Innovations in Theory of Mind Assessment: Introduction to the Theory of Mind Inventory-2

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DISCLOSURE
Tiffany Hutchins has contributed to books on autism and language disorders. She receives royalties from the sale of those publications and for presenting on autism and language disorders. She is also co-owner of Theory of Mind Inventory LLC and receives royalties from the sale of materials associated with Theory of Mind Inventory LLC.

I am also a MedBridge Instructor and affiliate. Many of the concepts presented today are from an online course with Tiffany Hutchins, entitled: Innovations in Theory of Mind Assessment for Children, Adolescents & Adults with ASD. I do benefit financially from royalty payments from the sale of these products.

DISCLOSURE
Patty Prelock has written books on autism and other neurodevelopmental disabilities. She receives royalties from the sale of those publications and also receives honoraria for presenting on autism and other language disorders. She is also co-owner of Theory of Mind Inventory LLC and receives royalties from the sale of materials associated with Theory of Mind Inventory LLC.

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Agenda

What
• What is ToM?
• Traditional challenges to assessment?
• How can we overcome these challenges to advance ToM treatment planning?

How
• Introduce Theory of Mind Inventory 2 (ToMI-2), Theory of Mind Atlas (ToMA), and ToMI-2 Caregiver Interview
• Case studies illustrate utility of ToMI-2

Why
• Increase awareness of ToM assessment challenges
• Offer guidance to link assessment to intervention
• Support decision-making vis-à-vis theory of mind intervention

"As it was a long time before I realized that people might actually be speaking to me, so it was a long time before I realized that I too was a person -- if somewhat different from most others. I never thought about how I might fit in with other people when I was very young because I was not able to pick people out from objects...Human beings are the hardest of all to understand because not only do you have to cope with the problem of just seeing them, they move about when you are not expecting them to, they make varying noises and along with this, they place all different kinds of demands on you which are just impossible to understand."

~ Jolliffe, Lansdown, & Robinson (1992)
What is Theory of Mind?

- Social cognition, perspective-taking, folk psychology, mentalizing
- A construct which “refuses to be corralled” (Astington, 2005)
  - Narrow view → false belief understanding
  - Broad view → synonym for social cognition

What is Theory of Mind?

- “a conceptual system that underlies our folk psychology with which we impute mental states to others and ourselves” (Perner & Lang, 2000)
- “an intentional stance that characterizes human social interaction” (Astington, 2003)
- “a complex and multifaceted construct that reflects the understanding of an interconnected network of mental states” (Hutchins, Prelock, & Bonaznga, 2012)

The “Sally Anne” False Belief Task

(Wimmer & Perner, 1983)

Memory control questions:
Where is the ball first/now?
Test question:
Where will Sally look for the ball first?

Test available at: https://www.autismresearchcentre.com/arc_tests

The “Reading the Mind in the Eyes” test

(RMET; Baron-Cohen, Wheelwright, Hill, Raste, & Plumb, 2001)

Test available at: https://www.autismresearchcentre.com/arc_tests
The Theory of Mind Task Battery
(ToMTB; Hutchins & Prelock, 2008, 2010)

- Taps a wide range of ToM domains
  - Variety of content
  - Easy – difficult
- Subscales:
  - Early: ~1-3.5 yrs
  - Basic: ~3.5 – 6.5 yrs
  - Advanced: ~6.5 – 10 yrs

The Theory of Mind Task Battery

- Task A: basic emotion-recognition
- Task B: desire-based emotion
- Task C: seeing-leads-to-knowing
- Task D: line of sight
- Task E: perception-based action
- Task F: first-order false belief
- Task G: belief- and reality-based emotion and second order emotion
- Task H: inferring belief of another when interpreting a statement of desire in the context of a change location
- Task I: second-order false belief

Other measures as well . . .

- The Reading the Mind in the Eyes test ("Eyes Test"; Baron-Cohen et al., 2001)
- Diagnostic Analysis of Nonverbal Accuracy-2 (DANVA-2; Nowicki & Duke, 2000)
- Social Emotional Evaluation (Wiig, 2008)
- Social Language Development Test (Bowen et al., 2008, 2010, 2016)
- Neuropsychological Assessment (NEPSY-II; Korkman et al., 2007)
- The Awareness of Social Inference Test (AUT); Rollins, Flanagan, & McDonald, 2002
- Theory of Mind Assessment Scale (Th.o.m.a.s.; Bosco et al., 2009)
- The TOM Test (Murs et al., 1999)
- The TOM Scale (Wallman & Loi, 2004; Peterson et al., 2012)
- The Wechsler ACS Social Perception subtest (Kandelaff et al., 2012)
- The Receptive, Expressive, & Social Communication Assessment (RESCA-E; Hamaguchi & Ross-Swain, 2015)
- Strange Stories (Happé, 1994)
Limitations of traditional ToM assessments:

- All are quite limited in ToM domain coverage
- Some employ strange ‘pragmatics’
- Some have very limited empirical support
- Most suffer from ceiling effects
- All have questionable ecological & social validity
- All are influenced by motivational/situational & cognitive/linguistic factors
  - Almost always require a minimum VMA of about 4 years (and can be much higher)

But...

“Interest in people with high-functioning autism can obscure the fact that most people with the disorder have moderate to severe learning difficulties. In classic autism this may be about 75%, and more than half of those affected develop no appreciable language. This means that theory of mind deficits in autism have only been examined in a fraction of sufferers; typically experiments include only children with verbal mental ages of above 4 years”

~ Doherty (2010)

More challenges to ToM assessment?

- Where are we operating in a causal model?
- There are problems related to:
  - Interpretation
  - Tautology
  - Granularity/specificity

Theory of Mind model of social communication deficits?

What is the presumed responsible ToM feature?

A question of interpretation?

- Theory of mind?
- Perspective-taking?
- Don’t understand/can’t read the social cues that signal disinterest?
- Affect recognition?
- Empathy?
- A more general inability to monitor the others engagement in dialogue which at the core involves a process of joint attention?
Avoiding tautologies

- “Johnny has impaired social communication caused by a pragmatic deficit”
- “Sarah has trouble making friends due to her significant social impairment”
- “Michael has delayed language owing to a language learning disorder”

What is the presumed responsible ToM feature?

It gets worse: Granularity? Specificity?

- Empathy?
- Intellectual component
- Affective component

It gets worse: Granularity? Specificity?

- Emotion recognition?
- Linking facial expression to inner mental state
- Understanding display rules

“We are drowning in information but starved for knowledge”

— John Naisbitt
More distinctions

- Implicit v. Explicit
- Explicit v. Applied (spontaneous)
- Cognitive v. Affective
- Self v. Other
- Inter v. Intra
- Socio-cognitive v. Socio-perceptual

“Despite all these different flavors of ToM, one general observation is critical to note: These psychologically-based ways of dichotomizing ToM are not generally intended to begin to disassemble ToM. The schemes offer psychological theories about ToM, but they all leave the original construct of ToM untouched”
~ Schaafsma et al. (2015)

THEORY OF MIND ATLAS

- Defines theory of mind concepts
- Describes related cognitive achievements
- Reviews the typical developmental course
- Discusses what is known about how that theory of mind concept is affected in
  - ASD, ADHD, DoHH

Freely available to all registered users!

THEORY OF MIND ATLAS

- Goal of ToMA is translational research
- Getting the best research evidence into the hands of professionals who can really use it
- Designed for learning, sharing, and communicating about theory of mind

Freely available to all registered users!

Materials Room
(coming 2018)

- Downloadable treatment materials
- Developmentally-sequenced
  - Age
  - ToM
  - Variety of methodologies
- Wide variety of ToM targets
  - Desires
  - Beliefs
  - Certainty
  - Counterfactual thinking
  - Future thinking
  - Mental-physical distinction
  - Appearance-reality distinction
  - Ambiguous figure perception
  - Emotion recognition

e-books

- Early & Basic ToM
- Verbal/nonverbal
- Conversational/interactive
activities

- All ToM levels
- Verbal/nonverbal
- Conversational/interactive

visual supports

- All ToM levels

The big idea...

- Developmental—appropriate
- Family-centered
- General or specific
- Strengths and challenges

Assess

Explore

- Evidence-based
- Low Prep
- Eclectic toolbox
- Books, activities, visual supports
- Fun, cognitive, experiential, collaborative, generalizable

Treat

Theory of Mind Inventory-2 (ToMI-2)

- Available for purchase & download at theoryofmindinventory.com
- Materials include:
  - ToMI-2 Technical Manual
  - ToMI-2 Guide to Clinical Decision-Making
  - Web-based HIPAA-compliant administration, scoring, and report generation
  - ToMI-2 Caregiver Interview
  - Theory of Mind Task Battery
  - The Theory of Mind Atlas

Your ToMI-2 Free Trial

- Go to: http://www.theoryofmindinventory.com/product/subscribe-tomi-2-free-trial
- Enter coupon code: tomi-ft
- Includes:
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  - ToMI-2 Guide to Clinical Decision-Making
  - Web-based HIPAA-compliant administration, scoring, and report generation
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ToMI-2: Content

- 60 items designed to tap a wide range of social-cognitive understandings
  - “My child understands whether someone hurts another on purpose or by accident.”
- Empirically-derived subscales:
  - Early
  - Basic
  - Advanced
- Rationally-derived subscales:
  - Emotion Recognition
  - Mental State Term Comprehension
  - Pragmatics
ToMI-2: Content

**Rationally-derived subscales:**

- Emotion Recognition subscale: ability to recognize a variety of emotions
- Mental State Term Comprehension subscale: understanding of mental state terms
- Pragmatics subscale: understanding of pragmatic and metalinguistic aspects of language

**Developmentally-sequenced subscales:**

- Early Subscale: ToM abilities that emerge in late infancy and toddlerhood
- Basic Subscale: ToM abilities that emerge in the preschool years
- Advanced Subscale: ToM abilities that continue to adolescence
2. If it were raining and I said in a sarcastic voice “Gee, looks like a
second-order understanding of belief
meant “Let’s go!”

My child understands that if two people look at the same object from
different perspectives-taking level 1

My child understands that people often have thoughts about other
persons’ desires

My child recognizes when a burden is not relieved

Reliability
– Excellent test-retest reliability for a typically developing sample and an ASD sample for both long and short intervals
– Excellent internal consistency

Construct validity
– Excellent content validity
– Excellent criterion-related validity
– Excellent contrasting-groups validity

Scores
• Range 0-20: higher values reflect greater caregiver confidence in child’s ToM competence
• Yields item, sub-scale, and composite scores (raw scores & percentiles)

References
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20.
Inventory: A study of typically developing children and children with autism spectrum disorders.
Mind Inventory and its relationship to measures of social skills. Journal of Autism and Developmental
Disorders. 42, 931-937.
Parents know their children

ToMI-2: limitations

- Should be used when caregiver has insufficient familiarity with the child
- Should not be used when caregiver has a debilitating psychiatric disorder
- Results questionable when majority of responses fall in the “undecided” range
- At present, it is not intended for differential diagnosis

ToMI-2: Advantages

- Strong psychometrics
- Never have to worry about child performance factors
  - Can be used for nonverbal children
  - Children with sensory loss
  - Children who are hard to assess
- Quick and easy to administer and score
  - Computer scoring and report generation
- Can be used as a repeated measure
  - No test practice effects!
- Can be used in larger assessment battery to aid in identification
- Broad content → construct, development
  - Can be used to guide treatment planning
  - Creates a developmentally-sequenced, intra-ToM Cognitive Profile
- Ecologically-valid & family-centered
  - Can be used to begin a conversation with caregivers
  - Avoids tautology

Remember this?

- Don’t understand/can’t read the social cues that signal disinterest?
- A general inability to monitor the others engagement in dialogue which at the core involves a process of joint attention?

Treatment Planning: The Descriptive-Developmental Approach

First step: Identify strengths and challenges

Questions to consider:
- Is this target developmentally appropriate?
- What is a descriptive-developmental approach to intervention?
The Descriptive-Developmental Approach

- Describe development in detail
- Determine point at which challenges emerge
- Focus intervention here
- Consistent with ZPD
- Routine in other areas of clinical practice including speech language pathology

ToMI-2: Uses

- Can be used:
  - to assess effects of social skills/social cognition curricula
  - to monitor treatment progress
  - to identify developmentally-appropriate treatment targets
  - to begin a conversation with caregivers & determine families’ priorities for intervention

ToMI-2 Uses: Identification

- Identify children at risk for poor theory of mind outcomes
- For children with ASD, sensitivity and specificity data are impressive (~ 90%) which has been independently replicated (Greenslade & Goggins, 2016)
- Not intended for differential diagnosis at present

ToMI-2 Uses: Toddler Screen

- For children ages 2 – 3, professionals should administer the Toddler Screen only
- This will save time during administration and it encourages professionals to focus on those areas that will yield the best information regarding risk

ToM impairment *not* specific to ASD

- sensory loss (i.e., deaf and hard of hearing and blindness; Staniszone & Schich, 2014; Peterson, Persons, & Webb, 2000)
- attention deficit hyperactivity disorder (Bachmann, Goertner, Meintal-Gutembrunner, & Kemp-Becker, 2013; Buhler, Van der Wees, Swaab-Barnwolof, & Jan Van der Gaag, 1999; Buhler, Kain, & Barthele, 2002; Uekermann, et al., 2017)
- learning disability (Ashcroft, Jervis, & Roberts, 1999)
- fetal alcohol syndrome (Greenbaum, Stevens, Nash, Izman, & Itten, 2000)
- fragile X syndrome (Cornish, Burack, Rahman, Russo, & Grant, 2009; Grant, Apperly, & Oliver, 2007)
- Post traumatic stress disorder (Hans, 2004)

ToM impairment *not* specific to ASD

- specific language impairment (Nilsson & de Lopez, 2016)
- learning disability (Ashcroft, Jervis, & Roberts, 1999)
- intellectual disability (Abbeduto, Stein, & Shelton, 2004)
- schizophrenia (Finn, Auerbach, & Marcus, 2004)
- traumatic brain injury (Martin-Rodriquez & Leon-Carrion, 2010)
- dyslexia (Gebhardt, 2015)
- Parkinson's disease (Freedman & Shua, 2011)
ToMI-2 Uses: Individuals > 13 Years

- This tool can be used for older individuals at risk for poor theory of mind development (Lerner, Hutchins, & Prelock, 2011)
- Scores for older individuals are automatically compared to the oldest children in the normative sample (i.e., 13 years)
- Scores are interesting and informative when they fall in the low or below average range
- Self-report version also available (adolescents/adults with min. 9th grade reading level)

ToMI-2: limitations

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ToMI-2 Reports: The Output

- Composite and subscale level: standard scores
  - Composite SS: M = 100; SD = 15
  - Subscale SS: M = 50; SD = 10
- Item level: raw scores and percentile ranks

Let’s Look at a ToMI-2 Report for KM

- 15 year old male with ASD
- Verbal
- Enjoys video games, history science & sports
- Nonverbal intelligence
  - Standard Score: 80
  - Percentile Rank: 9th
- Receptive vocabulary
  - Standard Score: 54
  - Percentile rank: 1st
Hammer Task

Intra-ToM Cognitive Profile Analysis

Scores, Scores, Scores...

• Using both normative and raw data to inform treatment planning
  “My child can pretend that one object is a different object (for example, pretending a banana is a telephone)”
  • 10-year-old “Sanje” →
    — Raw score of 0 or ‘definitely not’
    — 1st percentile
  • 10-year-old “Jacob” →
    — Raw score of 15 or ‘probably’
    — 1st percentile

The Table for Treatment Planning

<table>
<thead>
<tr>
<th>Item score high for age (+1 SD above the mean)</th>
<th>NOT DEVELOPED (parental rating between 0 – 7.0)</th>
<th>UNDECIDED (parental rating between 7.0 – 13.0)</th>
<th>DEVELOPED (parenting rating between 13.0 – 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N/A (scores do not occur)</td>
<td>STRENGTH AREA RELATIVE TO NORMATIVE SAMPLE</td>
<td>STRENGTH AREA RELATIVE TO NORMATIVE SAMPLE</td>
</tr>
<tr>
<td>Item score typical for age (within ± 1 SD)</td>
<td>NOT DEVELOPED BUT TYPICAL FOR AGE</td>
<td>UNDECIDED BUT TYPICAL FOR AGE</td>
<td>DEVELOPED AND TYPICAL FOR AGE</td>
</tr>
<tr>
<td>Item score low for age (-1 SD below the mean)</td>
<td>CHALLENGE AREA RELATIVE TO NORMATIVE SAMPLE AND LOW RAW SCORE</td>
<td>CHALLENGE AREA RELATIVE TO NORMATIVE SAMPLE BUT MIDDLE RANGE RAW SCORE</td>
<td>CHALLENGE AREA RELATIVE TO NORMATIVE SAMPLE BUT HIGH RAW SCORE</td>
</tr>
</tbody>
</table>

Benchmarks: Not Developed

• NOT DEVELOPED: Item-level scores falling below 7
• Scores falling in the range of “probably not” and including “definitely not”
• Caregiver confidence of the presence of this ToM knowledge area is low or very low
• Clinicians should consider whether these aspects of ToM are developmentally appropriate targets for intervention
• Advanced skills may be unlikely to benefit from intervention directed at this competency
• Focus on early and foundational ToM competencies that are pivotal to other areas of functioning
Benchmarks: Undecided

- **UNCERTAIN**: Item-level scores between 7 and 13
- Scores falling between the range of “undecided”
- Caregiver is unsure whether competency is present and uncertainty is either informed or uninformed.
- Uninformed uncertainty may mean lack of item clarity or lack of relevant information—items should be omitted from interpretation.
- Informed uncertainty may reflect inconsistent child performance or partial acquisition of a ToM skill.
- Good starting point for intervention as it suggests some degree of understanding & potential for growth.

Benchmarks: Developed

- **DEVELOPED**: Item-level scores above 13
- Scores falling in the range of “probably” including ratings of “definitely”
- Caregiver reports relative or absolute certainty the competency is present
- Score suggests that this area of ToM knowledge is emerging, probable, or established.
- ToM in this area might be targeted for intervention when the goal is to solidify skills and enhance generalization or maintenance.

Table for Treatment Planning

<table>
<thead>
<tr>
<th>Goal Area 1: Basic emotion recognition (happy, sad, mad)</th>
</tr>
</thead>
<tbody>
<tr>
<td>K.M. will identify the emotional states (happy, sad, mad) of others in narratives with ___ accuracy out of ___ opportunities.</td>
</tr>
<tr>
<td>K.M. will identify the emotional states (happy, sad, mad) of others in cartoon and photographic images with ___ accuracy out of ___ opportunities.</td>
</tr>
<tr>
<td>K.M. will identify the emotional states (happy, sad, mad) of others in real-life situations with ___ accuracy out of ___ opportunities.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Goal Area 2: Sharing attention (initiating, responding)</th>
</tr>
</thead>
<tbody>
<tr>
<td>K.M. will share attention by responding to verbal or nonverbal cues that signal a bid for joint attention with ___ accuracy out of ___ opportunities.</td>
</tr>
<tr>
<td>K.M. will share attention by initiating a bid for joint attention through verbal or nonverbal behavior with ___ accuracy out of ___ opportunities.</td>
</tr>
<tr>
<td>K.M. will initiate and respond to opportunities to share his interests with family members and peers with ___ accuracy out of ___ opportunities.</td>
</tr>
</tbody>
</table>

TREATMENT PLAN: Initial Goals

**Goal Area 3: Intentionality**
- K.M. will identify behaviors that match a character’s motivational/intentional state that are embedded within a social scenario when presented with 1-3 situational cues with ___ accuracy.
- K.M. will identify the motivational states of family members during daily routines by pointing to pictures with ___ accuracy out of ___ attempts.

**Goal Area 4: Social referencing**
- K.M. will recognize the emotional states of others in real-life social scenarios with ___ accuracy out of ___ opportunities without cueing.
- K.M. will recognize and respond appropriately to ambiguous and dangerous or unsafe situations with ___ accuracy out of ___ opportunities.

**Goal Area 5: Basic emotion discrimination**
- K.M. will identify and discriminate the emotional states (happy, sad, mad) of others in cartoon and photographic images with ___ accuracy out of ___ opportunities.

**Goal Area 6: Mental state term comprehension (cognitive terms ‘know’)**
- K.M. will employ the term ‘know’ when engaged in structured tasks designed to assess the ability to make knowledge inferences with ___ accuracy out of ___ opportunities.
CASE EXAMPLE: JD

- 17 year old male with ASD
- Limited verbal communication
- Enjoys music, the computer, & creating works of art (e.g., wind chimes)
- Nonverbal intelligence
  - Standard Score: 90
  - Percentile Rank: 25th
- Receptive vocabulary
  - Standard Score: 54
  - Percentile rank: 1st

**Hammer Task**

**Early Subscale Performance**

**Basic Subscale Performance**
Advanced Subscale Performance

Pragmatics Subscale

Intra-ToM Cognitive Profile Analysis

Table for Treatment Planning (Items typical for age)

Table for Treatment Planning (Items low for age)
CASE EXAMPLE: SN

- 12.7 year old male with ASD & OCD tendencies
- Highly Verbal
- Enjoys science, computers, and spending time with friends
- Nonverbal intelligence
  - Standard Score: 100
  - Percentile Rank: 50th
- Receptive vocabulary
  - Standard Score: 126
  - Percentile rank: 96th

SN at age 13

SN at age 18

Table for Treatment Planning
(items low for age)
CASE EXAMPLE: PR

- 9 year, 8 month-old male with ASD
- Highly verbal
- Enjoys sports, physical activities, playing with friends, & summer camp
- Nonverbal intelligence
  - Standard Score: 97 (40th %ile)
- Receptive vocabulary
  - Standard Score: 115 (89th %ile)
- Expressive vocabulary
  - Standard Score: 113 (85th %ile)
- Receptive grammar
  - Standard Score: 93 (32nd %ile)
- Social Skills Rating System (SSRS)
  - Social skills subtest
    - Standard score: 68 (2nd %ile)
  - Problem behaviors subtest
    - Standard score: 120 (91st %ile)
Basic Subscale Performance

Advanced Subscale Performance

Cognitive Profile Analysis

Emotion Recognition Subscale

Pragmatics Subscale

Table for Treatment Planning (items typical for age)
Caregiver Interview

- **STEP 1**: select content
  - guided by ToMI-2 results

- **STEP 2**: access Caregiver Interview Template & develop the interview
  - support materials provided on your dashboard

- **STEP 3**: conduct the interview

Caregiver Interview: Selecting Content

- Recommend items be selected from bottom row but across columns
- Depending on the column items are pulled from, slightly different questions are asked
- As you’ll see from the template, the interview consists of both ‘grand’ and ‘mini’ tour questions

Research Directions

- Additional validation studies:
  - Children who are deaf or hard of hearing (Hutchins, Allen, & Schefer, 2017)

- Development of ToM treatment materials for domains not widely considered at present
  - A-R distinction, M-P distinction, visual perspective taking (VPT2), interpretive theory of mind

Research Directions: Social-Cognition Classifications?

- Large scale project to examine potential for qualitatively distinct social cognition classifications within/across clinical conditions.
- How do we do it?
  - Combine information from measures that yield different but complementary clinical information:
Social Thinking eScale
(Garcia-Winner & Crooke, in development)

- Developed on decades of clinical experience and informed by research-based concepts
- Designed to identify a general social-cognition classification to guide treatment planning
- Major advantage: considers domains beyond social cognition (e.g., emotional coping, self-awareness, bullying, academic skills) that are clinically relevant

Theory of Mind Inventory ©
(ToMi-2; Hutchins, Prelock, & Bonazinga, 2016)

- Well-validated broadband ToM assessment to guide treatment:
  - 6 general subscales
  - fine-grained analysis of 60 ToM strength/challenge areas (e.g., joint attention, empathy, false belief, humor, white lies, visual perspective-taking, complex social judgment)
- Major advantages:
  - report analyzes strengths/challenges in light of the typical developmental sequence of ToM
  - recommends specific treatment targets on the basis of their developmental appropriateness

Getting the Bigger Picture:

- Use eScale to determine the general classification (e.g., challenged, emerging, nuanced social communicator?) and help us think about likely challenges in the broader social milieu
- Use to explore specific ToM strength & challenge areas at the cognitive level (e.g., understanding of humor, white lies, false belief, emotion recognition, empathy)

We would love your participation!

- Recruiting SLPs, psychologists, & special educators working with individuals with social learning challenges (ages 8 – 18)
- Participation involves:
  - Asking the caregiver to complete two brief measures online
  - Having you complete two brief measures online
- As a benefit: with caregiver consent, you get access to all reports for clinical decision-making!

We would love your participation!

If you are interested in participating or would like to learn more about our tools or our study, please email Tiffany at: Tiffany.Hutchins@med.uvm.edu

Thank you!

- We hope this presentation was helpful!
- For more information, please visit theoryofmindinventory.com
- Like us on FaceBook!