The Intersection of Autism and Transgender/Gender Diverse Identities: Diagnostics, Needs, and Clinical Complexities

IDEA Group
Nov 17 2021

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Center for Autism Spectrum Disorders and Division of Neuropsychology
Center for Neuroscience, Children’s National Research Institute
Children’s National Hospital

Faculty, Global Education Initiative (GEI)
World Professional Association for Transgender Health (WPATH)
Conflict of Interest

Recruiting for a funded study:

*Autistic Transgender Young Adults*

**Funding source:** Organization for Autism Research (OAR)

My lab receive funding for this project
Participants Requested for a Research Study

Autistic Transgender (or Nonbinary, Agender, Gender Fluid) Young Adults

What are the goals of this study?
The Gender and Autism Program at Children’s National Research Institute is studying the experiences and needs of autistic gender diverse young adults. John Strang, PsyD is the Primary Investigator for this research project.

Who can be part of the research study:
Young adults (ages 18-35) who are autistic and gender diverse (transgender, gender nonbinary, agender, or gender fluid)

What to expect:
The young adult will be asked to complete questionnaires online. We believe that the total study will take no longer than 2 hours. Participants will be compensated for their time.

What are the benefits of participating?
The results of this study may provide information that could help us to know the priorities of autistic gender diverse young adults.

Contact Information
If you have questions or would like to join the research study, please contact:

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Children’s National Hospital
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Email: lmcclellan3@childrensnational.org
Gender-diverse neurodiverse collaborators

- Reid Caplan
- Noor Pervez
- Elizabeth Graham
- Zosia Zaks
- April Dawn Griffin

Autistic Self Advocacy Network
Hussman Autism Center
The ARC
The Art of Autism
Gender and Autism Program at Children’s National

Neuropsychology
• John Strang, PsyD
• Ann Clawson, PhD

Speech and Language
• Abby Brandt, CCC-SLP
• Colleen Morgan, CCC-SLP

Psychiatry
• David Call, MD
• Laura Willing, MD

Medical Gender Services
• Veronica Gomez-Lobo, MD
• Rebecca Persky, MD

Clinical Trainee
• Sharanya Rao (PhD student)

Gender Clinic Navigator
• Shane Henise

Gender Research Coordination
• Abby Fischbach
• Lucy McClellan

Research support: NIH CTSA KL2TR001877 (Strang, PI), NIMH Autism Center of Excellence R01 (Pelphrey, PI), Fahs Beck Award (Strang, PI), Organization for Autism Research Grant (Strang, van der Miesen, Lai, MPIs), NICHD R01 (Harrop, PI)
<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>Gender Development Program founded at Children’s National</td>
</tr>
<tr>
<td>2009</td>
<td>Autism specialist joined the clinic</td>
</tr>
<tr>
<td>2011</td>
<td>Informal neuropsychological service for autistic gender-diverse youth</td>
</tr>
<tr>
<td>2015</td>
<td>Development of international clinical guidelines for autistic gender-diverse adolescents</td>
</tr>
<tr>
<td>2017</td>
<td>Gender and Autism Program founded; clinical and research programs</td>
</tr>
<tr>
<td>2018</td>
<td>Expanded to include 2 neuropsychologists, 2 speech language specialists</td>
</tr>
<tr>
<td>2019</td>
<td>Launched the Gender and Autism Program psychologist training program</td>
</tr>
</tbody>
</table>
Gender and Autism Program — Services

- Evaluations: ASD; Gender exploration; medical readiness
- Consultation with community providers; medical providers
- Support program: youth, parents
- Speech language support for self-advocacy, ASD, and gender voice
Early studies

2010: Increased rates of ASD in gender clinic

*Autism Spectrum Disorders in Gender Dysphoric Children and Adolescents*

Annelou L. C. de Vries · Ilse L. J. Noens · Peggy T. Cohen-Kettenis · Ina A. van Berckelaer-Onnes · Theo A. Doreleijers

Arch Sex Behav
DOI 10.1007/s10508-014-0285-3

2014: Increased rates of gender diversity in ASD

*Increased Gender Variance in Autism Spectrum Disorders and Attention Deficit Hyperactivity Disorder*

John F. Strang · Lauren Kenworthy · Aleksandra Dominska · Jennifer Sokoloff · Laura E. Kenealy · Madison Berl · Karin Walsh · Edgardo Menvielle · Graciela Slesaransky-Poe · Kyung-Eun Kim · Caroline Luong-Tran · Haley Meagher · Gregory L. Wallace
Largest study to date

- Over-representation of ASD in gender diverse youth and adults (e.g., Warrier et al., 2020; Hilse-Gorman, 2019; de Vries et al., 2010; Strauss et al., 2017)

- Evidence of an over-representation of gender diversity in ASD (e.g., Walsh et al., 2018; van der Miesen et al., 2018; George & Stokes; 2018)
Largest study to date

- Over-representation of ASD in gender diverse youth and adults (e.g., Warrier et al., 2020; Hilse-Gorman, 2019; de Vries et al., 2010; Strauss et al., 2017)

- Evidence of an over-representation of gender diversity in ASD (e.g., Walsh et al., 2018; van der Miesen et al., 2018; George & Stokes; 2018)
Other studies

2017: 859 trans youth; ~22% autistic

2019: 292,572 youth:
Gender dysphoria 4X more common in ASD

Gender Dysphoria in Children with Autism Spectrum Disorder

Elizabeth Hisle-Gorman, Corinne A. Landis, Apryl Susi, Natasha A. Schvey, Gregory H. Gorman, Cade M. Nylund, and David A. Klein

Published Online: 3 Apr 2019 | https://doi.org/10.1089/lgbt.2018.0252
Martine Stonehouse and “Transfixed”

https://www.metacritic.com/movie/transfixed/trailers/6511772
Autism and gender-diversity co-occurrence

Many autistic gender-diverse advocates: e.g., Martine Stonehouse, Lydia Brown, Wenn Lawson

Autonomy, dignity, and self-determination are basic human rights. But both transgender communities and autistic communities have had to struggle to assert those rights in the face of pervasive discrimination. Autistic people who are transgender and gender nonconforming have often faced additional barriers that put those fundamental rights out of reach.

Everyone should be able to live as the gender they know themselves to be, and autistic people are no exception. But many trans and gender nonconforming autistic people find that their caregivers, healthcare providers or family members deny the validity of their gender identity and prevent them from living according to who they are. Many people mistakenly believe that autistic people can’t understand their gender or make decisions about how to express it. Some assume that if autistic person doesn’t identify with their gender identity, that’s just a “symptom” of their autism. Others assume that all autistic individuals are men or have “extreme male brains.”
Autistic Women & Nonbinary Network

AWN is a non-profit corporation and a 501(c)(3) tax exempt organization with a mission to provide community, support and resources for Autistic women, girls, nonbinary people, and all others of marginalized genders.

AWN Network Welcome Packets

Our goal is to dispel stereotypes and misinformation which perpetuate unnecessary fears surrounding an autism diagnosis. We seek to share information which works to build acceptance and understanding of disability. Welcome to AWN Network!

Autistic Women Welcome Packet

Parent Welcome Packet

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ASD Transgender Youth Diagnostic Study

Recruitment:
- Transgender binary (male or female identified)
- Age 13-21
- Community or clinic referral
- Youth and parent participation

Separate recruitment of:
- Transgender youth
- Transgender youth with suspected or previously diagnosed autism
Recruitment

**Clinic (N=59)**
- a. Gender assessment
- b. Medical

50 enrolled

**Community (N=41)**
- a. PFLAG
- b. Online

16 enrolled

28 trans binary young women
38 trans binary young men
ASD-related phenotypes by sex and gender  

Strang et al., 2021

<table>
<thead>
<tr>
<th>Concern for ASD/Developmental Disability</th>
<th>Male identity (assigned female at birth)</th>
<th>Female identity (assigned male at birth)</th>
<th>Difference?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>80.8 (75.6)</td>
<td>26.2 (16.0)</td>
<td>Later age for trans boys</td>
</tr>
<tr>
<td>ADI-R Social + Communication (PCA/standardized across sample)</td>
<td>.22 (.66)</td>
<td>.78 (.79)</td>
<td>More early ASD social symptoms for trans girls</td>
</tr>
<tr>
<td>DSM-5 Restricted and Repetitive Behaviors (Past)</td>
<td>3.36 (.92)</td>
<td>3.31 (.70)</td>
<td>T=.16 p=.87</td>
</tr>
</tbody>
</table>

Suggests ASD social profile matches assigned sex in trans youth?
## Autism diagnoses at intake

### Initial Recruitment

(ASD status reported by family at intake)

<table>
<thead>
<tr>
<th></th>
<th>Trans Girls</th>
<th>Trans Boys</th>
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<tbody>
<tr>
<td>Diagnosed ASD</td>
<td>13</td>
<td>10</td>
</tr>
<tr>
<td>Suspected ASD</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>No suspected ASD</td>
<td>5*</td>
<td>17</td>
</tr>
</tbody>
</table>

*Difficult to identify participants for this group over the course of 2 years of intensive recruitment*
Autism diagnostic approach for study

1. *Autism Diagnostic Observation Schedule* (ADOS 2 Mod 4)
   - 2 research-reliable coders
   - Recorded for review
   - Coded >15% of administrations by expert team
   - Consultation with 2 speech-language pathologists regarding transgender voice atypicalities (to differentiate them)

2. *Autism Diagnostic Interview* (ADI-R)
   Gold-standard standardized parent developmental interview
   - 1 research reliable coder
   - Extra coding for gender-related content; any gender-related interests were not coded as ASD-related
   - Use of DSM-5 algorithm (Mazefsky et al., 2013)
3. **Interviews and observations**
   - Interviews and observations over two sessions
   - At least two clinical observers

4. **Additional information** (when necessary)
   - Reports and records
   - Interviews with outside providers
   - Review of videos from childhood
   - Consultation with broad expert team for cases that were difficult to classify

5. **Based on above assessments, expert clinical diagnostics were given for DSM-5.**
   - Allistic youth were not excluded from study for having other significant psychopathology (e.g., bipolar disorder; apparent prodromal sx)
   - The slightly subthreshold ASD category was made when significant ASD symptoms were present and not better explained by other psychopathology
Autism diagnoses

Diagnostic Outcomes – Trans girls
### Autism diagnoses

#### Diagnostic Outcomes – Trans girls (N=28)

<table>
<thead>
<tr>
<th>Baseline categories</th>
<th>Baseline dx from family</th>
<th>Study diagnoses</th>
<th>Final diagnosis</th>
<th>Net +/-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosed ASD</td>
<td>13</td>
<td>Full criteria ASD</td>
<td>16</td>
<td>+3</td>
</tr>
<tr>
<td>Suspected ASD</td>
<td>10</td>
<td>Subthreshold ASD</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>No ASD</td>
<td>5</td>
<td>Allistic</td>
<td>4</td>
<td>-1</td>
</tr>
</tbody>
</table>
Autism diagnoses

**Diagnostic Outcomes – Trans girls (N=28)**

- 5 new ASD diagnoses
- 1 *Optimal Outcome* (met criteria in development, but not now)
- 1 ASD diagnosis disconfirmed
- 3 with no ASD changed: 2 subthreshold ASD and one full criteria ASD
## Autism diagnoses

### Diagnostic Outcomes – Trans boys (N=38)

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<th>Study diagnoses</th>
<th>Final diagnosis</th>
<th>Net +/-</th>
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</thead>
<tbody>
<tr>
<td>Diagnosed ASD</td>
<td>10</td>
<td>Full criteria ASD</td>
<td>11</td>
<td>+1</td>
</tr>
<tr>
<td>Suspected ASD</td>
<td>11</td>
<td>Subthreshold ASD</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>No ASD</td>
<td>17</td>
<td>Allistic</td>
<td>18</td>
<td>+1</td>
</tr>
</tbody>
</table>
Autism diagnoses

Diagnostic Outcomes – Trans boys (N=38)

- 5 new ASD diagnoses
- 3 Optimal Outcome (met criteria in development, but not now)
- 4 difficult to place (due to trauma history, psychiatric conditions)
- All with no suspected ASD at baseline were found to be allistic
Autism diagnoses

DIAGNOSTIC SUMMARY (1):

1. Difficult to identify and recruit allistic trans girls
2. 10 new ASD diagnoses (out of 66 trans youth)
3. Many youth showed early signs of ASD (before age 5)
4. Slightly subthreshold ASD category appears relevant
Autism diagnoses

DIAGNOSTIC SUMMARY (2):

5. Rare for gender diversity to be suggested as an over-focused interest (N=2)

6. No clear evidence of “pseudo-autism” (apparent autism due to social and emotional impacts of GD). Only one autistic participant appeared “misdiagnosed” with ASD
Presentations of ASD in gender diverse youth

**Allistic**
- Not autistic, but may have other developmental/psychiatric concerns

**BAP**
- Clear autistic traits, but not necessarily clinically impactful

**Subthreshold**
- On the cusp of the ASD diagnosis. May have more intact social motivation (female phenotype?)

**Full criteria**
- Meets full criteria. Broad range (mild – severe) impairment
Later ASD diagnosis in gender-diverse youth (N=1,620)

CN Male: \( n = 1171 \)
Age at Diagnosis:
- Range: 1.3-24.7
- \( M = 7.383, SD = 4.347 \)

CN Female: \( n = 362 \)
Age at Diagnosis:
- Range: 1.7-25.3
- \( M = 8.465, SD = 4.923 \)

CN GD: \( n = 87 \)
Age at Diagnosis:
- Range: 2.1-25.4
- \( M = 12.827, SD = 5.131 \)
“They Thought It Was an Obsession”: Trajectories and Perspectives of Autistic Transgender and Gender-Diverse Adolescents

John F. Strang$^{1,2,3,12}$ · Meredith D. Powers$^{1,2,3}$ · Megan Knauss$^{1,3,4}$ · Ely Sibarium$^{1,5}$ · Scott F. Leibowitz$^{6}$ · Lauren Kenworthy$^{1,2}$ · Eleonora Sadikova$^{1,2,3}$ · Shannon Wyss$^{7}$ · Laura Willing$^{2,3}$ · Reid Caplan$^{8}$ · Noor Pervez$^{8}$ · Joel Nowak$^{9}$ · Dena Gohari$^{1,3}$ · Veronica Gomez-Lobo$^{2,3,10}$ · David Call$^{2,3}$ · Laura G. Anthony$^{11}$

7 Transgender Leadership Initiative, AIDS United, Washington, DC, USA
8 Autistic Self Advocacy Network, Washington, DC, USA
9 San Diego, CA, USA
10 Section of Pediatric and Adolescent Gynecology, MedStar Washington Hospital Center, Washington, DC, USA
11 Department of Psychiatry, Pediatric Mental Health Institute, Children’s Hospital of Colorado, University of Colorado School of Medicine, Aurora, CO, USA
12 Division of Pediatric Neuropsychology, Children’s National Health System, 15245 Shady Grove Road, South Building, Suite 355, Rockville, MD 20850, USA

Center for Autism Spectrum Disorders, Center for Neuroscience and Behavioral Medicine, Children’s National Health System, Washington, DC, USA
2 Children’s Research Institute, Children’s National Health System, Washington, DC, USA
3 Gender Development Program, Center for Neuroscience and Behavioral Medicine, Children’s National Health System, Washington, DC, USA
4 Alliance of Community Health Plans, Washington, DC, USA
5 Yale College, Yale University, New Haven, CT, USA
6 THRIVE Program, Division of Psychiatry, Nationwide Children’s Hospital, Columbus, OH, USA
I. Urgent gender needs

II. Histories of gender exploration

III. Impact of neurodiversity

IV. My gender has been questioned due to my autism diagnosis
Theme I. Urgent gender needs

“*I feel absolutely disgusted* by how tall I am, my genital area, my body hair, my voice, my face, my hair, my skin. *Can I just say everything?*”
Theme II. Gender exploration and expansiveness

“Definitely in middle school I was uncomfortable with being male. And I don’t think I realized it as such. But it was very much happening. But I didn’t know there was much to be done about that — until like the middle of sixth grade. And I started becoming interested in and by the end of seventh grade I was very much in the camp of ‘I’m not about this’ and thinking that I wanted to be trans…”
Theme II. Gender exploration and expansiveness (cont.)

…By 8th grade I was fully cognizant of not wanting what was happening to happen. Someone had a huge crush on me in school and it was super uncomfortable being in a male kind of role. High school was horrible. And I wanted to come out every day and I thought about it every second. And then one day I came out. And that was that.”
Recalled gender histories

<table>
<thead>
<tr>
<th>Point in Development</th>
<th>Earliest remembered gender diversity</th>
<th>When participant first felt they gender identity diversity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% of participants endorsing each category</td>
<td></td>
</tr>
<tr>
<td>Preschool</td>
<td>14.3%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Kindergarten</td>
<td>23.8%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Elementary School</td>
<td>61.9%</td>
<td>22.7%</td>
</tr>
<tr>
<td></td>
<td>38.1%</td>
<td></td>
</tr>
<tr>
<td>Middle School</td>
<td>23.8%</td>
<td>40.9%</td>
</tr>
<tr>
<td>High School</td>
<td>0%</td>
<td>27.3%</td>
</tr>
<tr>
<td>Cannot Recall</td>
<td>4.5%</td>
<td>0%</td>
</tr>
</tbody>
</table>

“I never liked cars. Like toy cars, I never really cared for them. I played with dolls—my sister’s”
“It is a paradox of self-awareness because autism I think makes you less aware of your emotions and to know that you are trans means that you have to be incredibly cognizant of your own mental state and your identity...
Theme III. Impact of neurodiversity

...So it’s difficult for that reason, and it’s difficult to plan for all the sort of details and process of being trans, like getting appropriate treatment, changing documents, talking to people about getting accommodations like getting the bathroom at school is more difficult if you’re on the autism spectrum.”
Theme IV. My gender has been questioned due to my autism diagnosis

“They viewed it as an obsession, but it’s really not the same thing and I don’t know how they thought that.”
## Gender over time (22 youth followed 2 years) Strang et al., 2018

<table>
<thead>
<tr>
<th></th>
<th>Month 0</th>
<th>Month 12</th>
<th>Month 22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong gender needs/diversity and affirmed in <em>all settings</em></td>
<td>5</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Strong gender needs/diversity and affirmed in <em>some settings</em></td>
<td>17</td>
<td>15</td>
<td>9</td>
</tr>
<tr>
<td>No significant gender needs/diversity</td>
<td>0</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>22</strong></td>
<td><strong>22</strong></td>
<td><strong>22</strong></td>
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</tbody>
</table>

- **Gender affirmation intensified for** 6 youth over 22 months
- **Gender affirmation remained the same for** 12 youth over 22 months
- **Gender needs/diversity reduced for** 4 youth over 22 months
**Gender over time (22 youth followed 2 years)**

<table>
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<tr>
<th>Strong gender needs/diversity and affirmed in <em>all settings</em></th>
<th>Month 0</th>
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<th>Month 22</th>
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<td>5</td>
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<tbody>
<tr>
<td>17</td>
<td>15</td>
<td>9</td>
<td></td>
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<table>
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<tr>
<th>No significant gender needs/diversity</th>
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<tr>
<td>0</td>
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**Total:**

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- **Gender affirmation intensified for 6 youth over 22 months**
- **Gender affirmation remained the same for 12 youth over 22 months**
- **Gender needs/diversity reduced for 4 youth over 22 months**
- **2 later increased again**
ASD-related profiles by assigned sex and gender?

Table 3. Internalizing symptoms and suicidality by ASD-related and gender diversity-related grouping as well as gender.

<table>
<thead>
<tr>
<th>Group (TA, CASD, TASD)</th>
<th>F-test (df)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>1.02 (2,73)</td>
<td>.32</td>
</tr>
<tr>
<td>Group*gender</td>
<td>1.81 (2,73)</td>
<td>.17</td>
</tr>
</tbody>
</table>

**Internalizing**

- Cisgender-ASD young men
- Trans-allistic young men
- Cisgender-ASD young women
- Trans-allistic young women
- Trans-ASD young women
- Trans-ASD young men

**Suicidality**

- Cisgender-ASD young men
- Trans-allistic young men
- Trans-ASD young men
- Trans-allistic young women
- Cisgender-ASD young women
- Trans-ASD young women

Strang et al., 2021
Table 3. Internalizing symptoms and suicidality by ASD-related and gender diversity-related grouping as well as gender.

| Transgender-allistic (TA) versus cisgender-ASD (CASD) versus transgender-ASD (TASD) |  |
|---|---|---|---|
| **Group (TA, CASD, TASD)** | **F-test (df)** | **p-value** | **Post-hoc** |
| Gender | 7.48 (2,73) | **< .01** | TASD > TA |
| Gender*gender | 1.02 (2,73) | .32 |  |
| Cisgender-ASD young men | 1.81 (2,73) | .17 |  |
| Trans-allistic young men |  |  |  |
| Cisgender-ASD young women |  |  |  |
| Trans-allistic young women |  |  |  |
| **Trans-ASD young women** |  |  |  |
| **Trans-ASD young men** |  |  |  |

**Internalizing**

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<tbody>
<tr>
<td>Gender</td>
<td>2.09 (2,73)</td>
<td>.13</td>
<td>(see note below)</td>
</tr>
<tr>
<td>Gender*gender</td>
<td>8.52 (1,73)</td>
<td><strong>&lt; .01</strong></td>
<td>Female &gt; Male</td>
</tr>
<tr>
<td>Cisgender-ASD young men</td>
<td>.44 (2,73)</td>
<td>.65</td>
<td></td>
</tr>
<tr>
<td>Trans-allistic young men</td>
<td></td>
<td></td>
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<tr>
<td>Trans-ASD young men</td>
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Strang et al., 2021
ASD-related patterns by assigned sex and gender?

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<tr>
<td>Trans-ASD young women</td>
<td>.44 (2,73)</td>
<td>.65</td>
<td>Female &gt; Male</td>
</tr>
</tbody>
</table>

Strang et al., 2021
ASD-related patterns by assigned sex and gender?

Table 3. Internalizing symptoms and suicidality by ASD-related and gender diversity-related grouping as well as gender.

<table>
<thead>
<tr>
<th></th>
<th>F-test (df)</th>
<th>p-value</th>
<th>Post-hoc</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group (TA, CASD, TASD)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-test (df)</td>
<td>7.48 (2,73)</td>
<td>&lt; .01</td>
<td>TASD &gt; TA</td>
</tr>
<tr>
<td>p-value</td>
<td></td>
<td></td>
<td>TASD &gt; CASD</td>
</tr>
<tr>
<td>Gender</td>
<td>1.02 (2,73)</td>
<td>.32</td>
<td></td>
</tr>
<tr>
<td>Group*gender</td>
<td>1.81 (2,73)</td>
<td>.17</td>
<td></td>
</tr>
<tr>
<td>Cisgender-ASD young men</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trans-allistic young men</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cisgender-ASD young women</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trans-allistic young women</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trans-ASD young women</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trans-ASD young men</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Internalizing Symptoms (T score)**

<table>
<thead>
<tr>
<th></th>
<th>F-test (df)</th>
<th>p-value</th>
<th>Post-hoc</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group (TA, CASD, TASD)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-test (df)</td>
<td>2.09 (2,73)</td>
<td>.13&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>p-value</td>
<td></td>
<td></td>
<td>Female &gt; Male</td>
</tr>
<tr>
<td>Gender</td>
<td>8.52 (1,73)</td>
<td>&lt; .01</td>
<td></td>
</tr>
<tr>
<td>Group*gender</td>
<td>.44 (2,73)</td>
<td>.65</td>
<td></td>
</tr>
</tbody>
</table>

**Suicidality**

Strang et al., 2021
Executive function – key for transgender youth?

Executive function = planning, thinking flexibly, organizing, initiating

Executive function is impacted in autistic people (less flexible, more difficulty with organization)

Transgender youth often navigate tasks that demand executive function skills!

- Figuring out the best path with gender
- Self-advocating for gender needs
- Managing social challenges associated with being gender diverse
- Coordinating gender treatment needs (remembering appointments, dealing with treatment challenges, etc.)
**Executive function gender barriers questionnaire**

Brief questionnaire available: [https://childrensnational.org/genderbarriersquestionnaire](https://childrensnational.org/genderbarriersquestionnaire)

<table>
<thead>
<tr>
<th>Question</th>
<th>Not true</th>
<th>A little true</th>
<th>Quite a bit true</th>
<th>Very true</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I do not know how to reach my gender needs and goals.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. It is hard for me to plan the steps for how to reach my gender needs and goals.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. It is hard for me to remember to work toward my gender needs and goals.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. It is hard for me to deal with the changes that come from my gender needs and goals.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. It is hard for me to tell people my gender needs and goals because I have difficulty with communication skills.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Mental health and ASD traits/executive function in trans youth

### Predicting Internalizing (depression/anxiety)  
Strang et al., 2021

<table>
<thead>
<tr>
<th></th>
<th>Stand. B</th>
<th>SE</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>.06</td>
<td>.70</td>
<td>.48</td>
</tr>
<tr>
<td>Gender</td>
<td>.07</td>
<td>2.88</td>
<td>.55</td>
</tr>
<tr>
<td>Parent education</td>
<td>.06</td>
<td>.55</td>
<td>.50</td>
</tr>
<tr>
<td>Gender dysphoria</td>
<td>.15</td>
<td>.28</td>
<td>1.18</td>
</tr>
<tr>
<td>Perceived stigma</td>
<td><strong>.45</strong></td>
<td><strong>.39</strong></td>
<td><strong>3.15</strong> p &lt; .01</td>
</tr>
<tr>
<td>Parents supportive of gender needs</td>
<td>-.11</td>
<td>3.04</td>
<td>-.85</td>
</tr>
<tr>
<td>Social autism symptoms</td>
<td><strong>.31</strong></td>
<td><strong>.27</strong></td>
<td><strong>2.45</strong> p &lt; .05</td>
</tr>
<tr>
<td>Executive function skills</td>
<td>-.13</td>
<td>1.19</td>
<td>-1.09</td>
</tr>
<tr>
<td>Executive function gender-related barriers</td>
<td><strong>.25</strong></td>
<td><strong>1.99</strong></td>
<td><strong>2.06. p &lt; .05</strong></td>
</tr>
</tbody>
</table>
### Mental health and ASD traits/executive function in trans youth

**Predicting Suicidality**  
Strang et al., 2021

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<th>t</th>
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<tbody>
<tr>
<td>Age</td>
<td>-.17</td>
<td>.07</td>
<td>-1.27</td>
</tr>
<tr>
<td>Gender</td>
<td>-.25</td>
<td>.27</td>
<td>-2.00 <strong>p &lt; .06</strong></td>
</tr>
<tr>
<td>Parent education</td>
<td>-.10</td>
<td>.05</td>
<td>-.92</td>
</tr>
<tr>
<td>Gender dysphoria</td>
<td>.05</td>
<td>.03</td>
<td>.43</td>
</tr>
<tr>
<td><strong>Perceived stigma</strong></td>
<td><strong>.30</strong></td>
<td>.04</td>
<td><strong>2.11. p &lt; .05</strong></td>
</tr>
<tr>
<td>Parents supportive of gender needs</td>
<td>-.15</td>
<td>-.32</td>
<td>-1.14</td>
</tr>
<tr>
<td>Social autism symptoms</td>
<td>.09</td>
<td>.03</td>
<td>.70</td>
</tr>
<tr>
<td><strong>Executive function skills</strong></td>
<td><strong>-.27</strong></td>
<td>.11</td>
<td><strong>-2.22. p &lt; .05</strong></td>
</tr>
<tr>
<td><strong>Executive function gender-related barriers</strong></td>
<td><strong>.38</strong></td>
<td>.19</td>
<td><strong>3.13. p &lt; .01</strong></td>
</tr>
</tbody>
</table>
A Clinical Program for Transgender and Gender-Diverse Neurodiverse/Autistic Adolescents Developed through Community-Based Participatory Design

John F. Strang\textsuperscript{a,b}, Megan Knauss\textsuperscript{a,c}, Anna van der Miesen\textsuperscript{d}, Jenifer K. McGuire\textsuperscript{e,f}, Lauren Kenworthy\textsuperscript{b,g}, Reid Caplan\textsuperscript{h}, Andrew Freeman\textsuperscript{i}, Eleonora Sadikova\textsuperscript{a}, Zosia Zaks\textsuperscript{j}, Noor Pervez\textsuperscript{k}, Anouk Balleur\textsuperscript{l}, D. W. Rowlands\textsuperscript{i}, Ely Sibariun\textsuperscript{m}, Laura Willing\textsuperscript{a,b}, Marissa A. McCool\textsuperscript{n,o}, Randall D. Ehrbar\textsuperscript{p}, Shannon E. Wyss\textsuperscript{q,r}, Harriette Wimms\textsuperscript{s}, Joshua Tobing\textsuperscript{t}, John Thomas\textsuperscript{u}, Julie Austen\textsuperscript{v}, Elyse Pine\textsuperscript{w}, April D. Griffin\textsuperscript{x}, Aron Janssen\textsuperscript{y}, Veronica Gomez-Lobo\textsuperscript{a,z}, Abigail Brandt\textsuperscript{a,aa}, Colleen Morgan\textsuperscript{a,aa}, Haley Meagher\textsuperscript{a}, Dena Gohari\textsuperscript{a}, Laura Kirby\textsuperscript{a}, Laura Russell\textsuperscript{a}, Meredith D. Powers\textsuperscript{a}, and Laura G. Anthony\textsuperscript{bb}

\textsuperscript{a}Gender and Autism Program, Division of Neuropsychology, Children’s National Health System; \textsuperscript{b}George Washington University School of Medicine, George Washington University; \textsuperscript{c}Alliance of Community Health Plans; \textsuperscript{d}Department of Child and Adolescent Psychiatry, Center of Expertise on Gender Dysphoria, VU University Medical Center; \textsuperscript{e}Department of Family Social Science, University of Minnesota; \textsuperscript{f}National Center for Gender Spectrum Health, University of Minnesota; \textsuperscript{g}Center for Autism Spectrum Disorders, Children’s National Health System; \textsuperscript{h}Autistic Self Advocacy Network; \textsuperscript{i}Department of Psychology, University of Nevada; \textsuperscript{j}Hussman Center for Adults with Autism, Towson University; \textsuperscript{k}Parnassia Psychiatric Institute; \textsuperscript{l}University of Maryland; \textsuperscript{m}Yale College, Yale University; \textsuperscript{n}Queer Indigenous and People of Color (QIPOC), Augsburg University; \textsuperscript{o}V-Day, University of Pennsylvania; \textsuperscript{p}Whitman-Walker Health; \textsuperscript{q}Gender and Sexuality Education and Advocacy Program, Children’s National Medical Center; \textsuperscript{r}Transgender Leadership Initiative, AIDS United; \textsuperscript{s}Youth Gender Care Services, The Village Family Support Center of Baltimore; \textsuperscript{t}National Women’s Law Center; \textsuperscript{u}Transgender and Autism Services, Falls Church Counseling; \textsuperscript{v}Carolina Converge Gender Affirming Services; \textsuperscript{w}LGBT Health Resource Center, Chase Brexton Health Care; \textsuperscript{x}Saskatchewan Canada; \textsuperscript{y}Gender and Sexuality Service, Child Study Center, New York University Medical School; \textsuperscript{z}Division of Pediatric Gynecology, Children’s National Health System; \textsuperscript{aa}Division of Hearing and Speech, Children’s National Health System; \textsuperscript{bb}Department of Psychiatry, Pediatric Mental Health Institute, Children’s Hospital of Colorado, University of Colorado School of Medicine
A group program: CASD research

• Focus on positive social interactions – motivation to attend

• Clearly welcome all identities (not just trans)

• Use scripts to indicate that gender can be flexible/fluid or stay the same over time.
Thursday Event

A welcoming place for gender-diverse youth

We celebrate neurodiversity here, too
Pride for everyone!
You are welcome!

Gender diverse
Neurodiverse
Neurotypical
Autistic
Cisgender
Non-binary
Transgender

Demigender
Gender fluid
Genderqueer
Agender
Questioning
Intersex
Gender Vague
Neutrois
Change from one to another
Introductions

This is a place where everyone is welcome.

Sometimes gender is flexible or fluid – sometimes it stays the same

So we introduce ourselves each group

You can say name, pronoun, or both – or PASS
A group program: CASD research

• Invite guest role models to make gender options concrete:
  Transgender
  Nonbinary
  More masculine cis woman
  More feminine cis man
  Autistic
  Autistic gender diverse

• Gender-related style coaches

• Speech-language therapy: transgender voice AND social communication (developed by A. Brandt and C. Morgan)
Contact: John Strang, PsyD
jstrang@childrensnational.org

Questions?