Assessing and Teaching Job-Related Social Skills to Adults with Autism Spectrum Disorder

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“My son was diagnosed with Asperger syndrome as a child. He has graduated from High School. He failed success at additional education and also at any job placement with the department of rehabilitative services. He can drive locally; now at age 27, he would like to do something with his life but has not found anywhere he can succeed. His days are filled with staying at home watching two dogs, tv and video games. Are there any resources to help him toward a more socially productive life?” – Comment posted on podcast website, People’s Pharmacy 10/2/15
My Collaborators

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- Channing Langlinais
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- Loukia Tsami
- Natalie Villante
- Bridgette White
- Dan Wright
Issues and Problems in Employment
Employment of Individuals with Disabilities

- Employment by disability (Shattuck, 2012)
  - 55% Autism Spectrum Disorder
  - 68% Intellectual Disabilities
  - 86% Speech Impairment
  - 93% Learning Disability

- Adults with ASD:
  - Earn less and work fewer hours (Burgess & Cimera, 2014)
  - Rely on other adults for support

- Outcomes flat/declined across 10 yrs; access to services had minimal impact (Taylor & Mailick, 2014)
Types of Employment Services

• Vocational Rehabilitative (VR) Services
  o Largest U.S. program to provide employment services
    o “State of the states report” (Burgess & Cimera, 2014)
    o Texas Workforce Commission (TWC)

• Sheltered Employment
  • “Train-then-place” approach
  • “Negative ‘value-added’” service (Cimera, 2011)

• Supported Employment
  • “Place-then-train” approach
  • Individual / group
Why Vocational Difficulties?

- *Verbal report* of potential factors (Baldwin et al., 2014; Hurlbutt & Chalmers, 2004; Muller, Burton, & Yates, 2003)
  - Inadequate job training
  - Difficulty interacting with supervisors/co-workers
  - Unclear expectations
Potential Targets for Vocational Assessment and Intervention
Potential Targets: What Should We Teach?

- Securing Employment
  - Identifying desirable vocations
  - Completing applications
  - Interviewing
- General Vocational Skills
  - Following instructions
  - Managing time
  - Navigating job site
- Job-Specific Skills
- Job-Related Social Skills
  - Asking for assistance
  - Responding appropriately to feedback
- Hygiene/Grooming
Potential Targets:
What Do Employers Care About Most?

Surveys:
- Follows instructions
- Shares information
- Respects others / Offers to help
- Requests assistance
- Clarifies instructions
- Responds appropriately to criticism
- Is dependable / On time
- Shows personal integrity / Honesty

(e.g., Foss & Peterson 1981; Ju et al. 2012; McConaughy et al 1989; Salzberg et al. 1986)
Potential Targets: What Do Employers Care About Most?

Reasons For Termination/Problems on the Job:

- Disruptive/distractive/anti-social behavior
- Lack of social awareness
- Interactions w/ supervisors & co-workers

(e.g., Butterworth & Strauch, 1994; Cheney & Foss, 1984; Ford et al., 1984; Greenspan & Shoultz, 1981; Mueller, 1988)
Potential Targets: What Should We Teach?

Some Examples

• Securing Employment
  o Identifying desirable vocations
  o Completing applications
  o Interviewing

• General Vocational Skills
  o Following instructions
  o Managing time
  o Navigating job site

• Job-Specific Skills

• Job-Related Social Skills
  o Asking for assistance
  o Responding appropriately to feedback

• Hygiene/Grooming
Research on Vocational Interventions for Individuals with Autism

- Focus on those with more severe disabilities
- Few target “soft skills” related to job retention
Assessment of Job-Related Social Skills
## Assessing Job-Related Social Skills

- **Caregiver or Staff Interviews/Checklists**
  - Scale of Job-Related Social Skill Performance (SSSP; Bullis et al., 1993)

### Positive Social Behavior

_How well does the individual..._

<table>
<thead>
<tr>
<th>Positive Social Behavior</th>
<th>Proficient</th>
<th>Somewhat Proficient</th>
<th>Fair</th>
<th>Somewhat Inapt</th>
<th>Inapt</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ask for assistance from work supervisor if problems are encountered with work materials or tools?</td>
<td>5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Ask for assistance from co-workers to complete a work task?</td>
<td>5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3. Ask work supervisor for clarification in completing a new job?</td>
<td>5 4 3 2 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Ask work supervisor for assistance after encountering problems in his or her job?</td>
<td>5 4 3 2 1</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
• Client Verbal Report (Self-report/Knowledge-based tests)

Test for Interpersonal Competence for Employment (TICE; Bullis & Foss, 1986); Scale of Job-Related Social Skill Knowledge (SSSK; Bullis et al., 1993)
Number 25. If your supervisor gives you several instructions and you forget one, you should:

a. ask another worker for help.

b. ask him to repeat the instructions.

c. ask for a different job.

Repeat the item.

Number 26. If you are unhappy because your supervisor told you to do a new job, you should:

a. ask why you have to do it.

b. say you want to do your old job.

c. ask your supervisor to explain the new job.
Problems with Questionnaires and Tests

- May not correspond with actual performance
- Others’ knowledge may be limited
Barriers to Direct Assessment

- Limited access to job sites
- Restricted evocative situations
Assessing Job-Related Social Skills

• What About Analog???
Clinic-Based Vocational Social Skills Assessment

- **Goal:** Assess skills directly and efficiently

- **Employee** “workroom,” “supervisor’s office,” “break room”

- **Supervisor** absent; all sessions videotaped
  - “I will be in my office; let me know if you need anything”

- **Two 3-hour visits (10- to 15-min work sessions)**
Typical Tasks

- Folding shirts
- Rolling/sorting silverware
- Sorting objects
- Stuffing envelopes
- Stapling papers
- Alphabetizing books/folders/envelopes
- Cleaning room
- Stocking shelves
- Computer-related jobs (data entry, web searches, word processing)
Response Measurement:\footnote{Drawn from Butterworth & Strauch (1994); Ju, Zhang, & Pacha (2012); Montague & Lund (2009); Partington & Mueller (2015) and others}:

- Confirming statements
- Requests for help - task
- Requests for help - materials
- Notification of task completion
- Response to corrective feedback
- Eye contact
- Inappropriate comments/behavior
- On-Task/Task Accuracy
- Monitoring time

\begin{itemize}
  \item Timeliness; knock; wait; statement
\end{itemize}
Evocative Situations (min. three times per assessment):

- **Clear Instructions**
  - Complete instruction + demonstration

- **Vague Instructions**
  - “Sort this;” “Stock these shelves;” “alphabetize”

- **Task component not in repertoire**
  - Computer log-in; computer tasks

- **Materials missing/broken, equipment malfunctions**
  - Missing vacuum; run out of staples/napkins; shredder jams

- **Supervisor corrects work**
  - Clear, vague, conflicting

- **Not enough work for time allocated**

- **Break**
Recent Additions (Problem Solving)
- Task interruption
- Supervisor unavailable
- Materials in supply cabinet

Additional Situations:
- Multiple tasks (w/ & w/o written list)
- Supervisor/peer present vs absent
- Time pressure
- Reinforcement for task completion
- Brief behavioral skills training

8 Participants

- 7 male, 1 female
- aged 16 – 32 years
- ASD (3 with ID)
- 2 – college coursework
- none employed
- 5 w/ previous volunteer or work experience
General Findings for 8 Initial Participants:

- Inconsistently used confirming statements
- More likely to ask for help with materials than tasks
- Notified supervisor when finished
- Inconsistently corrected errors
- On-task for majority of intervals
- Engaged in little inappropriate behavior
Vocational Intervention
Considerations

How to provide effective intervention if

- Individual not currently employed
- Limited/no access to job site
- Employer’s cooperation needed

Ideal interventions

- Efficient, low-cost, nonintrusive
- Transfer from therapy setting to job site
- On-site supervisors willing to implement
Current Intervention Approach
Grob, Lerman, Langlinais, & Villante (under review)

• Brief Behavioral Skills Training (BST)
• Stimulus (Text) Prompts

Sequential introduction of additional components; require increasing amount of “buy in” from supervisor

• Antecedent (Vocal) Prompts
• Feedback
• Tangible reinforcement
Brief BST + Stimulus Prompts

- Components
  - Written/Spoken Instruction
  - Examples / Modeling
  - Practice (Role Play)
  - Feedback

- Text/pictures to cue participant ("help sheets")
Stimulus (Text) Prompts

I understand.
I got it.
That makes sense.

I can do that.
I will do that.
Consider it done.
Stimulus (Text) Prompts

Can you show me how?

Could you demonstrate it?

I need a model.

How do I do it?
Stimulus (Text) Prompts
Problem Solving

Have I done this task before?

Did the supervisor give an example?
Brief BST + Stimulus Prompts

- Performance criterion (6 consecutive)
- “Test” in relevant assessment situation(s)
- Stimulus prompts present in tests
BST “Booster”

- Return to BST if performance criterion not met
- Continue “tests” once BST performance criterion met
Additional Components

• Verbal prompt immediately prior to work session

• Immediate feedback
  ▫ Descriptive Praise
  ▫ Correction

• Immediate feedback + tang Sr:
  ▫ Tangible (e.g., $) + Descriptive Praise
  ▫ Correction
Experimental Design

- Concurrent multiple baseline across skills/evocative situations

- Assess generalization across some skills and to separate location/supervisor
• Participants

  ▫ **Arthur:** age 19; ASD; high school degree; volunteer experience

  ▫ **Jerry:** age 27, ASD, A.A in Criminology & A.A.S. in Information Technology Security; no experience

  ▫ **Vanessa:** age 19, ASD, ADHD; high school degree; volunteer experience
Assessment Results

Make Confirming Statement (Initial Task Instructions)

Percentage of Opportunities (Correct)

Clear

Vague

Instructions

Arthur
Ask for Help

Percentage of Opportunities (Correct)

- Vague Instructions
- Task Not In Repertoire
- Missing/Broken Materials
- Task Completed

Timely
Help Statement
"What's Next?"

Arthur
Arthur

Responding Across Opportunities

Correct

Incorrect

Correct

Incorrect

BL

BST

Boost

Small SP

Asking for Clear Feedback

Apologizing
Arthur

Responding Across Opportunities

Correct

Incorrect

Correct

Incorrect

Correct

Incorrect

Correct

Incorrect

Making Confirming Statements (Clear Instructions)

Making Confirming Statements (Vague Instructions)

Making Confirming Statements (Clear Task Feedback)
Correct

Incorrect

Correct

Incorrect

Confirming Statements (Clear Instructions)

Asking for a Task Model
Jerry

Responding Across Opportunities

Correct

Baseline

BST - SP

MEI*

Incorrect

SP

MEI

Apologizing
Jerry

Responding Across Opportunities

Correct

Incorrect

Correct

Incorrect

Confirming Statements (Task Feedback)

Confirming Statements (Vague Instructions)
Responding Across Opportunities

Confirming Statement (Clear Instructions)

Confirming Statement (Task Feedback)
Conclusions

• Brief BST + stimulus prompts effective for 2 of 3 participants

• Stimulus prompts critical to generalization?

• Start early!

• Don’t forget about the “soft skills”
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