopted:

- **Deep-level diversity:** “a range of psychological variables on which people differ, including context-dependent variables (e.g., attitudes) that are highly enduring team member individual differences” (2007, as cited in Mello & Rentsch, 2015, p. 629).
- **Cognitive diversity** is defined through the synthesis of Suer et al. (2006) and Tegarden et al. (2009) definition of cognitive diversity: *Diversity in underlying and task-related attributes, such as abilities, knowledge, expertise, and problem-solving while also the contribution of variation in underlying attitudes, beliefs, values developed through individual experience and background.*

Study three will require groups comprised of a variety of cognitive styles ensuring a percentage is neurodivergent (identifying as neurodiverse.) Using both pre-and post-test measures, observation, focus groups and one-on-one interviews, the researchers will collect data throughout the team's development process from idea creation to implementation. The contextual factors outlined by Hunter et al. (2012) will be the variables through which the data is analyzed.

The sessions will be moderated by professionals trained in “training group” or “t-group” processes and will help facilitate the growth of the group.

- Climate can be tracked throughout the process to understand how it progressed and transformed.
- Rewards the team uses to unlock innovation will be noted and patterns will be identified.
- Recognition during team meetings will be noted and patterns will be identified.
- Leadership style will be tracked throughout the process to understand how it has progressed and transformed.
- Team processes used and evolved will be noted.
- The use of resources used throughout the sessions will be noted.

The study can also be run with one control group that does not contain any neurodivergent members, compared with innovative outcomes of a group containing neurodivergent members. The purpose of this experimental study is to identify if neurodivergent team members add additional creative potential to their team. The challenge with this



study, are the contextual factors outlined. The study will need to control for these factors, or also collect data on the progression to identify differences between groups.

The outcomes of these studies will inform organizational processes in the contextual areas that will lead to more creativity within the organization and further support cognitive diversity as a measure of group diversity beyond traditional viewpoints.

Our Team

Team Leaders

- Tiffany Jameson
- Ronan McGovern
- Susan O'Malley

Writers

- Sonia Allinson-Penny
- Kevin Campbell
- Louis Chesney
- Marcelle Ciampi
- Victoria Dinielli
- Maureen Dunne
- Cathy Farmer
- Betsy Furler
- J. David Hall
- Cole Hasserjian
- Corey Hollemeyer
- Tiffany Jameson
- Syntyche Jennings
- Natalie Lui Duncan
- Ronan McGovern
- Natalie Ndrozda
- Susan O'Malley
- Peter O'Shea
- Professor Sarah Soule
- Sabrina Roblin
- Anita Scott
- Nicole Seaward
- Hari Srinivasan
- Karen Wickre

Reviewers

- Eric C. Abrams
- Future Cain
- Sydney Coleman
- Raquel Gonzalez-Dalmau
- Hanna Shuvalova
- Keisha Siriboe
- Sean Greenlee
- Kyra Marcano
- Nancy Pistol
- Kamal Webster
- Sher Downing
- Nicole Seaward

Contributors

- Dylan Ferris
- Aparna Kommineni
- Tamar Savir
- Karen Sheil
- Jourdan Saunders
- David Teplitz
- Adrian Walker



Advisors

- Nathaniel Barr- Scientific Advisor, BEworks; Professor of Creativity and Creative Thinking, Sheridan College
- Radwa Khalil



Supporters of the NDGiFTS Movement

Statement of Support:

I agree with the essence of this project, which is bringing attention to the neurodiverse population and offer my support to the implementation of the results/recommendations of this project to ascertain whether it will benefit society as a whole.

Corporate Supports

- **Bank of America**
- **AIB, Ireland**
- DeepScience Ltd
- Graduate Programs in Industrial and Organizational Psychology, Vanguard University of Southern California
- Grit & Flow
- Page 67Neurodiversity Works
- Talenting Career Science
- The Spectrum Works - Los Angeles, CA
- Worldie

Community Supporters

Nassim Abdi	Sydney Coleman
Eric C. Abrams	Chip Conley, Founder - Modern Elder Academy
Rachel Ahn	Ricardo Correa
Sonia Allinson-Penny	Lamiaa Daif
Nathaniel Barr- Scientific Advisor, BEworks; Professor of Creativity and Creative Thinking, Sheridan College	Maxie Dean
Linda Behmke	Mark Diamond Kelly
Julian Booker	Victoria Dinielli
Lauren Boros	Aoife Dooley
Heather Brien	Sher Downing
Daniel Brooke	Natalie A. Drozda, PhD, LPC
Sofia E. Brooks	Maureen Dunne
Future Cain	Eric Endlich
Kevin Campbell	Cathy Farmer
Arturo Cazares	Bill Fay
<i>Vintor G. Cerf, Internet Pioneer</i>	Dylan Ferris
Louis Chesney	Tomas Flier
Marcelle Ciampi (aka Samantha Craft)	Shannon Flynn
Benjamin Cole	Nikki Francis



Betsy Furler
 Catherine Gao
 Yoanna Gerwel Federici
 Raquel Gonzalez-Dalmau
 Adam S. U. Gottdank, Ph.D.
 Edmond Grace, S.J. - Jesuit European Social Center
 Sean Greenlee
 Eileen Grubba
 Ben Halfpenny
 Caroline Hall
Stanford University Schwab Learning Center
 Cole Hasserjian, Alum UC Berkeley,
 Neurodiverse
 Meredith Hatch
 Corey, Mother of Neurodiverse
David Hornik
 Jill Hosmer
 Claire Hough
 Tiffany Jameson, Grit & Flow, Mother of
 Neurodiverse
 Jameson Family
 Ranga Jayaraman, Neurodiversity Pathways
 Jennifer
 Syntyche Jennings
 Adrian Jones
 Christina Jones
*Dean Jonathan Levin, Phil H. Knight Professor
 and Dean at the Stanford Graduate School of
 Business*
 Georoid Kearney
 Hugh Keelan
 Radwa Khalil
 Thom Kirkwood
 Andrew Komarow
 Aparna Kommineni
 C.A. Kryder
 Fr Xavier Lavagetto, Catholic Community at
 Stanford University
 Ryan Louie
 Natalie Lui Duncan
 Kyra Marcano

Ronan McGovern, FCMA, FCA, Barrister-at-Law, MS (Stanford Business School, 2019 Scholar - Stanford Neurodiversity Project at Stanford Medical School)
 Mc Govern and Lynch Families
 Kelly McKenna
 Christine McMahan
 A Meimin
 John Mellerick
 Rashim Mogda
 Dara Monestime
 Stephen Murphy-Shigematsu
David Nordfors, Co-founder of i4j innovation for jobs
Nicole Ofiesh, Ph.D.
 Fin O'Hara
 Susan O'Malley
 Peter O'Shea
 Esperanza Padilla
 Dr. Panich
 Christopher Patnoe
 Jyotirmaya Patro
 Payton Family
 Paulette Penzvalto
 Nancy Pistol
 Ludmila Praslova
 Alicia Restrepo of the Catholic Community at Stanford University
 Sharon Richmond
 Joe Riddle
 Amit Ridharan
 Sabrina Roblin
 Amy Root
 Jennifer Rozenich
 Adam S. U. Gottdank, Ph.D.
 Sara
 Jourdan Saunders
 Tamar Savir
 Anita Scott
 Nicole Seaward, Grit & Flow, Neurodiverse
 Marci Shaffer
 Divya Sharma



Karen Sheil
Ryan Shindler
Hanna Shuvalova
Keisha Siriboe
Shawn Smith
*Prof Sarah Soule, Senior Associate Dean for
Academic Affairs, Prof of Organizational
Behavior (Responsible for DEI at Stanford
Business School)*
Hari Srinivasan, Student UC Berkeley
Daly Susan
Siobhan Sweeney

Maurice Sweeney
David Teplitz
Adrian Walker
Helena Walsh, Helena Walsh Voice, Acting &
Empowerment Studio
Kamal Webster
James Wendorf
Karen Wickre
Eric Wilfrid
Dahl Winters
Bernard Young



Steps to Begin Embracing Neurodiversity

Some Macro Key Tailored Specific Actions for a University Overall

- Establish an inter-disciplinary Business School / Medical School "**University Global Center for Neurodiversity Innovation and Research**"
- Attract the "best and brightest" students, faculty, researchers, and adjunct professors.
- Appoint Neurodiverse Champions and Innovators
- Appoint Neurodiversity people into Every University DEI Cabinet, Committee or "Chairs Workshop"
- Identify all significant University institutional structures, organizations where Neurodiverse Voices must be Included
- Include Neurodiversity in Induction Training
- Include Neurodiversity in classes and courses, then this learning could be scaled throughout the world: through managers and leaders who take business classes. Leverage business robust networking and scaling effects and roll-out to all schools.
- Identify measurable Data
- Identify "success measures"
- Pilots, Feedback, Prototyping and Advance Neurodiversity in the organization
- Involve students, Faculty and All relevant staff required for a cross-campus "buy-in"

Prototype Framework Model Suggestion: Six Month Action Plan

We have deliberately developed a Generic Version 1 (Test) Action Plan so that it:

1. Is all-encompassing – all areas of expertise as set out in the various Chapters of our Report
2. Can be tested over the next 3 months by immediately taking actions to test, get feedback and retest etc. until we have a reliable model Prototype Framework
3. Applies across all industries and organizational types
4. Is based on research-proven Actionable Insights, which can be implemented immediately
5. Three-month pilot review testing process with a Governance structure
6. Feedback, change Prototype / Approach and develop Final Version Prototype
7. Advance Neurodiversity in your organization.
8. Pay attention to the following key areas:
 - Intentional Hiring
 - Non-interview skills assessment process
 - Invent the right Job Role
 - Good Onboarding
 - Training of the manager and team
 - Manager and Team to ask: "When and what environment, how – do you do your best work?" – focus on Executive Functioning and any requirement for any "Scaffolding"
 - Natural light, sound, environments that promote Calm and Harmony
 - Tailored Supports
 - Mentors
 - Buddies



- Tailored skills development
- Team Dynamic Development to enable the team to do “their best creative work” - by doing the hard work of **2-way interacting** and understanding the “cognitive diversity” of the individual team members
- Tailored Career Development Paths
- Promoting and senior management advance: “put under the microscope” the biases at every level of the system e.g. unspoken “look and sound” or “Exec Presence” ambiguous, not-defined “requirements”
- 1:1 Feedback weekly

First Three Months

Prototype Approach and Principles – to be developed as the project progresses

- Adopt, commit to, accelerate: Version 1 Neurodiversity detailed Action-Plan
- Nominate a lead “point of contact” - to work with our Team beginning immediately
- Gather a cross-functional team of formal and informal leaders and managers across the entire organization
- Select at most 3 areas for a Pilot / Case Study on Neurodiversity actions
- Brainstorm all the tasks and work areas which are required to be performed
- Organize all tasks into distinct work-streams which required specific expertise and experience from across the organization
- Arrange the tasks to be performed into Chronological order and assign to a workstream
- Incorporate external advisers as required – from the start
- Universal Design approach to the solution - for All
- Develop this detailed Neurodiversity Action Plan tailored for your Organization
- Select identifiable financial, data-warehouse, customer, staff and other data / measures to measure the success of the Pilot
- Establish with Leadership Team who is the Executive Sponsor
- Get cross-functional support and buy-in
- Appoint the Team and a strong Project Manager
- Determine Governance, Reporting and Accountabilities reporting lines
- Weekly feedback, monitoring and “lesson learned”
- Weekly: Feed into next week’s actions, prototypes, experimental tests – advance the work
- 3 Month Mark: write Mini Case. Benefits and challenges. How to scale fast and with optimum effect. Identify any tailoring for any specific audiences
- Apply Amazon and LinkedIn networks to communicate “best practices” across the world
- Adopt, Commit, Accelerate: Version 2 Neurodiversity action plans
- Join the NDGiFTS LinkedIn social movement (<https://www.linkedin.com/groups/12451367/>)
- Develop reliable data systems to track accountability by reference to specific targets over the next 6 months
- Spread out and network our work throughout your organizations – Build Success through Storytelling and Case Studies



References

- About Dyspraxia. (2018, May 15). Retrieved August 07, 2020, from <https://dyspraxiafoundation.org.uk/about-dyspraxia/>
- Accenture (2018). Getting to equal: The disability inclusion advantage. https://www.accenture.com/_acnmedia/PDF-89/Accenture-Disability-Inclusion-Research-Report.pdf
- Adamou, M., Arif, M., Asherson, P., Aw, T., Bolea, B., Coghill, D., et al. (2013). Occupational issues of adults with ADHD. *BMC Psychiatry*, 13(59), 1-7. Retrieved from <http://www.biomedcentral.com/1471244X/13/59>
- Ainsworth, K., Robertson, A. E., Welsh, H., Day, M., Watt, J., Barry, F., . . . Melville, C. (2020). Anxiety in adults with autism: Perspectives from practitioners. *Research in Autism Spectrum Disorders*, 69, 101457. doi:10.1016/j.rasd.2019.101457
- Annabi, H., Crooks, E.W., Barnett, N., Guadagno, J., Mahoney, J.R., Michelle, J., ... & Velasco, J. (2019). *Autism @ work playbook: Finding talent and creating meaningful employment opportunities for people with autism*. Seattle, WA: ACCESS-IT, The Information School, University of Washington
- Amabile, T. M. (1996). Creativity and innovation in organizations. Harvard Business School, January, 396-239.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.
- Armstrong, T. (2011) *The power of neurodiversity: unleashing the advantages of your differently wired brain*. Boston: Da Capo Lifelong Books
- Austin, R. D. & Pisano, G. P. (2017). Neurodiversity as a competitive advantage. *Harvard Business Review*, May-June, 96-103.
- Autism Speaks. (n.d.). Autism employment resources. Retrieved from Autism Speaks site <https://www.autismspeaks.org/autism-employment>
- Bailin, A. (2019, June 06). Clearing Up Some Misconceptions about Neurodiversity. Retrieved August 08, 2020, from <https://blogs.scientificamerican.com/observations/clearing-up-some-misconceptions-about-neurodiversity/>
- Bandelow, B., Michaelis, S., Wedekind, D. (2017). Treatment of anxiety disorders. *Dialogues in clinical neuroscience*, 19(2), 93–107.
- Bailey, M. (2017, October 7). Microsoft's mission to empower all extends beyond technology. Retrieved from Huffington Post site https://www.huffpost.com/entry/inclusion-and-diversity-part-2_b_5963bf1be4b0deab7c646aaa
- Barkley, R. A., & Murphy, K. R. (2010). Impairment in occupational functioning and adult ADHD: The predictive utility of executive function (EF) ratings versus EF tests. *Archives of Clinical Neuropsychology*, 25(3), 157-173. <http://dx.doi.org.authenticate.library.duq.edu/10.1093/arclin/acq014>
- Barr, N. (2017). Intuition, reason, and creativity: An integrative dual-process perspective. In G. Pennycook (Ed.), *The New Reflections in Cognitive Psychology: Why Reason Matters*.
- Best, C., Arora, S., Porter, F., & Doherty, M. (2015). The relationship between subthreshold autistic traits, ambiguous figure perception and divergent thinking. *J Autism Dev Disord*, 45(12), 4064-4073. doi:10.1007/s10803-015-2518-2
- Bever, L. (2019, September 19). How a 'Sesame Street' Muppet became embroiled in a controversy over autism. Retrieved August 06, 2020, from <https://www.washingtonpost.com/health/2019/09/19/how-sesame-street-muppet-became-embroiled-controversy-over-autism/>
- Bilgiç, A., Türkoğlu, S., Özcan, Ö, Tufan, A. E., Yılmaz, S., & Yüksel, T. (2013). Relationship between anxiety, anxiety sensitivity and conduct disorder symptoms in children and adolescents with attention-deficit/hyperactivity disorder (ADHD). *European Child & Adolescent Psychiatry*, 22(9), 523-532. doi:10.1007/s00787-013-0392-z



- Biotteau, M., Danna, J., Baudou, É., Puyjarinet, F., Velay, J. L., Albaret, J. M., & Chaix, Y. (2019). Developmental coordination disorder and dysgraphia: Signs and symptoms, diagnosis, and rehabilitation. *Neuropsychiatric disease and treatment*, 15, 1873–1885. <https://doi.org/10.2147/NDT.S120514>
- Blume, H. (1998, August). Neurodiversity. Retrieved August 12, 2020, from <https://www.theatlantic.com/magazine/archive/1998/09/neurodiversity/305909/>
- Boot, N., Neuvicka, B., & Baas, M. (2017). Creativity in ADHD: Goal-directed motivation and domain specificity. *J Atten Disord*. doi:10.1177/1087054717727352
- Bramham, J., Ambery, F., Young, S., Morris, R., Russell, A., Xenitidis, K., Asherson, P., & Murphy, D. (2009). Executive functioning differences between adults with attention deficit hyperactivity disorder and autistic spectrum disorder in initiation, planning and strategy formation. *Autism*, 13(3), 245-264. <http://dx.doi.org.authenticat.library.duq.edu/10.1177/1362361309103790>
- Brinzea, V. M., (2019). Encouraging neurodiversity in the evolving workforce: The next frontier to a diverse workplace. *Scientific Bulletin – Economic Sciences*, 18, 13-25.
- Brown, A. (2019, May 22). Is neurodiversity part of your company's D&I strategy? Here's why it should be. Retrieved from TriplePundit site <https://www.triplepundit.com/story/2019/neurodiversity-part-your-companys-di-strategy-heres-why-it-should-be/83591>
- Buescher, A. V., Cidav, Z., Knapp, M., & Mandell, D. S. (2014). Costs of autism spectrum Disorders in the United Kingdom and the United States. *JAMA Pediatrics*, 168(8), 721. doi:10.1001/jamapediatrics.2014.210
- Bureau of Labor Statistics. (2019, February 26). Persons with a disability: Labor force characteristics summary. Retrieved June 10, 2019 from <https://www.bls.gov/news.release/disabl.nr0.htm>
- Cai, R. Y., Richdale, A. L., Dissanayake, C., & Uljarević, M. (2019). How does emotion regulation strategy and psychological wellbeing predict mood in adults with and without autism spectrum disorder? A naturalistic assessment. *Journal of Autism and Developmental Disorders*, 50(5), 1786-1799. doi:10.1007/s10803-019-03934-0
- Carroll, J. M. & Iles, J. E. (2006). An assessment of anxiety levels in dyslexic students in higher education. *British Journal of Educational Psychology*, 1-37. doi.org/10.1348/000709905X66233
- Capozzi, M., Chan, V., de Jong, M., & Roth, E. (2014). Meeting the innovation imperative: How large defenders can go on the attack. McKinsey on Marketing & Sales. Retrieved from: <https://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/sales>
- Center on the Developing Child (n.d). Executive Function & Self-regulation. Harvard University. <https://developingchild.harvard.edu/science/key-concepts/executive-function/>
- Centers for Disease Control and Prevention (n.d.). What is ADHD? CDC. <https://www.cdc.gov/ncbddd/adhd/facts.html>
- Chung, P. & Patel, D. R. (2015). Dysgraphia. *International Journal Child and Adolescent Health*, 8(1), 27-36.
- Chartered Institutes of Personnel and Development (CIPD). (2018, 15 February). 1 in 10 HR professionals say their organization is now focusing on neurodiversity at work. Retrieved from CIPD site: <https://www.cipd.co.uk/about/media/press/150218-neurodiversity>
- Cohn, M. (2017, December 13). Ernst & Young steps up recruitment of disabled and autistic employees. Retrieved from Accounting Today site. <https://www.accountingtoday.com/news/ey-steps-up-recruitment-of-disabledandautism-spectrum-employees>
- Collins, J. & Porras, J. (n.d.) BHAG – Big hairy audacious goal. Retrieved from https://www.jimcollins.com/article_topics/articles/BHAG.html
- Cone Communications (2013). 2013 Cone Communications social impact study. Accessed 8/14/2020 at <https://www.conecomm.com/2013-cone-communications-social-impactstudy-pdf>
- Costandi, M. (2020, August 05). Why the neurodiversity movement has become harmful



- Moheb Costandi: Aeon Essays. Retrieved August 06, 2020, from <https://aeon.co/essays/why-the-neurodiversity-movement-has-become-harmful>
- Cross, A. J., Goharpey, N., Laycock, R., & Crewther, S. J. (2019). Anxiety as a common biomarker for school children with additional health and developmental needs irrespective of diagnosis. *Frontiers in Psychology, 10*(1420), 1-10. doi: 10.3389/fpsyg.2019.01420
- Crum, J. E. (2017, October 2). Controlling your emotions: The role of executive function in emotion regulation. *Psychology Today*. <https://www.psychologytoday.com/us/blog/the-executive-brain/201710/controlling-your-emotions>
- Data & Statistics on Autism Spectrum Disorder. (2020, March 25). Retrieved August 12, 2020, from <https://www.cdc.gov/ncbddd/autism/data.html>
- De Stefano, F., Bagdadli, S., & Camuffo, A. (2018). The HR role in corporate social responsibility and sustainability: A boundary-shifting literature review. *Human Resource Management, 57*(2), 549-566. <https://doi.org/10.1002/hrm.21870>
- Deloitte. (2019, 13 September). The big four professional services organisations latest to join forces on business disability inclusion [Press Release]. <https://www2.deloitte.com/uk/en/pages/press-releases/articles/the-big-four-professional-services-organisations-latest-to-join-forces-on-business-disability-inclusion.html>
- Dijkhuis, R., de Sonnevile, L., Ziermans, T., Staal, W., & Swaab, H. (2020). Autism symptoms, executive functioning and academic progress in higher education students. *Journal of Autism and Developmental Disorders, 50*(4), 1353-1363. <http://dx.doi.org.authenticate.library.duq.edu/10.1007/s10803-019-04267-8>
- Dijkhuis, R. R., Ziermans, T. B., Van Rijn, S., Staal, W. G., & Swaab, H. (2017). Self-regulation and quality of life in high-functioning young adults with autism. *Autism, 21*(7), 896-906. <http://dx.doi.org.authenticate.library.duq.edu/10.1177/1362361316655525>
- Dyslexia at a glance. (n.d.). International Dyslexia Association. Retrieved from <https://dyslexiaida.org/dyslexia-at-a-glance/>
- DiversityInc. The 2020 DiversityInc top 50 companies for diversity. Retrieved August 3, 2020, from <https://www.diversityinc.com/the-2020-top-50-diversityinc/>
- DiversityInc, Specialty lists: Top companies for people with disabilities. Retrieved August 5, 2020 from <https://www.diversityinc.com/the-2020-top-50-diversityinc/>
- Dyspraxia. (2019, January 18). Retrieved August 12, 2020, from <https://www.mentalhealth.org.uk/learning-disabilities/a-to-z/d/dyspraxia>
- Egan, M. E. (2011). Global diversity and inclusion: Fostering innovation through a diverse workforce. *Forbes Insights*. Retrieved from Forbes Site: https://www.forbes.com/forbesinsights/innovation_diversity/
- Exceptional Lives Team. (2019). My Child is Struggling with Reading...Could it be DYSLEXIA? https://www.exceptionallives.org/blog/my-child-is-struggling-with-reading-could-it-be-dyslexia?gclid=Cj0KCQjwyJn5BRDrARIsADZ9ykE8qZUhlNaAj2aa418TsNO2EA_yLdawbpAvwSL-uKl9AUJ3PI6FbG0aAmwUEALw_wcB
- Faraone, S. V., Biederman, J., & Mick, E. (2006). The age-dependent decline of attention deficit hyperactivity disorder: a meta-analysis of follow-up studies. *Psychological medicine, 36*(2), 159.
- Florida, R. & Goodnight, J. (2005). Managing for creativity. *Harvard Business Review, 83*(7), 124-193.
- Frith, Uta. (1999) Paradoxes in the definition of dyslexia. [https://doi.org/10.1002/\(SICI\)1099-0909\(199912\)5:4<192::AID-DYS144>3.0.CO;2-N](https://doi.org/10.1002/(SICI)1099-0909(199912)5:4<192::AID-DYS144>3.0.CO;2-N)
- Fuller, G. (2020, 3 February). Autism to ADHD: Thinking differently about recruitment. Reterieved from The Guardian site <https://www.theguardian.com/global/2020/feb/03/autism-to-adhd-thinking-differently-about-recruitment>
- Giedd, J. N. (2015). *The amazing teen brain*. *Scientific American, 312*(6), 32-37.
- Goldfarb, Y., Gal, E., & Golan, O. (2019). A conflict of interests: A motivational perspective on special interests and employment success of adults with ASD. *J Autism Dev Disord, 49*(9), 3915-3923. doi:10.1007/s10803-019-04098-7
- Goodall, C. (2018). Inclusion is a feeling, not a place: a qualitative study exploring autistic young people's conceptualisations of inclusion. *International Journal of Inclusive Education, 1*-26. doi:10.1080/13603116.2018.1523475
- Gollmar, S. M. (2001). An investigation of attention deficit/hyperactivity disorder, creativity, and cognitive style:



- Interaction and impact on school success. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 61(9-A), 3464.
- Gould, R., Harris, S. P., Mullin, C., & Jones, R. (2020). Disability, diversity, and corporate social responsibility: Learning from recognized leaders in inclusion. *Journal of Vocational Rehabilitation*, 52(1), 29-42. doi:10.3233/jvr-191058
- Global diversity and inclusion: Fostering innovation through a diverse workforce. (2011). *Forbes*. Retrieved from https://www.forbes.com/forbesinsights/innovation_diversity/
- Gruzelier, J. (2009). A theory of alpha/theta neurofeedback, creative performance enhancement, long distance functional connectivity and psychological integration. *Cognitive Process* 10, 101–109. <https://doi.org/10.1007/s10339-008-0248-5>
- Guilford, J. P. (1967). *The nature of human intelligence*. New York: McGraw-Hill.
- Hancock, M. (2016). *Neurodiversity: A Quick Primer*. Retrieved August 10, 2020, from <https://specialneedsresourcefoundationofsandiego.com/neurodiversity-a-quick-primer/>
- Hedley, D., Uljarević, M., Bury, S. M., & Dissanayake, C. (2019). Predictors of mental health and well-being in employed adults with autism spectrum disorder at 12-month follow-up. *Autism Research*, 12(3), 482-494. doi:10.1002/aur.2064
- Hetzroni, O., Agada, H., & Leikin, M. (2019). Creativity in autism: An examination of general and mathematical creative thinking among children with autism spectrum disorder and children with typical development. *Journal of Autism and Developmental Disorders*, 49(9), 3833-3844. <http://dx.doi.org.authenticate.library.duq.edu/10.1007/s10803-019-04094-x>
- Higginbottom, K. (2017, 1 March). *Why firms are embracing neurodiversity*. Retrieved from HR Magazine site <https://www.hrmagazine.co.uk/article-details/why-firms-are-embracing-neurodiversity>
- Hutchison, J., & Phillips, D. (2018). Executive functions: Supporting foundational skills for early math learning. *Dreme*. <https://dreme.stanford.edu/news/executive-functions-supporting-foundational-skills-early-math-learning>
- Hwang, Y. I. J., Arnold, S., Srasuebkul, P., & Trollor, J. (2020). Understanding anxiety in adults on the autism spectrum: An investigation of its relationship with intolerance of uncertainty, sensory sensitivities and repetitive behaviours. *Autism*, 24(2), 411-422. doi:10.1177/1362361319868907
- Hunter, S. T., Cushenbery, L., & Friedrich, T. (2012). Hiring an innovative workforce: A necessary yet uniquely challenging endeavor. *Human Resource Management Review*, 22(4), 303-322. doi:10.1016/j.hrmr.2012.01.001
- Jacob, A., Scott, M., Falkmer, M., Falkmer, T. (2015). The costs and benefits of employing an adult with autism spectrum disorder: A systematic review. *PLoS ONE* 10(10): e0139896. <https://doi.org/10.1371/journal.pone.0139896>
- Job Accommodations Network (JAN). (n.d.). Benefits and costs of accommodation. Retrieved from <https://askjan.org/topics/costs.cfm>
- Kapp, S.K., Gillespie-Lynch, K., Sherman, L.E., & Hutman, T. (2013). Deficit, difference, or both. *Developmental Psychology*, 49(1), 59–71.
- Kaufman, S. B. (2016). The Creative Gifts of ADHD. <https://scottbarrykaufman.com/resources/the-creative-giftsofadh/#:~:text=Research%20has%20supported%20the%20notion,than%20people%20without%20the%20characteristics.&text=Both%20creative%20thinkers%20and%20people,from%20the%20%E2%80%9CImagination%20Network%E2%80%9C>
- Khalil, R., Godde, B., & Karim, A. A. (2019). The link between creativity, cognition, and creative drives and underlying neural mechanisms. *Frontiers in Neural Circuits*, 13. doi:10.3389/fncir.2019.00018
- Kirby, A. & Gibbon, H. (2018). Dyslexia and employment. *Perspectives on Language & Literacy*, 44(1), 27-31.
- Korn Ferry. (2020). The Korn Ferry diversity and inclusion maturity model: A new understanding. Retrieved from: <https://globewomen.org/globaldiversity/wp-content/uploads/2020/03/Korn-Ferry-Diversity-and-Inclusion-Maturity-Model-2020-Andres-Tapia.pdf>
- Korn Ferry. (2020). Creating opportunity through inclusion. Retrieved from Korn Ferry site: <https://www.kornferry.com/challenges/diversity-and-inclusion>
- Lazar, S. W., Kerr, C. E., Wasserman, R. H., Gray, J. R., Greve, D. N., Treadway, M. T., ... Fischl, B. (2005).



- Meditation experience is associated with increased cortical thickness. *Neuroreport*, 16(17), 1893–1897. <https://doi.org/10.1097/01.wnr.0000186598.66243.19>
- Levitt, T. (2002). *Creativity is not enough*. Harvard Business Review. <https://hbr.org/2002/08/creativity-is-not-enough>
- Li, H., Zhao, Q., Huang, F., Cao, Q., Qian, Q., Johnstone, S. J., Wang, Y., Wang, C., & Sun, L. (2019). Increased beta activity links to impaired emotional control in ADHD adults with high IQ. *Journal of Attention Disorders*, 23(7), 754-764.
- Lorenzo, r., Voigt, N., Tsusaka, M., Krentz, M. & Abouzahr, K. (2018). How diverse leadership teams boost innovation. Boston Consulting Group. Retrieved from <https://www.bcg.com/publications/2018/how-diverse-leadership-teams-boost-innovation>
- Meditation experience is associated with increased cortical thickness. *Neuroreport*, 16(17), 1893–1897. <https://doi.org/10.1097/01.wnr.0000186598.66243.19>
- Levin, M. (2017). Why Google, Nike, and Apple love mindfulness training, and how you can easily love it too. Retrieved from <https://www.inc.com/marissa-levin/why-google-nike-and-apple-love-mindfulness-training-and-how-you-can-easily-love-.html>
- Li, Y., Perera, S., Kulik, C. T., & Metz, I. (2019). Inclusion climate: A multilevel investigation of its antecedents and consequences. *Human Resource Management*, 58(4), 353–369. <https://doi-org.lopes.idm.oclc.org/10.1002/hrm.21956>
- Livingston, E., Siegel, L., & Ribery, U. (2018). Developmental dyslexia: Emotional impact and consequences. *Australian Journal of Learning Difficulties*, 23(2), 107-135. <https://doi.org/10.1080/19404158.2018.1479975>
- Maenner, M. J., Shaw, K. A., Baio, J., Washington, A., Patrick, M., DiRienzo, M., Christensen, D. L., Wiggins, L. D., Pettygrove, S., Andrews, J. G., Lopez, M., Hudson, A., Baroud, T., Schwenk, Y., White, T., Rosenberg, C. R., Lee, L., Harrington, R. A., Huston, M., ... Dietz, P. M. (2020). Prevalence of autism spectrum disorder among children aged 8 years -- Autism and Developmental Disabilities Monitoring Network, 11 sites, United States, 2016. *MMWR Surveill Summ*, 69(No. SS-4), 1-12. <http://dx.doi.org/10.15585/mmwr.ss6904a1>
- Mayo Clinic (n.d.). Adult attention-deficit/hyperactivity disorder (ADHD). Mayo Clinic. <https://www.mayoclinic.org/diseases-conditions/adult-adhd/symptoms-causes/syc-20350878#:~:text=Adults%20with%20ADHD%20may%20find,Impulsiveness>
- McCloskey, M. & Rapp, B. (2017). Developmental dysgraphia: An overview and framework for research. *Cognitive Neuropsychology*, 34(3-4), 65-82. DOI: 10.1080/02643294.2017.1369016
- McElroy, B. and Zorzi, A. (N.D.). *Neurodiversity Employment in the Upcoming Decade*. Neurodiversity in the Workplace. <https://phillyautismjobs.com/2020/01/30/neurodiversity-employment-in-the-upcoming-decade/>
- McFayden, T. C., Albright, J., Muskett, A. E., & Scarpa, A. (2019). Brief report: Sex differences in ASD diagnosis--A brief report on restricted interests and repetitive behaviors. *Journal of Autism and Developmental Disorders*, 49(4), 1693-1699. <http://dx.doi.org.authenticate.library.duq.edu/10.1007/s10803-018-3838-9>
- McGarrity, L. A., Huebner, D. M., Smith, T. W., & Suchy, Y. (2020). Minority stress, emotion regulation, and executive function: An experimental investigation of gay and lesbian adults. *Personality and Social Psychology Bulletin*, 46(3), 365-376. <http://dx.doi.org.authenticate.library.duq.edu/10.1177/0146167219855047>
- Meer, D. V., Hoekstra, P. J., Rooij, D. V., Winkler, A. M., Ewijk, H. V., Heslenfeld, D. J., . . . Hartman, C. A. (2017). Anxiety modulates the relation between attention-deficit/hyperactivity disorder severity and working memory-related brain activity. *The World Journal of Biological Psychiatry*, 19(6), 450-460. doi:10.1080/15622975.2017.1287952
- Melegari, M., Bruni, O., Sacco, R., Barni, D., Sette, S., & Donfrancesco, R. (2018). Comorbidity of attention deficit hyperactivity disorder and generalized anxiety disorder in children and adolescents. *Psychiatry Research*, 270, 780-785. doi:10.1016/j.psychres.2018.10.078
- Mello, A.L. & Rentsch, J.R. (2015), "Cognitive diversity in teams: A multidisciplinary review", *Small Group Research*, Vol. 46 No. 6, pp. 623-658. doi: 10.1177/1046496415602558
- Meissner, P., & Wulf, T. (2017). The effect of cognitive diversity on the illusion of control bias in strategic decisions:



- An experimental investigation. *European Management Journal*, 35(4), 430–439. <https://doi.org/lopes.idm.oclc.org/10.1016/j.emj.2016.12.004>
- National Center for Education Statistics. (2019, May). Children and youth with disabilities. Retrieved June 10, 2019, from https://nces.ed.gov/programs/coe/indicator_cqg.asp
- National Grid. (2020). Employability: Let's work together. Retrieved from <http://www.employabilityletsworktogether.com>
- Omstead Rights. (n.d.). The Americans with disabilities act of 1990 - ADA. Retrieved June 10, 2019, from <https://www.olmsteadrights.org/about-olmstead/item.6460->
- Otsuka, S., Uono, S., Yoshimura, S., Zhao, S., & Toichi, M. Emotion perception mediates the predictive relationship between verbal ability and functional outcome in high-functioning adults with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 47(4), 1166-1182. <http://dx.doi.org.authenticate.library.duq.edu/10.1007/s10803-017-3036-1>
- Papakonstantinou, D., & Papadopoulos, K. (2020). Employers' attitudes toward hiring individuals with visual impairments. *Disabil Rehabil*, 42(6), 798-805. [doi:10.1080/09638288.2018.1510044](https://doi.org/10.1080/09638288.2018.1510044)
- Rahmi, D. Y., & Indarti, N. (2019). Examining the relationships among cognitive diversity, knowledge sharing and team climate in team innovation. *Team Performance Management: An International Journal*, 25(5/6), 299-317. [doi:10.1108/tpm-11-2018-0070](https://doi.org/10.1108/tpm-11-2018-0070)
- Raymaker, D. M., Teo, A. T., Steckler, N. A., Lentz, B., Scharer, M., Santos, A. D., Kapp, S. K., Nicolaidis, C. (2020). Having all of your internal resources exhausted beyond measure and being left with no clean-up crew: Defining autistic burnout. *Autism in Adulthood*, 2(2), 132-143. DOI: 10.1089/aut.2019.0079
- Reynolds, A. & Lewis, D. (2017). Teams solve problems faster when they're more cognitively diverse. *Harvard Business Review*.
- Riordan, D. & Singhal, D. (2018). Anxiety-related disorders: An overview. *Journal of Paediatrics and Child Health*, 54, 1104-1109. [doi:10.1111/jpc.14167](https://doi.org/10.1111/jpc.14167)
- Refinitiv. Diversity and Inclusion Index (2019). Retrieved August 3, 2020 from <https://www.refinitiv.com/en/financial-data/indices/diversity-and-inclusion-index>
- Robison, J. (2013, October 07). What Is Neurodiversity? Retrieved August 06, 2020, from <https://www.psychologytoday.com/us/blog/my-life-aspergers/201310/what-is-neurodiversity>
- Rosen, P. (2020, April 17). Neurodiversity: What You Need to Know. Retrieved August 06, 2020, from <https://www.understood.org/en/friends-feelings/empowering-your-child/buildingonstrengths/neurodiversity-what-you-need-to-know>
- Rosen, T. E., Mazefsky, C. A., Vasa, R. A., & Lerner, M. D. (2018). Co-occurring psychiatric conditions in autism spectrum disorder. *International Review of Psychiatry*. [doi: 10.1080/09540261.2018.1450229](https://doi.org/10.1080/09540261.2018.1450229)
- Rosenblum, S. (2018). Inter-relationships between objective handwriting features and executive control among children with developmental dysgraphia. <https://doi.org/10.1371/journal.pone.0196098>
- Roth, I. (2020). Autism, Creativity and Aesthetics. *Qualitative Research in Psychology*, 17(4), 498–508. [doi:10.1080/14780887.2018.1442763](https://doi.org/10.1080/14780887.2018.1442763)
- Roth, I. (2018). Autism, creativity and aesthetics. *Qualitative Research in Psychology*, 1-11. [doi:10.1080/14780887.2018.1442763](https://doi.org/10.1080/14780887.2018.1442763)
- Roux, A. M., Rast, J. E., Anderson, K. A., & Shattuck, P. T. (2017). National autism indicators report: Developmental disability services and outcomes in adulthood (Rep). Philadelphia, PA: Life Course Outcomes Program, A.J. Drexel Autism Institute, Drexel University. Retrieved June 10, 2019, from <https://drexel.edu/autismoutcomes/publications-and-reports/publications/National-Autism-Indicators-Report-Developmental-Disability-Services-and-Outcomes-in-Adulthood/#sthash.2Pvk2MK.dpbs>
- Roux, A. M., Shattuck, P. T., Rast, J. E., Rava, J. A., & Anderson, K., A. (2015). National autism indicators report: Transition into young adulthood. Philadelphia, PA: Life Course Outcomes Research Program, A.J. Drexel Autism Institute, Drexel University. Retrieved June 10, 2019, from <https://drexel.edu/autismoutcomes/publications-and-reports/publications/National-Autism-Indicators-Report-Developmental-Disability-Services-and-Outcomes-in-Adulthood/#sthash.2Pvk2MK.dpbs>



- Said-Metwaly, S., Noortgate, W. V. D., & Kyndt, E. (2017). Approaches to measuring creativity: A systematic literature review. *Creativity. Theories – Research - Applications*, 4(2), 238-275. doi:10.1515/ctra-2017-0013
- Schneps, M. H. (2014, 19 August). The advantages of dyslexia: With reading difficulties can come other cognitive strengths. Retrieved from <https://www.scientificamerican.com/article/the-advantages-of-dyslexia/>
- Scutti, S. (2018, April 26). 1 in 59 children has autism, CDC says. Retrieved August 12, 2020, from <https://www.cnn.com/2018/04/26/health/autism-prevalence-cdc/index.html>
- Scheiner, M. (2017). *An employer's guide to managing professionals on the autism spectrum*. London and Philadelphia: Jessica Kingsley Publishers.
- Schuck, R. K., Flores, R. E., & Fung, L. K. (2019). Brief report: Sex/gender differences in symptomology and camouflaging in adults with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 49(6), 2597–2604.
- Smith, I. C., Ollendick, T. H., & White, S. W. (2019). Anxiety moderates the influence of ASD severity on quality of life in adults with ASD. *Research in Autism Spectrum Disorders*, 62, 39-47. doi:10.1016/j.rasd.2019.03.001
- Snow, K. (2015, April 4). 'You don't outgrow autism': what happens when help ends at 21? Retrieved June 10, 2019, from <https://www.nbcnews.com/news/us-news/you-dont-outgrow-autism-what-happens-when-help-ends-21-n340066>
- Sparx. (2020, March 10). Four ways to support neurodiversity in the classroom. Retrieved August 06, 2020, from <https://www.ukfiet.org/2020/four-ways-to-support-neurodiversity-in-the-classroom/>
- Systemic approach to building a Neurodiverse inclusive organization Taken from Chartered Institute of Personnel and Development 2020, Why Employers Should Be Hiring w/ Neurodiversity In Mind
- Tafti, M. A. & Abdolrahmani, E. (2014). The effects of a multisensory method combined with relaxation techniques on writing skills and homework anxiety in students with dysgraphia. *International Journal of Psychology and Behavioral Sciences*, 4(4), 121-127. doi:10.5923/j.ijpbs.20140404.02
- Thompson, E., & Miller, J., (2018, February). Neurodiversity at work. CIPD and Optimize. https://www.cipd.co.uk/Images/neurodiversity-at-work_2018_tcm18-37852.pdf
- The Americans with Disabilities Act of 1990, ADA, Pennsylvania Training and Technical Assistance Network. (2019, January 1). The Special Education Evaluation/IEP Process. Retrieved June 19, 2019, from <https://www.pattan.net/Publications/The-Special-Education-Evaluation-IEP-Process>
- The long term costs of literacy difficulties. (2009). *Every Child a Chance Trust*. Retrieved from www.readingrecovery.org
- The Valuable 500. Disability is your business. Retrieved August 6, 2020 from <https://www.thevaluable500.com>
- Thompson, G., & Lordan, M. (1999). A review of creativity principles applied to engineering design. *Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering*, 213(1), 17-31. Doi: 10.1243/0954408991529960
- Ting, L. (2020). The relationship between attachment and executive functioning in adult ADHD. *Dissertation Abstracts International*, 81(9-B), http://gateway.proquest.com/authenticate.library.duq.edu/openurl?url_ver=Z39.88-2004&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&res_dat=xri:pqm&rft_dat=xri:pqdiss:27738321
- United States Office of Personnel Management. (n.d.) *Disability Employment: Hiring*. OPM. <https://www.opm.gov/policy-data-oversight/disability-employment/hiring/#url=Schedule-A-Hiring-Authority>
- Universal Music UK (2020, 17 January). *Creative Differences*. A handbook for embracing neurodiversity in the creative industries. Retrieved from <https://umusic.co.uk/CreativeDifferences-Handbook.pdf>
- Varvara, P., Varuzza, C., Sorrentino, A. C. P., Vicari, S., & Menghini, D. (2014). Executive functions in developmental dyslexia. *Frontiers in Human Neuroscience*, 8(120). Doi: [10.3389/fnhum.2014.00120](https://doi.org/10.3389/fnhum.2014.00120)
- Villegas, T. (2018, February 08). A brief history of special education. Retrieved June 6, 2019, from <https://www.thinkinclusive.us/brief-history-special-education/>



- Walker, N., Dr. (2019, February 19). What is Neurodiversity? Retrieved August 06, 2020, from <https://autisticuk.org/neurodiversity/>
- Walker, N., Dr. (2014). Neurodiversity: Some Basic Terms & Definitions. Retrieved August 12, 2020, from <https://neurocosmopolitanism.com/neurodiversity-some-basic-terms-definitions/>
- Wallace, G. L., Kenworthy, L., Pugliese, C. E., Popal, H. S., White, E. I., Brodsky, E., & Martin, A. (2016). Real-world executive functions in adults with autism spectrum disorder: Profiles of impairment and associations with adaptive functioning and co-morbid anxiety and depression. *Journal of Autism and Developmental Disorders*, 46(3), 1071-1083. <http://dx.doi.org.authenticate.library.duq.edu/10.1007/s10803-015-2655-7>
- What is Neurodiversity? (2012, March 23). Retrieved August 06, 2020, from <https://neurodiversitysymposium.wordpress.com/what-is-neurodiversity/>
- White, H. A. & Shah, P. (2006). Uninhibited imaginations: Creativity in adults with attention deficit/hyperactivity disorder. *Personality and Individual Differences*, 40, 1121-1131. doi:10.1016/j.paid.2005.11.007
- World Economic Forum. (n.d.) The valuable 500. Retrieved from The Valuable 500 site: <https://www.thevaluable500.com/the-valuable-500/>
- Wu, J. (2019, December 28). Neurodiversity in Artificial Intelligence. Retrieved August 06, 2020, from <https://www.forbes.com/sites/cognitiveworld/2019/12/27/neurodiversity-in-artificial-intelligence/>





20

NDGiFTS

20

NeuroDiversity Giving individuals Full
Team Success

The Movement

JOIN THE MOVEMENT

WWW.NDGIIFTSMOVEMENT.COM