Neurodiversity is Strength: The Power of Neurodiversity in School and at Work

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Director, Adult Neurodevelopment Clinic
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Principal Investigator, The Fung Lab
Assistant Professor of Psychiatry & Behavioral Sciences
Outline

- Introduction to Neurodiversity and Autism
- Strengths-based Model of Neurodiversity
- The Stanford Neurodiversity Project
- How can work together to maximize the potential of Neurodiversity?
Introduction to Neurodiversity
Neurodiversity is a concept that regards individuals with differences in brain function and behavioral traits as part of normal variation in the human population.
Conceptual Considerations – Bell-shaped Curve

- 0.1% of the data falls within 3σ from the mean
- 2.1% of the data falls within 2σ from the mean
- 13.6% of the data falls within 1σ from the mean
- 34.1% of the data falls within μ (mean) of the curve
- 34.1% of the data falls within 1σ from the mean
- 2.1% of the data falls within 2σ from the mean
- 0.1% of the data falls within 3σ from the mean

68.2% of the data falls within μ ± 1σ
95.4% of the data falls within μ ± 2σ
99.7% of the data falls within μ ± 3σ
Conceptual Considerations – IQ
Theory of Multiple Intelligences

- musical-rhythmic
- visual-spatial
- verbal-linguistic
- logical-mathematical
- bodily-kinesthetic
- naturalistic
- interpersonal
- Intrapersonal

Howard Gardner, Harvard University
Einstein’s possible MI profile

- **Musical-rhythmic**
- **Visual-spatial**
- **Verbal-linguistic**
- **Logical-mathematical**

- **Bodily-kinesthetic**
- **Interpersonal**
- **Intrapersonal**
- **Naturalistic**

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Stephen Wiltshire’s possible MI profile

Musical-rhythmic

Visual-spatial

Verbal-linguistic

Logical-mathematical

Bodily-kinesthetic

Interpersonal

Intrapersonal

Naturalistic

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AUTISTIC SPECTRUM CONDITION

- Lack of social-emotional reciprocity
- Deficits in non-verbal communication
- Lack of developing & maintaining relationships
- Sensory aberrations
- Stereotyped or repetitive behaviors
- Insistence to sameness; rituals
- Restricted interests
# Autism

<table>
<thead>
<tr>
<th><strong>Common Strengths</strong></th>
<th><strong>Common Challenges</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence</td>
<td>Perseveration</td>
</tr>
<tr>
<td>Detailed Oriented</td>
<td>Seeing “Big Picture”</td>
</tr>
<tr>
<td>Fund of knowledge</td>
<td>Few interests</td>
</tr>
<tr>
<td>Concrete / Honest</td>
<td>Perspective Taking</td>
</tr>
<tr>
<td>Loyal</td>
<td>Social Interactions</td>
</tr>
</tbody>
</table>

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NEURODIVERSITY AS A COMPETITIVE ADVANTAGE

BY ROBERT D. AUSTIN AND GARY P. PISANO

WHY YOU SHOULD EMBRACE IT IN YOUR WORKFORCE
Strengths-based Model of Neurodiversity
# Strength-Based vs. Disability Model of Neurodiversity

## Strength-Based Model
- Hyperfocus
- Attention to details
- Deep interest in particular topics
- Excellent fund of knowledge
- Determination
- Visual thinking
- Creativity
- Entrepreneur spirit
- …

## Disability Model
- Autism Spectrum Disorder
- Dyslexia
- Attention Deficit Hyperactivity Disorder
- Dyspraxia
- Dyscalculia
- Synaesthesia
- …
Strengths-Based Model of Neurodiversity

- **Key components**
  - Positive psychology
  - Positive psychiatry
  - Chickering’s Seven Vectors of Development

- **Other considerations**
  - Neurodiverse condition instead of disorder
  - Acknowledge challenges instead of deficits
  - Apply strengths-based approach across entire spectrum of neurodiverse conditions
Positive Psychology
Positive Psychology

An Introduction

Martin E. P. Seligman
Mihaly Csikszentmihalyi

University of Pennsylvania
Claremont Graduate University

Core of PP:
• Well-being, contentment, and satisfaction
• Flow and happiness
• Hope and optimism
Taxonomy of Positive Psychology Themes Derived From 53 Published Definitions

1. Virtues, character strengths, positive personality traits and related attributes and abilities, and talents.
2. Phenomena indicative of happiness, positive emotional well-being, subjective sense of fulfillment, and satisfaction with the quality of life.
3. Developmental process of becoming, growth, fulfillment of capacities, actualization of potential, and development of the highest/authentic self.

### Differences between Traditional Psychiatry and Positive Psychiatry

<table>
<thead>
<tr>
<th>Variable</th>
<th>Traditional Psychiatry</th>
<th>Positive Psychiatry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment focus</td>
<td>Pathology</td>
<td>Positive attributes and strengths</td>
</tr>
<tr>
<td>Research focus</td>
<td>Risk factors</td>
<td>Protective factors</td>
</tr>
<tr>
<td></td>
<td>Pathology</td>
<td>Neuroplasticity</td>
</tr>
<tr>
<td>Treatment goal</td>
<td>Symptom relief</td>
<td>Increased well-being and growth</td>
</tr>
<tr>
<td>Main treatments</td>
<td>Medications</td>
<td>Psycho-educational interventions</td>
</tr>
<tr>
<td></td>
<td>Short-term psychotherapies</td>
<td>to enhance positive attributes</td>
</tr>
<tr>
<td>Prevention</td>
<td>Largely ignored</td>
<td>Important focus across lifespan</td>
</tr>
</tbody>
</table>
Chickering’s Seven Vectors of Development

- Developing Competence
- Managing Emotions
- Moving through Autonomy toward Interdependence
- Developing Mature Interpersonal Relationships
- Establishing Identity
- Developing Purpose
- Developing Integrity
The Stanford Neurodiversity Project

EMPOWERING THE NEURODIVERSE POPULATION

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Objectives of the Stanford Neurodiversity Project

- Establish a culture that treasures the strengths of neurodiverse individual
- Empower neurodiverse individuals to build their identity and enhance their long-term skills of daily living throughout the lifespan
- Attract talented neurodiverse individuals to study and work at Stanford
- Train talented individuals to serve the neurodiverse population
- Disseminate the Stanford Neurodiversity Model locally, nationally, and internationally
- Maximize the potential of neurodiversity
THE STANFORD NEURODIVERSITY MODEL

General public

Neurodiverse population

Departments at Stanford (e.g., School of Medicine)

Service organizations (e.g., Evo Libri)

EDUCATION

ADVOCACY

SERVICE

RESEARCH

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Service organizations (e.g., Evo Libri)

Departments at Stanford (e.g., School of Medicine)

Neurodiverse population

General public
Stanford Neurodiversity Project – Key Initiatives

I. Neurodiversity Awareness and Education Initiative
   A. Special Interest Group for Neurodiversity at Stanford
   B. Neurodiversity Awareness Program
   C. Courses on Neurodiversity
   D. Neurodiversity seminar series (12-week)
   E. Stanford Neurodiverse Student Support Program

II. Neurodiversity at Work and Wellness Initiative
   A. Stanford Neurodiversity at Work Program
   B. Adult Neurodevelopment Clinic

III. Neurodiversity Independent Living Skills and Housing Initiative
    A. Independent Living Skills Program
I.A. Special Interest Group for Neurodiversity at Stanford
I.A. Presentations at the SIG-Neurodiversity Meetings (1)

● Nov 2017 - Cheryl Morin: “SAP Autism at Work High School Program”
● Dec 2017 - Paulette Penzvalto (Google): “Neurodiversity Internship program in Google”
● Jan 2018 - Tim Goldstein: “Training companies on understanding neurodiverse individuals”
● Feb 2018 - Jan Johnston-Tyler (Evo Libri): “Neurodiversity hiring programs”
● May 2018 - Kerry Margo: “College Students with Autism Spectrum Disorder”
● Sep 2018 - Alicia Danforth, PhD: “Psychotherapy in Adults with ASD”
● Oct 2018 - Steve Keisman (Identifor): “Shifting the Employment Paradigm with Cutting Edge Technology”
I.A. Presentations at the SIG-Neurodiversity Meetings (2)

- Nov 2018 – David Nordfors, PhD (i4j): “Coolabilities”
- Jan 2019 – Mark Jessen (SAP): “A Personal Story about Navigating Life and Employment as a Person on the Spectrum”
- Feb 2019 – Micaela Connery (The Kelsey): “Envisioning Inclusive Community”
- Mar 2019 – Laurie Sperry, PhD (Yale)
- Apr 2019 – Yudi Bennett (Exceptional Minds)
- May 2019 – Ronan McGovern (AIB)
- Aug 2019 – Hala Annabi, PhD (University of Washington)
- Sep 2019 – Joseph Strayhorn, MD (Private Practice)
- Oct 2019 – Tasha Oswald, PhD (Opendoor Therapy)
- Nov 2019 – Anthony Pacilio (JP Morgan Chase)
I.B. Neurodiversity Awareness Program (partial list)

- Neurodiversity awareness seminar within Stanford
  - University Information Technology department (Mar 1, 2018)
  - Gene Vector and Virus Core (Jul 18, 2018)
  - Employee and Labor Relations (Aug 15, 2018)
  - Stanford Career and Experiential Education (Sep 6, 2018)
  - Schwab Learning Center (Sep 17, 2018)
  - Vaden Health Center (Feb 1, 2019 and Mar 13, 2019)
  - Department of Pathology (May 8, 2019)
  - Department of Neurology (Grand Rounds on Aug 30, 2019)

- External presentations on Stanford Neurodiversity Project
  - Research Workshop, 3rd Autism at Work Summit, Seattle, WA (Apr 24, 2018)
  - NSF Convergence Workshop, Vanderbilt University, Nashville, TN (Jun 14, 2018)
  - Google Accessibility Week, Mountain View, CA (Nov 7, 2018)
  - San Francisco Autism Society, Stanford, CA (Nov 17, 2018)
  - AASCEND, San Francisco, CA (Mar 16, 2019)
  - SAP Autism at Work Program and Moscow Autism Challenge Center (Apr 8-10, 2019)
  - LinkedIn Meetup Presentation | Neurodiversity In The Workplace, Sunnyvale, CA (April 25, 2019)
  - Marin Autism Collaborative Annual Meeting (Apr 27, 2019)
  - Neurodiversity at Work Roundtable, United Nations, New York (April 30, 2019)
  - Autism Speaks Transition to Adulthood Town Hall, San Francisco, CA (June 4, 2019)
  - National Alliance on Mental Illness, Contra Costa County, Concord, CA (June 20, 2019)
  - Autism at Work Summit, Melbourne, Australia (July 25, 2019)
I.B. Building Alliances Across Campus

Department of Psychiatry & Behavioral Sciences
Special Interest Group for Neurodiversity

University Human Resources
University Information Technology

Vaden Health Center
Schwab Center for Learning

Office of Accessible Education
Stanford Career Catalysts

Law School
School of Medicine
Graduate School of Business
School of Engineering

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I.B. Establishing Networks with Corporations

○ Introduction to Neurodiversity
○ Autism Spectrum Condition - Strengths and Challenges
○ Approaches to Working with Neurodiverse Individuals in the Community Setting
○ Autism Spectrum Condition - Neurobiology and Genetics
○ Attention Deficit Hyperactivity Disorder - Strengths and Challenges; Neurobiology and Genetics
○ Dyslexia - Strengths and Challenges
○ Neurobiology and Genetics of Dyslexia
I.C. Neurodiversity Awareness and Education Initiative - PSYC 223: Topics in Neurodiversity: Introduction and Advocacy (Winter quarter – part 2)

- Neurodiversity and Transitioning from Adolescence to Adulthood
- Neurodiversity and the College Years
- Neurodiversity and the Workplace
- Observation and Volunteer Opportunities in the Neurodiversity at Work High-School Program
- Design Thinking Approaches in Advancing the Field of Neurodiversity
- Neurodiversity and Sexuality
- Neurodiversity and the Law
- Neurodiversity and New Technologies
Empathize
Define
Ideate
Prototype
Test

I.C. Neurodiversity Awareness and Education Initiative: PSYC 223B: Topics in Neurodiversity - Design Thinking Approaches (Spring 2019)
I.E. Neurodiverse Student Support Program

- Comprehensive neurodiversity support course (Various topics such as self advocacy, ILS)
- Summer transition program
- Independent living skills support
- Social Life
- Accommodations support
- Learning support
- Career development support
- Mental health support

Stanford Neurodiversity Project

- Neurodiverse Student Support Program
- Affinity Group
- Peer Mentors, Residence Assistants
- Office of Accessible Education
- SNP staff
- RAs
- BEAM Career coaches
- Schwab Learning Center Learning specialists
- Vaden Health Center
- Adult Neurodevelopmental Clinic

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II.A. Neurodiversity at Work Program – Objectives

- Cultivate the concept of the strengths-based model of neurodiversity in organizations
- Empower managers and teams with skills to work with neurodiverse individuals
- Increase job readiness for neurodiverse individuals
- Support both employers and neurodiverse employees throughout the entire employment cycle
II.A. Neurodiversity at Work Program – Matching Process

Stanford Neurodiverse Candidate Registry

Category II candidates
Category III candidates
Category IV candidates

Category I candidates

Pre-employment training OR Internships

On-boarding → Offer ← Accommodated Interview ← Matching

Level A jobs
Level C jobs (Contingent)
Level B jobs
Level D jobs (Contingent)
Levels E, F, G, H jobs

Neurodiversity training for team
II.A. Neurodiversity at Work Program – Overview of Support Process

### Neurodiversity Awareness Training
- **Overview of Neurodiversity**: Focus on strengths and challenges of neurodiverse (ND) individuals and maximizing the potential of ND employees
- **Participants**: Hiring Manager(s), HR reps, SNP
- **Time & Duration**: 1 hour

### Position Consultation
- **Consultation with hiring managers and HR regarding positions available, hiring process, candidate search strategies, candidate accommodation, and more**
- **Participants**: Hiring Manager(s), HR reps, SNP
- **Time & Duration**: 1 hour

### Employee Team Best Practice Training
- **In depth, one time training for entire hiring department employee team; Focus on best practices for integrating and engaging with ND employee**
- **Participants**: Hiring dept employees (sometimes with multiple hiring depts.), SNP, ND Employee
- **Time & Duration**: 1-2 hours

### Hiring & On-boarding
- **Assembling circles of support. As needed formal and informal meetings and conversations; engagement of SNP resources and materials for smooth hiring and on-boarding process**
- **Participants**: Hiring dept employees (sometimes with multiple hiring depts.), SNP, ND Employee
- **Time & Duration**: TBD as needed

### 12 week On-going Training
- **On-going 12 week training for hiring dept team; Focus on implementing best practices, working through challenges; using resources; ND employee receives training concurrently but separately**
- **Participants**: Hiring dept employees (sometimes with multiple hiring depts.), SNP, ND Employee
- **Time & Duration**: 1 hour, 1x per week, 12 weeks

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II.A. Stanford’s Support Circle Model 1.1

ASD Employee’s Workplace Support Circle
- Team Manager
- ASD Employee’s Workplace Support Circle
- Team Buddy
- NaW Mentor

ASD Employee’s Personal-Life Support Circle
- Job / Life Skills Coach
- Neurodiverse Individual
- Study Coordinator

Personal Counselor
- Family

HR Manager
I.D. Neurodiversity Seminar Series (part of Neurodiversity at Work On-Going Support Program)

- **What?**
  - Working with neurodiverse individuals
- **When?**
  - First 12 weeks after onboarding
- **Who?**
  - Managers, Buddies, Co-workers, and Mentors in the Stanford Neurodiversity at Work program
- **How?**
  - 50% didactics
  - 50% discussion
II.B. Adult Neurodevelopment Clinic

- Diagnostic evaluations
- Behavioral consultations
- Treatments
  - Cognitive behavioral therapy
  - Social skills training
  - Group therapy
  - Medication management
  - Telepsychiatry
Summary

- Neurodiverse individuals offer much to organizations, if given a chance.
- Neurodiverse individuals have specific challenges that can be overcome.
- The Strengths-Based Model of Neurodiversity incorporates positive psychology and developmental perspectives from Chickering’s Seven Vectors of Development.
- Stanford Neurodiversity Project is designed to maximize the potential of neurodiversity by practicing the Strengths-Based Model of Neurodiversity.
How can work together to maximize the potential of Neurodiversity?
Opportunities to collaborate

- Join the Special Interest Group for Neurodiversity
- Let us know your interests in neurodiversity
- Let us know if neurodiverse individuals you know are looking for employment
- Introduce us to organizations interested in learning more about neurodiversity
- Introduce us to organizations interested in hiring neurodiverse individuals
- Tell us how you want to be involved

*By working together, we can make a difference to the neurodiverse community and beyond.*

stanfordneurodiversityproject@stanford.edu
THANK YOU!

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