1. Brief update on ASD - general overview of assessment framework
2. Key tenets of evidence-based assessment (EBA)
3. EBA - Screening and diagnosis
4. BREAK.
5. EBA – Intervention planning and monitoring
6. Key tenets of interprofessional practice.
7. Project INTERACT.
8. Concluding comments. Q&A.

Acknowledgements

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Evidence-Based Assessment of Autism Spectrum Disorder within the Context of Interprofessional Practice

Acknowledgements

Jonathan M. Campbell, PhD
Western Carolina University

3/17/2022

Current Prevalence Estimates

1 in 59, 4-year-olds (Shaw et al., 2021)
3.4:1 Male : Female ratio
1 in 44, 8-year-olds (Maenner et al., 2021)
4.2:1 Male : Female ratio

Brief update on ASD - General overview of assessment framework
- Prevalence and Co-occurring Educational and Psychological Concerns
- Key Tenets of Evidence-Based Assessment
- Introduce Comprehensive, Developmental, Evidence-based Assessment framework
Neurocognitive Functioning

**Intellectual disability – historical estimates**
- 50-70% for all ASDs and 75-80% AUT.

**Recent reports much lower % of ID**
- 30 - 35.2% ID range (2014, 2016, 2018 data from CDC).
- 41.7 - 46% Average or greater (CDC, 2014, 2016, 2018 data).

**Sensory abnormalities (hypo / hyper) – visual, sound, tactile, olfactory, taste**
10% savant skills (talented v. prodigious).

Neurocognitive / Academic Concerns

**ADHD**
High rates of comorbidity – 21-30 % (Rosen et al., 2018).

**Motor difficulties** (Bodison & Mostofsky, 2014)

**Learning disabilities** – up to 67% (Bauminger-Zviely, 2014).

**Executive functioning** (planning, organization, self-regulation, inhibition)

Comorbid Psychological Difficulties

**Anxiety and Depression most common**
- ~ 56% of all ASDs in Howlin’s (2004) review of 200 individuals with ASD
- More recently:
  - Anxiety roughly 40% (Rosen et al., 2018)
  - Depression – 29% of children and 77% adults (Rosen et al.)

**Externalizing disorders** (Rosen et al.)
- Oppositional defiant disorder – 28%
- Conduct disorder – 3%
Evidence-Based Assessment of Autism Spectrum Disorder within the Context of Interprofessional Practice

Fig. 1 Overlap between categories and dimensions for core ASD symptoms and non-ASD symptom specifiers (Rosen, Lord, & Volkmar, 2021).

Purposes of Assessment

Screening.

Diagnosis / Identification.
- Including identifying co-occurring conditions.

Educational and intervention planning.

Educational and intervention monitoring.

Tenets of Evidence-Based Assessment (EBA)

Movement from evidence-based medicine – influenced psychological therapies first (ESTs).

Basic premise – use assessment techniques and interpretive strategies that are based on sound scientific evidence. (What a concept!)
Psychometric concepts informing EBA

**Reliability.**
- *Internal consistency* – within scale – do items on a scale “hang together?”
- *Temporal stability* - stable over time – does test yield similar result over repeated uses?
- *Interrater reliability* - across users – does test produce similar results across users?

Psychometric concepts informing EBA

**Validity.**
- How useful? Does it do what it’s designed to do?
- How well does test measure what it purports to measure?
- Content; construct; criterion / concurrent / convergent; discriminant / divergent; predictive; incremental; etc.

Psychometric concepts informing EBA

**Standardization.**
- What sample is used to standardize the measure?
- How representative of the population to be used with?
- Stratified per age; gender; race/ethnicity; etc. (e.g., US census data)

**Norming.**
- Are appropriate statistical procedures used to develop normative scores?
Standards for acceptable psychometrics (Bracken, 1987)

Internal consistency reliability:
- Total test = .90 or >
- Screening = .80 or >
- Median subtest = .80 or >

Temporal stability reliability:
- Total test = .90 or > (2-4-week interval)
- Median subtest = ?

Validity: No absolute criteria exist.

Other Proposed Standards (Cicchetti, 1994)

Internal consistency reliability:
- < .70 = unacceptable
- .70 - .79 = fair
- .80 - .89 = good
- .90 and > = excellent

Interrater reliability (e.g., kappa):
- < .40 = poor
- .40 - .59 = fair
- .60 - .74 = good
- .75 and > = excellent

Screening

Definition:
- Identification of unrecognized problems via brief measures to differentiate between those who probably have a disorder from those who probably do not (Derogatis & Dellapietra)

Purpose:
- Identify those persons who are a greater risk for a problem versus yielding a diagnosis (Satz & Fletcher)

Early screening built on notion that early detection leads to earlier intervention and improved outcomes
Evaluating Screening Tests

Brevity – should be quick
Cost – should be inexpensive
User qualifications – should not require extensive expertise
Psychometrics
- Should be reliable
- Should be valid – PREDICTIVE
- Validity assessed in variety of ways

Types of validity statistics:
- **Overall hit rate** – correct classification of sample
- **Sensitivity** – correct detection of disorder
- **Specificity** – correct exclusion of disorder
- **Positive predictive value (PPV)** – % of screening hits who have disorder
- **Negative predictive value (NPV)** - % of screening misses who do not have disorder

An Example (1,000 cases screened, prevalence = .05 (ASD ~.023))

<table>
<thead>
<tr>
<th></th>
<th>Disorder</th>
<th>No Disorder</th>
<th>PPV</th>
<th>NPV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screen +</td>
<td>True positive</td>
<td>False positive</td>
<td>40/135 = .30</td>
<td>855/865 = .99</td>
</tr>
<tr>
<td>Screen -</td>
<td>False negative</td>
<td>True negative</td>
<td>855</td>
<td>Hit rate = 40 + 855/1000 = .90</td>
</tr>
</tbody>
</table>

Sensitivity = 40/50 = .80
Specificity = 855/950 = .90
Hit rate = 40 + 855/1000 = .90
**AUC Interpretive Guidelines**

Probability of correctly classifying pair of individuals, one with ASD and one without ASD.

- 1.0 = Perfect
- ≥ .90 = Excellent
- ≥ .80 = Good
- ≥ .70 = Fair
- < .70 = Poor

**M-CHAT, M-CHAT Critical, SCQ, PDDST-II Total Scores, White/Caucasian (n = 51)**

<table>
<thead>
<tr>
<th>Test</th>
<th>AUC (SE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCHAT</td>
<td>.67 (.09)</td>
</tr>
<tr>
<td>Critical</td>
<td>.75 (.08)</td>
</tr>
<tr>
<td>PDDST</td>
<td>.44 (.09)</td>
</tr>
<tr>
<td>SCQ</td>
<td>.88 (.09)</td>
</tr>
</tbody>
</table>

Critical > M-CHAT. M-CHAT and Critical > SCQ.

**Guidelines for Selection of “Cut-off” Scores**

How do you determine where to place cut-off score?
- Sensitivity, Specificity, hit rate ≥ .80 (Carran & Scott, 1992).
- Referral rate 3 times higher than base rate (Lichtenstein & Ireton, 1991).
- Point on ROC curve that comes closest to left-hand corner (Ehlers, Gillberg, & Wing, 1999).
- Cut off too conservative – miss too many with problem (false negative).
- Cut off too liberal – identify too many without a problem (false positive).
Evidence-Based Assessment of Autism Spectrum Disorder within the Context of Interprofessional Practice

Social Communication Questionnaire (SCQ; Rutter, Bailey, & Lord, 2003)

- ASD screening instrument.
- 40 items completed by parent or caregiver.
- Items in Yes / No format. (e.g., “Has he ever got his pronouns mixed up (e.g., saying you or he for I?” “When she was 4 to 5, did she nod her head to mean no?”)
- Current form and Lifetime form.
- Used with children 4.0 or older with ‘mental age’ of 2.0 or higher.
- Item content linked to the Autism Diagnostic Interview-Revised (ADI-R).

Social Communication Questionnaire (SCQ; Rutter, Bailey, & Lord, 2003)

- Raw score of 15 or higher on Lifetime form is a positive screen.
- Reliability evidence.
  - All items correlate with total score ($r = .26 - .73$).
- Validity evidence (Rutter et al., 2003).
  - Items discriminate between ASD and non-ASD.
  - Correlates .71 with ADI-R total scores.
- AUCs range from .86 to .94 distinguishing between ASD and ID.
- External validation review (Norris & Lecavalier, 2010).
  - Consistently better sensitivity values than specificity.

Modified Checklist for Autism in Toddlers, Revised with Follow-up (M-CHAT-R/F; Robins, Fein, & Barton, 2009)

- Screening instrument based on CHAT.
- For use with 16- to 30-month-olds.
- Two parts – Checklist and Follow-up Interview
- Checklist consists of 20 items completed by caregiver.
- Follow-up interview used to clarify caregiver responses.
- Content – pretend play; joint attention; social interest, among others.
- Items in Yes / No format. (e.g., “Does your child play pretend or make-believe?” “Does your child point with one finger to show you something interesting?”).
The M-CHAT-R/F is freely available and includes scoring templates and Excel software. [https://mchatscreen.com/](https://mchatscreen.com/)

The follow-up interview is designed to reduce false positives.

The M-CHAT-R/F has been translated into over 50 languages.

Meets 18- and 24-month ASD screening recommendations from AAP (see [https://brightfutures.aap.org/Pages/default.aspx](https://brightfutures.aap.org/Pages/default.aspx)).

Internal consistency = .79.

M-CHAT-R

- Total score <3
  - No follow-up needed unless surveillance or other procedure suggests risk for ASD

- Total score = 3–7
  - Administer M-CHAT-R Follow-up
  - Total score ≥2 on M-CHAT-R/F: refer for diagnostic evaluation & early intervention

- Total score ≥8
  - Bypass Follow-up; Refer immediately for diagnostic evaluation & early intervention

Assessment of multiple areas
- Cognitive, Behavioral, Functional
Developmental perspective
- Grounded in intellectual development
Variability of skills and performance across settings
- Functional adjustment (i.e., adaptive)

General Areas to be Assessed (Klin et al., 2005)

Verbal and Nonverbal Cognitive Functioning
- Language
- Adaptive Behavior
- Social Communication

Table 1. Recommended Measures of a Core Assessment Battery for Autism Spectrum Disorders (Ozonoff et al., 2005)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Format</th>
<th>Age Range*</th>
<th>Administration</th>
<th>Training Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autism Diagnostic Interview</td>
<td>Interview</td>
<td>18 months to adult</td>
<td>1 to 21 hr</td>
<td>Interview</td>
</tr>
<tr>
<td>AQ (Kernicterus)</td>
<td>Questionnaire</td>
<td>4 years to adult</td>
<td>10 mins</td>
<td>Minimal</td>
</tr>
<tr>
<td>PDI-Q</td>
<td>Questionnaire</td>
<td>7 to 17 years</td>
<td>20 to 30 min</td>
<td>Minimal</td>
</tr>
<tr>
<td>ADOS-2</td>
<td>Direct Testing</td>
<td>2 years to adult</td>
<td>30 to 50 min</td>
<td>Minimal</td>
</tr>
<tr>
<td>CBCL/FAS</td>
<td>Observation</td>
<td>2 years to adult</td>
<td>1 to 10 min</td>
<td>Minimal</td>
</tr>
<tr>
<td>Adaptive Behavior</td>
<td>Observation</td>
<td>2 years to adult</td>
<td>1 to 10 min</td>
<td>Minimal</td>
</tr>
<tr>
<td>Social Communication</td>
<td>Direct Testing</td>
<td>2 to 8 years</td>
<td>40 to 75 min</td>
<td>Minimal</td>
</tr>
<tr>
<td>Social-Emotional Relationship</td>
<td>Direct Testing</td>
<td>2 to 20 years</td>
<td>25 to 90 min</td>
<td>Minimal</td>
</tr>
<tr>
<td>Community Relations</td>
<td>Direct Testing</td>
<td>3 to 25 years</td>
<td>30 to 45 min</td>
<td>Minimal</td>
</tr>
<tr>
<td>EFPPVT</td>
<td>Direct Testing</td>
<td>2 to 8 years</td>
<td>10 to 15 min</td>
<td>Minimal</td>
</tr>
<tr>
<td>CCR</td>
<td>Direct Testing</td>
<td>3 to 18 years</td>
<td>4 to 60 min</td>
<td>Minimal</td>
</tr>
<tr>
<td>Adaptive Behavior</td>
<td>Questionnaire</td>
<td>3 to 17 years</td>
<td>10 to 15 min</td>
<td>Minimal</td>
</tr>
</tbody>
</table>

*Age Range: 18 months to adult to 3 to 25 years

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**Autism Diagnostic Observation Schedule-2 (Lord et al., 2012)**

*Designed for diagnosis and classification.*

*Semi-structured, standardized assessment instrument that samples:*
- Communication;
- Social interaction;
- Imaginative play and use of objects;
- Repetitive or stereotypic movements / interests.

*The instrument is built on planned social occasions, or "presses," where deficits are likely to appear, e.g., pretend play; spontaneous communication.*

*Designed to minimize expressive language skills; that is, to assess areas of functioning that are beyond language delay.*

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**Autism Diagnostic Observation Schedule-2 (Lord et al., 2012)**
- Behavior is coded within multiple areas.
- Codes used to formulate a diagnosis through algorithm.
- No information regarding onset.
- ADOS-2 classification of autism does not automatically equal a diagnosis of autism.
- Also features Comparison Score that allow to track changes in ADOS-2 scores over time and across modules (except Module 4).
- Comparison Score ranges from 1 (Minimal) to 10 (High).

**Five modules for language and/or age:**
- **Toddler:** Age 12-30 mo. No speech to simple phrases.
- **Module 1:** Age >31 mo. No speech to simple phrases.
- **Module 2:** Simple phrases (30-month) to verbal fluency (4 y.o.).
- **Module 3:** Verbally fluent child to younger adol. (under 12-16).
- **Module 4:** Verbally fluent adolescent or adult (above 16).

**CARS-2 (Schopler et al., 2010; WPS)**
Two versions:
- **CARS-2 Standard Version (CARS-ST).**
  Younger than 6; and
  Older with below average IQ and communication.
- **CARS-2 High Functioning Version (CARS-HF).**
  6 years and older and IQ > 80.
CARS2-ST and CARS2-HF consist of 15 items and yield “Severity Group” score:

- Minimal or no symptoms of ASD.
- Mild-to-moderate symptoms of ASD.
- Severe symptoms of ASD.

Both versions yield comparison with individuals with ASD (clinical sample of 1,034) – presented as T scores ($M = 50$; $SD = 10$).

Social Responsiveness Scale (SRS) and SRS-2 (Constantino & Gruber, 2005; 2012)

- Designed to aid in diagnosis, intervention planning, and intervention monitoring.
- Set of rating scales of symptoms associated with ASD; 65 Likert-items for each of four forms
- Four forms:
  - Preschool form (2.5 – 4.5 yr)
  - School-age form (4 – 18 – same items on SRS)
  - Adult form (19 and up; 3rd-party rater-relative)
  - Self-report form for adults (19 and older)
- Total of 1,963 individuals across 4 forms.

Index scores (to align with DSM-5):

- Social Communication and Interaction
- Restricted Interests and Repetitive Behavior

Five “Treatment” Subscales:

- Social Awareness
- Social Cognition
- Social Communication
- Social Motivation
- Restricted Interests and Repetitive Behavior
Evidence-Based Assessment of Autism Spectrum Disorder within the Context of Interprofessional Practice

Item groupings via expert judgment – i.e., rationally derived – 'design, implement, evaluate treatment.'

- **Social Awareness** – ability to pick up on social cues.
- **Social Cognition** – interpret social cues.
- **Social Communication** – expressive social communication.
- **Social Motivation** – motivation to engage in social behavior.
- **Restricted Interests/Repetitive Behavior** – RRBI.

**SRS-2 Psychometrics (manual)**

- Parent/teacher standardization: N = 1,014; 2009 census.
- Reliability (School-age form; 4 - 18 year olds).
  - Internal consistency (Total): $\alpha = .95-.96$
  - Interrater reliability (Parent-Teacher): $r = .61$
- Parent form: clinical sample, N = 4,891; unaffected sibs, N = 3,830 – Interactive Autism Network (IAN)
  - Reliability: Clinical: $\alpha = .95$; Siblings: $\alpha = .97$
  - Validity: Clinical MRaw = 107; Sibs MRaw = 25.
  - ROC curve analysis: AUC = .97


<table>
<thead>
<tr>
<th>Participant Characteristics (N=20)</th>
<th>n</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>M</th>
<th>SD</th>
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<td><strong>Gender</strong></td>
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<tr>
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<td>4</td>
<td>20</td>
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<td><strong>Race</strong></td>
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<tr>
<td>Caucasian</td>
<td>36</td>
<td>80</td>
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<td>African American</td>
<td>3</td>
<td>15</td>
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<td><strong>Ethnicity</strong></td>
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<td>Non-Hispanic</td>
<td>19</td>
<td>95</td>
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<td>Hispanic</td>
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<td><strong>Diagnosis</strong></td>
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<td>12</td>
<td>60</td>
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<td>Non-ASD</td>
<td>8</td>
<td>40</td>
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<tr>
<td><strong>Age (yr)</strong></td>
<td>3.25</td>
<td>22.7</td>
<td>8.23</td>
<td>5.6</td>
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<td></td>
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<tr>
<td><strong>BMI</strong></td>
<td>36</td>
<td>44</td>
<td>80.9</td>
<td>20.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Harris et al. (2014) Autism Assessment Study

- Authors conducted a comprehensive review of Autism assessments pertaining to culturally and linguistically responsive psychometrics and design
- Diagnostic tools assessed: ADOS, ADI-R, ASRS, CARS-2
- Screening tools assessed: ASQ:SE, ASSQ, GARS, M-CHAT, Q-CHAT, SCQ
- Findings: Autism screening tools had higher checklist scores than Autism diagnostic tools, practitioners need stronger tools for cultural and linguistic minoritized (CLM) populations
Psychometrics of Autism Assessments

- Mainly standardized with White, middle to upper class males
- Small samples of racially/culturally minoritized children
- All Spanish language Autism-specific diagnostic assessments are direct translations, not standardized
- What about other languages?
- Extremely limited research in this area

Psychometrics of Common Autism Tools

<table>
<thead>
<tr>
<th>Tool</th>
<th>Subtest</th>
<th>Sample Size</th>
<th>White</th>
<th>Hispanic</th>
<th>Black</th>
<th>Other</th>
<th>All</th>
<th>Racial/Cultural Minority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autism Diagnostic Interview (ADI-R)</td>
<td></td>
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<tr>
<td>Autism Diagnostic Observation Schedule (ADOS)</td>
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</tr>
</tbody>
</table>

General Comments about Diagnostic Assessment (Campbell et al., 2014)

**Multidisciplinary**

- Multi-domain and multi-informant
- ‘Gold standard’ measure(s)
- No single measure = ASD
- Identify comorbidities

Clinical Example

Boy, 11 years old

No prenatal, perinatal complications

Walked 12 months, single words 18 months, 2-word phrases by age 36 mos

First eval @ 3 yr, 7 mo:
- Repetitive behavior (open/close dryer door), repetitive toy play, sensory sensitivities (noises; clothing), solitary play
- Aggressive; clumsy
- Diagnosis of Autistic Disorder (ADOS, CARS, SCQ)
- Cognitive, language, adaptive delays

Cognitive Functioning

![Chart showing cognitive function over different ages](chart.png)
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Visual-Motor Functioning

Receptive Language

Adaptive Functioning

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References


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Interprofessional Collaboration (IPC): Professionals from different disciplines work together and learn from each other during service provision.

Interagency Collaboration (IAC): Professionals from different agencies collaborate during service provision.

Interprofessional Interagency Collaboration (IIC): Professionals from different disciplines and agencies collaborate during service provision.

Why Collaborate?

- More effective, efficient, and family/provider satisfaction
- Professional expectations
- Autism is complex
- Co-occurring concerns
- Improves equity
- Higher quality evaluations

Levels of Collaboration

**Level 1: Communication**
- Share info
- Review of records
- Phone calls, email, in-person
- Usually via email

**Level 2: Care Coordination**
- Deliberate organization of patient care activities
- Within and across agencies
- Streamlined processes (e.g., family navigation)

**Level 3: Collaboration**
- 2+ providers
- Fails, problem solve student outcomes
- School-based autism team embedded with developmental specialists or clinic-based autism school personnel

Azad et al., 2021; McClain et al., 2021; Shahidullah et al., 2018; WHO, 2010

Gardner et al., in press
Barriers to collaboration between school and community

School
- Community provider school/SPED system knowledge
- Confidential records sharing
- Difficulties accessing community supports

Community
- Administration
- Time
- Reimbursement
- School provider autism expertise
- Community provider school/SPED system knowledge
- Confidential records sharing

Azad et al., 2021; McClain et al., 2020

Facilitators to collaboration between school and community

School
- Valuing shared decision-making
- Establish collaboration methods
- Community provider school/SPED system knowledge

Community
- Administration supports
- Easy information sharing
- Schedule coordination
- School provider training in autism
- Community provider school/SPED system knowledge

Azad et al., 2021; McClain et al., 2020

Successful Engagement: School Psychology Training

Graduate training, especially practica experiences
Interprofessional education professional development
Increase autism evaluation skills
Strong understanding of the roles and contributions of different disciplines
Seek mentorship from more experienced school psychologists

Azad et al., 2021; McClain et al., 2021; McClain et al., 2020
Evidence-Based Assessment of Autism Spectrum Disorder within the Context of Interprofessional Practice

Project INTERACT
Interprofessional Preparation Grant
https://affiliate.wcu.edu/projectinteract/

US DEPARTMENT OF EDUCATION PERSONNEL PREPARATION GRANT - FOCUS AREA: (B) PREPARING PERSONNEL TO SERVE SCHOOL-AGE CHILDREN WITH DISABILITIES WHO HAVE HIGH-INTENSITY NEEDS

Project INTERACT Overview
- Prepares graduate student scholars from 3 disciplines (Psychology, Special Education, and Speech-Language Pathology) to address the varied and complex needs of children with autism spectrum disorders (ASD) presenting with moderate to severe intellectual disabilities (ID)
- Training addresses the communication, behavioral, and functional/academic needs of children and is offered through interdisciplinary academic and clinical instruction committed to the core principles of Interprofessional Education (IPE)
- Increases the number and quality of personnel serving children with high-intensity needs

References
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Team teaching
Co-teaching
Case studies
Clinical experience
Application with feedback
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Organization of Interprofessional Teams

<table>
<thead>
<tr>
<th>Team</th>
<th>CSD</th>
<th>SPED</th>
<th>PSY</th>
<th>Core Faculty</th>
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<th>Families</th>
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<tr>
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Structure of Clinical Experience

- Each IP team was assigned a family of a child/adolescent with ASD & mod-severe ID
- Supervision provided by team faculty member, plus faculty from other disciplines if needed for scholars' clinical hours
- Each team conducted a series of 5 one-hour family Zoom sessions
- Sessions 1 & 2 integrated into the Assessment course
- Sessions 3 & 4 integrated into Intervention course
- Session 5 integrated into Capstone course

Sessions 1 & 2: Clinical Assessment (530 - Assessment Course)

- Session 1: Interview
  - Identifying family’s concerns and interests
- Session 2: Assessment
  - Examples of assessments administered
    - Direct assessment: Language sample
    - Parent-report: Children’s Communication Checklist-2; MacArthur-Bates Communicative Development Inventory; Vineland Adaptive Behavior Scales
Integration with Assessment Course

- Many assessment procedures discussed in class
- Planning for interviews and assessments, as well as discussing and presenting results, integrated into class
- Completed Interprofessional Assessment Report for class grade

Case Example: Assessment

- Background History and Problem Identification: NA is a 5-year-old girl who enjoys cartoons, playing with PlayDoh, pretend play, treasure maps, and being around other people. She received a diagnosis of Autism Spectrum Disorder at two years of age. Communication milestones are significant for production of single words at 15-18 months of age and word combinations at 3 ½ years of age. Parents expressed a desire to obtain information that will assist NA in integrating into school and further increase her personal safety and independence.

Assessment Procedures:
- Informal assessment for recognizing levels of relationships using Boom Cards (from self to stranger)
- Language Sample
- Behavior Rating Inventory of Executive Function (BRIEF-2) - Parent Form

Case Example: Assessment

- Assessment Results and Interpretations for each assessment procedure were provided.
- Recommended Goal/Objectives were developed and discussed with the parents based on assessment results
- Additional Considerations included providing specific examples of self-management strategies for use in the classroom.
Outcomes

- Scholars across the three disciplines (with a faculty member) used interprofessional collaboration skills to work with the family and child with autism to complete the assessment.
- Scholars shared their expertise across disciplines and the course content to identify the assessment tools needed, strategy on how to administer the assessments, who on the team would administer each assessment, and how the data would be collected.
- Each scholar generated and implemented specific roles and responsibilities on the team.
- Scholars were able to clearly identify the areas of concern for the family and work with the family to generate goals for the student.

Application and feedback

- Scholars met with their team and faculty member across several sessions to plan their assessment and intervention.
- Scholars also role played how to implement the meeting with the families to prepare and clarify goal for the meeting, their roles and responsibilities as well as their process.
- Discussions occurred regarding the type of communication needed to have a positive and effective session with the family and child with autism and intellectual disability.
- After the session with the family the pre-professional team received feedback (from the family and faculty) on their performance in the session with the family and the student with autism and intellectual disabilities.

Sessions 3 & 4: Clinical Intervention (540 - Intervention Course)

- Session 3: Assessment Results/Intervention Planning
  - Shared assessment results
  - Discussed directions for intervention; family’s priorities, preferences, routines
- Session 4: Intervention Implementation
  - Shared specific intervention objectives and recommended EBPs
  - Explained and demonstrated EBPs; provided materials (such as digital and paper social narratives, visual schedules)
  - Parents tried the EBPs as team observed, coached (as time allowed)
Integration with Intervention Course

- Many EBPs, procedures for selecting EBPs, strategies for training parents discussed in class
- Planning for the intervention sessions integrated into class
- Completed Interprofessional Intervention Report for class grade

Session 5: Follow-up (550 - Capstone)

- Session 5: Follow-up
  - Check in with family
  - Progress on objectives? Additional resources, referrals needed?
- Integration with Capstone Course
  - Provides closure with family, as we provide closure for the scholars’ overall experience
  - Scholars’ needs related to clinical experiences have been targeted in the course
  - Strengths-based language, assessment & intervention scenarios

Positives outcomes from families

- Family perspectives
- Positive overall experience
- Meaningful outcomes for children/families, such as:
  - Progress in potty training
  - Improved child self-regulation
  - Increased child safety
  - Introduction of AAC device
  - Growth in child communication skills
  - Growth in parental knowledge and confidence
  - Parents reported “feeling heard” and supported
Evidence-Based Assessment of Autism Spectrum Disorder within the Context of Interprofessional Practice

Positives outcomes from Scholars

- Highly valued experience
- Insights into families’ experiences, especially at home during COVID
- Telehealth as good preparation for future clinical work
- Also encouraged team organization and preparation
- Experienced truly family-centered practice
- Teams showed trust, vulnerability, and positive interdependence
- Developed lasting collaborative relationships with each other

Thank you.

Q & A.