Neuropsychological Assessment: Optimizing Protective Factors through Psychosocial, Behavioral, and Educational Recommendations
Objectives

- Preliminary findings compared to current literature
- Risk & Resilience
- Social competence: Social Immaturity vs. Autism
  - Case illustrations demonstrating variability within group and recommendations
- Self Regulation
- Verbal and Nonverbal Learning Disabilities
- Role of Abstract Reasoning & Functional Living Skills
Preliminary Data: Intellectual Functioning

Mean WISC-IV IQ and Index Scores

- FSIQ N=15: 75
- VCI, N=15: 79
- PRI, N=15: 80
- WMI, N=14: 84
- PSI, N=14: 76

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Preliminary Data: Achievement

Mean Composite Scores:
- Reading: 93 (N=9)
- Math: 74 (N=12)
- Written Language: 89 (N=11)

Composites

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Preliminary Data: Language

<table>
<thead>
<tr>
<th>Test</th>
<th>Mean Language Score</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>CELF-IV Language</td>
<td>65</td>
<td>N=5</td>
</tr>
<tr>
<td>CELF-IV Receptive</td>
<td>58</td>
<td>N=3</td>
</tr>
<tr>
<td>CELF-IV Expressive</td>
<td>58</td>
<td>N=3</td>
</tr>
<tr>
<td>WIAT=II Oral Language</td>
<td>74</td>
<td>N=5</td>
</tr>
</tbody>
</table>

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## Preliminary Data: Sensory Processing

<table>
<thead>
<tr>
<th>Domain (N)</th>
<th>Raw Score</th>
<th>Categorical Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tactile (N=17)</td>
<td>29</td>
<td>Probable Difference</td>
</tr>
<tr>
<td>Taste/Smell (N=17)</td>
<td>15</td>
<td>Typical</td>
</tr>
<tr>
<td>Movement (N=17)</td>
<td>13</td>
<td>Typical</td>
</tr>
<tr>
<td>Underresponsiveness/ Sensation Seeking (N=17)</td>
<td>21</td>
<td>Definite Difference</td>
</tr>
<tr>
<td>Auditory Filtering (N=17)</td>
<td>17</td>
<td>Definite Difference</td>
</tr>
<tr>
<td>Low Energy/Weak (N=17)</td>
<td>18</td>
<td>Definite Difference</td>
</tr>
<tr>
<td>Visual/Auditory (N=17)</td>
<td>17</td>
<td>Probable Difference</td>
</tr>
<tr>
<td>Total (N=17)</td>
<td>131</td>
<td>Definite Difference</td>
</tr>
</tbody>
</table>
Preliminary Data: Child Anxiety

Mean T Scores

- Panic: 62
- Separation: 69
- Physical Injury: 60
- Social Phobia: 47
- OCD: 59
- GAD: 53
Preliminary Data: Parent Report of Child Anxiety

- Panic: 54
- Separation: 66
- Physical Injury: 62
- Social Phobia: 53
- OCD: 56
- GAD: 54

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## Preliminary Data: Psychosocial Functioning

<table>
<thead>
<tr>
<th>Measure</th>
<th>N</th>
<th>Mean Score</th>
<th>Categorical Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABAS-II Social Functioning</td>
<td>14</td>
<td>80</td>
<td>Low Average</td>
</tr>
<tr>
<td>BASC Social Skills</td>
<td>17</td>
<td>41</td>
<td>Average</td>
</tr>
<tr>
<td>BASC Atypicality</td>
<td>17</td>
<td>62</td>
<td>At-Risk</td>
</tr>
<tr>
<td>SCQ</td>
<td>18</td>
<td>8</td>
<td>15 (Not At-Risk)</td>
</tr>
</tbody>
</table>
Risk and Resilience

“Resilience starts with a recognition of the huge individual variation in people’s responses to the same experiences, and considers outcomes with the assumption that an understanding of the mechanisms underlying that variation will cast light on the causal processes and, by so doing, will have implications for intervention strategies with respect to both prevention and treatment” (Rutter, 2006)
Risk and Resilience in Children with Learning Disabilities:

- **Goal of assessment is to institute a process of change in a system that is not functioning optimally** (Sorensen, Forbes, Bernstein, Weiler, Mitchell, & Waber, 2003)

- **Essential to educate parents and teachers to better understand the risk posed for that child by demands** (Bernstein and Waber, 1997)
  - Children with developmental delays are at considerable risk for social skills deficits and other problems related to peer competence (Guralnick & Groom, 1987, 1988; Kopp, 1992; Guralnick, 1998; Baker, 2007; Wilson, 2007)

- **Long-term predictors of success in individuals with LD**
  - Set goals, proactive, persevere, have & use effective social support, emotionally stable/coping strategies (Goldberg, Higgins, Raskind, & Herman, 2003)
Social Competence

• Social Skill difficulties are noted within this population
  – Withdrawal, shyness, difficulty initiating interactions, limited facial expression

• Relationship to Autism Spectrum Disorders
  – Incidence of 20% to 50% of 22q11.2 population (Niklasson, et al., 2001, 2002; Fine, et. al., 2005; Antshel, et al., 2007)
  – Implication for services and recommendations
LK: Background

- 10-year old, 5th grade girl. IEP due to OHI, math tutor, speech & language [prag. & artic.], lunch group, keyboard
  - WISC-IV Range: FSIQ=81, VIQ=81, PIQ=82, WMI=104, PSI=75
  - **WIAT-II**: Average Achievement (Range SS=90-105)
  - VMI: Extremely Low Visual-motor (SS=64)
  - **NEPSY-II**: Borderline to well below expected social perception and spatial functioning (Affect Recognition SS=6; TOM=2-5%tile; Arrows SS=4)
  - **SCQ**: 1
  - **BASC-II**: No elevations based on self and parent report
  - **Spence**: Significantly and Moderately Elevated child anxiety symptoms on all domains, Moderately More Intense GAD on parent report
  - ABAS-II: Conceptual =88, GAC and other domains =100-107
LK: Behaviors

- **Home & School**: No behavioral/socioemotional or sensory concerns. Prior bullying with continued anxiety but *remedied through school*. Described as “laid back” & “organized.” Difficulty standing up for self. **Honor roll**, plays piano

- **Clinic**: Social, very cooperative, restricted affect (anxiety?), *open to discussing feelings*, nightly anxiety (nightmares & “hearing things”) also when alone with associated behaviors (check locks), *deficits in coping, compensates* for difficulties with memory (e.g., writing with fingers on digit span), spatial difficulties (columns)
LK: Recommendations

• Educational
  – Reduced PSI due to visual-motor and anxiety on timed tests
    • Keyboarding, notes, extended time on tests, work with OT due to writing fatigue
  – Continued school services (math reasoning, language, social)

• Socioemotional
  – Therapy for anxiety & monitor, CBT and Camp Cope A Lot
  – Enhance coping skills, assertiveness, and affective range (e.g., participation in drama), social stories

• Re-assessment
  – Refer to UCEDD for local resources
• 10-year old girl, adopted at 3-years of age, completed 3rd grade, IEP due to difficulties with reading comprehension (1st grade) & math. Services for reading comprehension and language arts.
  – *WISC-IV* Range: FSIQ=52, VCI=53, Other Scores from 63-65
  – *WIAT-II*: Reading=89, Math=66, Written Lang.=104
  – *CELF-IV*: Receptive=58, Expressive=51
  – VMI: SS=78
  – *SSP Differences*: Definite in Energy, Probable in Sensation Seeking, Auditory, and Overall
  – *BASC-II*: Parent-Clinical Hyperactivity, At-Risk Depression, Withdrawal, Attention, Leadership; Teacher-At-Risk in most areas
  – Spence: Average
  – ABAS-II: GAC=87, Conceptual=88, Social=97, Practical=86
RL: Behaviors

- **Home & School:** Upon arrival to US had good articulation in Cantonese, but no spont. language. Later reported anxiety about being returned to orphanage. Teacher reported grade level spelling, behind in all other areas. Behavioral difficulties with group & independent work. Distractible, difficulties with handwriting, requires 1:1 aide and help initiating tasks. Social skill difficulties.

- **Clinic:** Small for age, socially immature (immature vocal tone), friendly, nonverbal gestures, persistently requested breaks, difficulties with inhibition and attention
RL: Recommendations

• Educational:
  – Reading (Dr. Leckliter & J. Ed. Psychology, 101, 262-281)
  – Math (Touch Math, Mneumonics-STAR Method [Maccini & Hughes, 2000], City Creek Press)
  – Evaluation by speech & language & OT
  – Smaller classroom with possibly 1:1 aide
  – Movement breaks, Keyboarding, Class notes, Seating, Organizational help
  – Information against grade retention (http://www.nasponline.org)
  – Educating Children with Velo-Cardio-Facial Syndrome (Landsman, 2007)

• Socioemotional:
  – Coping skills to manage academic frustration
  – Participation in activities she excels in and enjoys
  – Continued monitoring of hyperactivity symptoms and possibly treatment
  – Social Skills group

• At-Risk Intellectual Deficiency
  – Recommended re-assessment & Local UCEDD
HA: Background

• 12-year old boy previously diagnosed with Autism (at 8-years before 22q11.2 dx), LD, Anxiety and ADHD both medicated
  – WISC-IV: FSIQ=73, VCI=73, PRI=94, WMI and PSI=70’s
  – TOWRE: Total=66 (Range =69-75)
  – WIAT-II: Word Rd=87, Rd Comp.=67, Math Composite=52, Oral Lang. Composite=81
  – NEPSY-II: Affect Recognition SS=5, TOM=<2\textsuperscript{nd} %tile (Below to Well Below Expected)
  – SCQ: 13 (below cut-off)
  – SSP: Definite Differences in Taste/Smell & Underresponsive/Sensation Seeking; Probable Differences in Tactile, Energy, and Overall
  – BASC-II: Parent-Clinical Elevations on Internalizing, Withdrawal, and Adaptive; At-risk in multiple areas (11 scales); Teacher Report-At-Risk in School, Learning, & Adaptability
  – SNAP-IV: Elevations suggesting continued inattention and hyperactivity
  – ABAS-II: Range 59-65
AH: Behaviors

- **Home & School**: Previously retained in 2\(^{nd}\) grade, currently in contained class due to academics and autism diagnosis, well connected with school and receives CBT with *plans for social skills*, mother described him as developmentally immature.

- **Clinic**: Limited spontaneous remarks, easily redirected, anxious, fixed shoe laces, restricted affect, but did laugh and smile, banged fists when frustrated, discussed instances of feeling happy/sad/anxious, difficulty with coping resources, commented at times with eye contact but evasive at other times, talked about friends with same interests.
AH: Recommendations

• Educational:
  – Math & Reading
  – Seating, breaks to reduce frustration, additional time to complete tests, notes for lectures

• Socioemotional:
  – Individual therapy incorporating strength in visual processing to address anxiety, Coping Cat (Dr. Leckliter)
  – Social Skills group
  – Re-evaluate meds for ADHD

• At-Risk Intellectual Deficiency
  – Recommended re-assessment
  – Local resource for Developmental Disabilities (UCEDD)