Social Evaluative Reasoning in the Workplace: Validation of an Assessment of Soft Skill Proficiency for Secondary Students in Special Education

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Statement of the Problem

• For entry-level employees with disabilities, the social demands of the workplace can present barriers to successful employment outcomes.

  • Difficulty reading between the lines in social situations.
  • Challenges with understanding the social requirements of jobs.
  • Difficulty with social interactions and understanding conventional ways to act in the neurotypical world.
  • Difficulty reading facial expressions and tone of voice.
Statement of the Problem

• Attention Deficit Hyperactive Disorder (ADHD):
  • Interactions in the workplace can be confusing, overwhelming, and chaotic (Schreuer & Dorot, 2017).

• Learning Disabilities (Kavale & Forness, 1996; Elias, 2004; Bryan & Bursteinm, 2004; Cartledge, 2005):
  • Understanding the social cues of other people.
  • Identifying complex emotions in other people.
  • Social information processing.
Statement of the Problem

• In response to the social challenges that entry-level employees with disabilities face, there has been increased emphasis placed on the development of soft skill proficiency for this population.

• A recent effort to operationalize predictors of post-school success for transition-age, secondary students with disabilities identified soft skills instruction and assessments of soft skill development as critical in the area of vocational development (Rowe et al., 2015).
Statement of the Problem

• In the area of soft skills instruction, evidence-based practices have been identified for teaching the behavioral, social, communicative, functional, and occupational skills that enable young adults with disabilities to achieve positive post-secondary outcomes (Test et al., 2009).
  • Job-related social communication skills.
  • Social skills training.
  • Job-specific employment skills.
Statement of the Problem

• No research has focused on the development of assessments of soft skill proficiency for students with disabilities that impact social functioning such as ASD.
  • On the other hand, assessments of general social proficiency are numerous in the ASD literature (e.g., Bellini & Hopf, 2007; Bolte & Diehl, 2013; Dziobek, et al., 2006; Klin, Sparrow, Marans, Carter, & Volkmar, 2000; Matson & Wilkins, 2007; Ratto, Turner-Brown, Rupp, Mesibov, Penn, 2011; Sparrow, Cicchetti, & Balla, 2005; and Verhoeven, Smeekens, & Didden, 2013).
Statement of the Problem

• However, themes common to this literature suggest a less than rigorous approach to measurement. These include:
  
  • *Item/Construct Incongruity.*
    • Specifically: incongruence between measurement variables syntactically defined and the empirical realization of them (i.e., interpretational confounding).

  • *Adherence to test-level approaches to measurement (i.e., Classical Test Theory (CTT)).*
    • Specifically: 1) using raw sum scores as ability measures, 2) leaving assumptions of measurement variable dimensionality untested, and 3) unaddressed assumptions inherent in the use of likert scale items within the CTT framework for measurement.

  • *Incomplete arguments for validity.*
    • Specifically: lack of evidence for the internal structure of measurement variables.
Relevance of this Study

• The purpose of my dissertation was to address this gap in the literature by designing and providing evidence for the validity of the Social Evaluative Reasoning (SER) in the workplace assessment.
Research Questions

1. What is the validity and reliability evidence for the SER in the workplace instrument?
2. Is the SER construct best conceptualized unidimensionally, or as a multidimensional construct?
3. How do different modes of social cue delivery, the informational content of the social cues, and the outcome of workplace scenarios, contribute to the difficulty of correctly evaluating scenario outcomes?
Introduction: Why entry-level employment?

• Entry-level employment during the years identified as emerging adulthood is associated with differences in psychological well-being, improved chances for a higher quality of life, and financial independence (Galambos, Baker, & Krahn, 2006; Janus, 2009; Stodden & Mruzek, 2010).

• Opportunities to use and develop work-related skills, interpersonal competencies, and overcome social anxiety are aspects of work during this period that are uniquely important (Zimmer-Gembeck & Mortimer, 2006).
Introduction: Why the service-sector?

• There have been significant increases in the proportion of service-sector jobs in the United States that require soft skill/SER/emotional labor proficiency—more than 85% of the population worked in service industries in 2009, a nearly 70% increase from 1970 (Kalleberg, 2011).
Introduction: What does it take to be successful in entry-level, service-sector employment?

• Soft skills: General forms of knowledge, requisite skills, and interpersonal abilities necessary to function effectively in the workplace.
  • They are universal competencies that are transferable and relevant to a variety of workplaces irrespective of the actual work performed at these sites (Bailey, Hughes, & Moore, 2004; Kane, Berryman, Goslin, & Meltzer, 1990).
Introduction: What does it take to be successful in entry-level, service-sector employment?

• The higher order soft skills construct consists of multiple intra- and interpersonal dimensions such as leadership/people/relationship skills, communication skills, management and organizational skills, and social cognitive abilities (Kantrowitz, 2005).

• Proficiency in these intra- and interpersonal skills are strongly associated with life and employment success (Kechagias, 2011).
Introduction: What does it take to be successful in entry-level, service-sector employment?

• Ju, Zhang, and Pacha (2012) surveyed a sample of 168 employers from different industries about employability skills they valued as being important for employees with and without disabilities.
  • Valued areas included:
    • Social skills (ability to show respect for others, ability to use socially acceptable language)
    • Personal traits (motivation to work, personal interest in work), and higher order thinking skills (use critical thinking, negotiate and resolve conflict).
    • Higher order thinking skills (use critical thinking, negotiate and resolve conflict).
Introduction: What does it take to be successful in entry-level, service-sector employment?

• For entry-level employees with disabilities who experience negative employment outcomes due to social challenges, soft skills are one factor that can be worked on to change this (Andrews & Higson, 2008).
Definition of terms: Social *skill* versus social *cognition*.

- **Social skills**
  - The ability to execute common social routines characterized by strictly ordered behavioral sequences and specific moves (i.e. greetings, introductions, having a conversation) (Trower, 1984).
    - Sets of overt, observable behavior that could be broken down into verbal and nonverbal communication (Matson & Wilkins, 2007).

- **Social Cognition**
  - The ability to make sense of other people and one’s self, and then use this information to bring alignment between their actions and the expectations of the social world (Fiske & Taylor, 2013).
    - Requires nuanced understandings of the rule-governed nature of social behavior and how the applicability of these rules varies on the basis of a variety of contextual factors (Myles & Simpson, 2001).
Literature Review: Item/Construct Incongruity in the ASD literature.

- Many assessments of *social skill* in the ASD literature fail to provide theoretical support for the presence of items that also target latent, *social cognitive* abilities, according to the definitions above.
Literature Review: *Item/Construct Incongruity in the ASD literature.*

Table 1

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Type</th>
<th>Stated measurement Construct(s)</th>
<th>Social Skill items/measurement Targets</th>
<th>Social Cognitive items/measurement Targets</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>- “Talks with others without interrupting or being rude”</td>
<td>- “Is aware of potential danger and uses caution when encountering risky social situations”</td>
</tr>
<tr>
<td>Autism Social Skills Profile (ASSP) (Bellini &amp; Hopf, 2007)</td>
<td>Informant-completed</td>
<td>Overall measure of social functioning</td>
<td>- “Takes turns during games and activities”</td>
<td>- “Understands the jokes or humor of others”</td>
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<td></td>
<td></td>
<td></td>
<td>- “Initiates greetings with others”</td>
<td>- “Considers multiple viewpoints”</td>
</tr>
<tr>
<td>Contextual Assessment of Social Skills (CASS) (Ratto, Turner-Brown, Rupp, Mesiboy, Penn, 2011)</td>
<td>Observational</td>
<td>Ability to adjust social behavior in response to the behavior of a confederate</td>
<td>- “Asking questions”</td>
<td>- “Vocal expressiveness”</td>
</tr>
<tr>
<td>Social Skills Performance Assessment (SSPA) (Verhoeven, SmEEKens, &amp; Didden, 2013)</td>
<td>Observational</td>
<td>Ability to adjust social behavior in response to the behavior of a confederate</td>
<td>- “Fluency”</td>
<td>- “Focus”</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>- “Clarity”</td>
<td>- “Social appropriateness”</td>
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</table>
Literature Review: *Interpretational Confounding* in the ASD literature.

- While each of these assessments are measures of **social skill**, the items and performance targets that operationalize this construct vary greatly.

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Items/Behavioral Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSPA</td>
<td>Recognizes the facial expressions of others, Offers assistance to others, Joins in activities with peers, Misinterprets the intentions of others, Responds to peer invitations to join activities</td>
</tr>
<tr>
<td>CASS</td>
<td>Topic changes, Vocal expressiveness, Gestures, Positive affect, Posture, Kinesic arousal, Overall involvement in the conversation, Overall quality of Rapport</td>
</tr>
<tr>
<td>ASSP</td>
<td>Interest/Disinterest, Fluency, Clarity, Focus, Affect, Social Appropriateness</td>
</tr>
<tr>
<td>Vineland-II</td>
<td>Stays out of a group that is non-welcoming, Recognizes the gender of himself and others, Acts differently with people depending on familiarity</td>
</tr>
</tbody>
</table>
Literature Review: Adherence to test-level approaches to measurement (i.e., (CTT).

- **Raw sum scores as measures**
  - Each of these assessments uses raw sum scores as measures of social skill ability.
    - Assumes every item is representative of the construct to an equal degree.
    - Assumes equal ratings on each item represent equal levels of a general social skill ability factor.

- **Untested assumptions of construct dimensionality**
  - None of the studies provide empirical evidence for the assumed unidimensional structure of the general social skill ability factors they target.
Literature Review: Adherence to test-level approaches to measurement (i.e., (CTT).

- **Unaddressed assumptions inherent in the use of likert scale items**
  - Example: coding of CASS items *Gestures* and *Overall Quality of Rapport* use the same 7-point likert scale.
    - No theoretical justification is provided to support why an item measuring the use of nonverbal behavior in the context of a conversation should be considered on the same scale as an item that is, ultimately, a global evaluation of the quality of that conversation.

- **Absence of any theoretical justification for the number of response categories in likert scale items**
  - Example: Why is a 7-point likert scale necessary for rating the effectiveness of a subject’s use of *gesture* in a contrived conversation?
Literature Review: *Incomplete arguments for validity.*

- None of the authors propose hypotheses about the structure of the social skills measurement variables targeted by their assessments.

- Example: The CASS targets five outcome measures:
  - *Asking questions, Topic changes, Gestures, Positive affect, Vocal expressiveness,* and *Overall quality of rapport.*

- However, no theory-informed latent structure is proposed to situate these variables on a single or multiple social skill scale(s).
Development of the SER in the workplace instrument: What is SER?

• “…context-specific critical thinking involving appraisal of the effectiveness and appropriateness of employee behavior as it occurs in response to the variety of social cues/behaviors one may encounter in entry-level, service-sector employment” (Jolin, 2015, p. 126).
Development of the SER in the workplace instrument: What is SER?

• SER in the workplace proficiency is conceptualized in an Antecedent (A), Behavior (B), Consequence (C) formulation. Given:

1. (A): some amount of available social information (e.g., a customer’s verbal/nonverbal cues), was

2. (B): an employee’s behavioral response,

3. (C): appropriate given the situational context of the workplace and the organizing and directing forces it places upon employee behavior?
Development of the SER in the workplace instrument: What is SER?

• A Social Cognitive ability that draws on:

  1. Selective perception
     1. The ability to identify salient instances of social information from the total array of possible informational cues embedded in a workplace environment.

  2. Inferential evaluative ability
     1. The ability to determine whether or not an employee did the right thing in response to a customer’s social cues.
SER Construct: Social Perceptual Unit (SPU) Detection Ability

- SPU refers to the salient instances of social information that customers emote in the context of workplace scenario stimuli, depicted in comic strip format.
  - The level of social complexity in each of the workplace scenarios was manipulated based on the type, frequency, and co-occurrence of two SPU factors:
    - Factor #1: SPU content: Emotion type (basic versus complex)
    - Factor #2: SPU delivery: language type (literal vs. figurative)
SER Construct: Social Perceptual Unit (SPU) Detection Ability

• Factor #1: SPU content: Emotion type (basic versus complex)
SER Construct: Social Perceptual Unit (SPU) Detection Ability

• Factor #2: SPU delivery: language type (literal vs. figurative)
Ordering of levels is based on findings in experimental research in cognitive psychology.

**Baron Cohen et al. (2001)**

Adults with Asperger syndrome experience more challenges identifying complex emotions than basic emotions.

**Happe, (1995)**

Adults with ASD experience more challenges understanding figurative language than literal language.

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Direction of increasing SPU detection ability</th>
<th>Response to items</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 = No SPU Detection: Respondent identifies no cues, identifies non-social cues, or simply refers to a “customer,” “man,” or “woman.”</td>
<td></td>
<td>“Helping a customer”</td>
</tr>
<tr>
<td>1 = Non-Specific-SPU Detection: Respondent provides feature description of social cue(s), provides verbatim transcriptions of dialogue, or lists a set of generic social qualifiers.</td>
<td></td>
<td>“the old man was waiting for the employees to finish talking.”</td>
</tr>
<tr>
<td>2 = Basic Emotion SPU Detection: Respondent identifies basic emotion SPU</td>
<td></td>
<td>“The customer said ‘when it rains it pours.’”</td>
</tr>
<tr>
<td>3 = Complex Emotion SPU Detection: Respondent identifies complex emotion SPU</td>
<td></td>
<td>“eye contact.”</td>
</tr>
<tr>
<td>4 = Comprehensive SPU Detection: Respondent identifies basic and complex emotion SPUs or accurately infers and attributes a relevant qualifier to the customer on the basis of the individual SPU(s)</td>
<td></td>
<td>“Attitude, behavior, social interactions.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Direction of decreasing SPU detection ability</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SER Construct: Evaluative Inference (EI) Ability

• Complexity in the EI dimension was manipulated by controlling for whether or not the employee resolved the scenario in appropriate manner. Additionally, by manipulating the extent to which the resolution was straightforward.

• Factor # 3: outcome resolution type (correct versus incorrect).
Ordering of levels is based on Blum’s extension of Pearson’s (1978) work on the topic of evaluative inferencing.

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<th>Respondents</th>
<th>Direction of increasing evaluative inference ability</th>
<th>Response to items</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 = Script Implicit: Respondent correctly evaluates scenario outcome, using information not explicitly contained in the scenario or provides an accurate evaluation</td>
<td></td>
<td>“the employee didn’t do the right things because you shall never use your phone on your job and when someone is talking to you and you shall never talk back to customers.”</td>
</tr>
<tr>
<td>1 = Text Implicit: Respondent correctly evaluates scenario outcome, using information explicitly contained in the scenario</td>
<td></td>
<td>“Yes, he responded correctly to her having a drink. I can’t discern how old she is, but children usually get special exceptions for these types of situations.”</td>
</tr>
<tr>
<td>0 = No Evidence Respondent incorrectly evaluates scenario outcome, provides a response without an evaluation, correctly evaluates scenario without a justification, or correctly evaluates scenario and provides an irrelevant/nonsensical justification.</td>
<td></td>
<td>“She done it correctly because she asked the elder man for help.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“In this scenario the employee did the right thing by doing what the customer asked.”</td>
</tr>
</tbody>
</table>

| Direction of decreasing evaluative inference ability | |
|------------------------------------------------------|