

Job Task Preference Assessment for Students with ASD and ID

Illinois Statewide Transition Conference 2019, Session A09

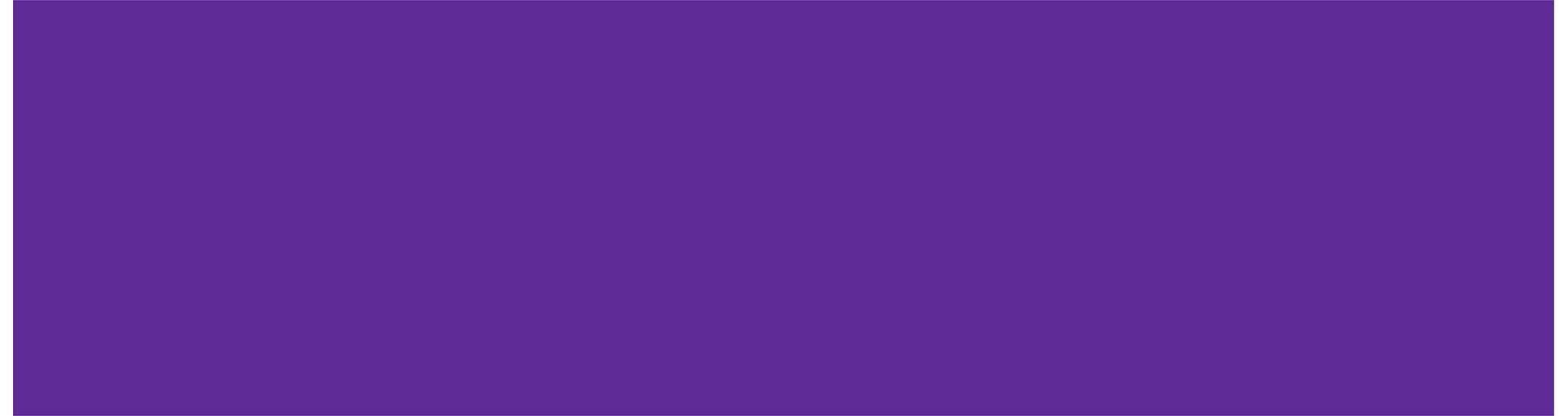
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Session Objectives

1. Understand the research base supporting the use of paired-stimulus assessments to determine job task preferences of students with ASD and ID.
2. Be able to use the assessment method to assess the job task preferences of students with ASD and ID.

Introduction and Literature Review



Agree / Disagree?



- All people should be able to work in the community.
- All people should be able to do work that they like.
- People with disabilities should be able to do work that they like.

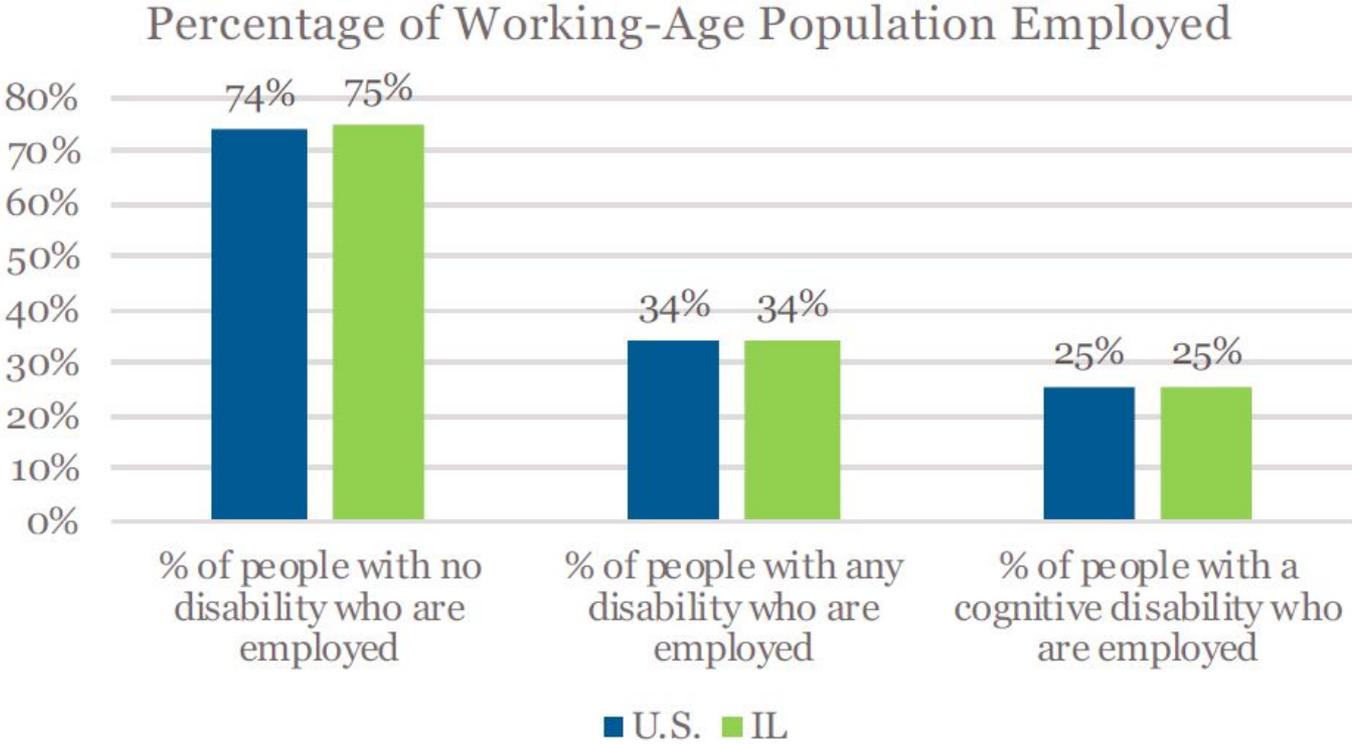
Then why isn't that happening?

According to NLTS-2, young adults with ASD and with ID had:

- lower rates of employment
- worked less hours
- received lower pay
- had less job variety than young adults with other high incidence disabilities

(Roux et. al., 2013; Shattuck et. al., 2012)

Low Employment Rates



(APSE, 2019) <https://apse.org/wp-content/uploads/2019/07/IL-CIE-Handout.pdf>

Need for Employment Assessments

Individuals with Disabilities Education Act (IDEA, 2004)

- Considers preferences and interests in transition services
- Requires transition assessment to develop employment outcomes

However, the characteristics of ASD and ID make it difficult for students to communicate preferences about employment through traditional career preference assessments.

Effective methods are needed to assess the preferences of students with ASD and ID in transition in order to prepare for employment.

How can we assess students with ASD and ID in preparation for employment?

Work task preference assessments have been used to identify preferred job tasks since the late 1970s.

A review of the literature identified 21 articles that included assessment of work task preferences of individuals with ASD and / or ID.

- 14 studies used paired-task preference assessments
- 6 studies used multi-stimulus preference assessments

Paired-task preference assessments

Stimuli (e.g. objects representing job tasks) are presented in pairs.

All combinations are presented (AB, AC, AD, BC, BD, CD).

Participants choose one and engage in the task (Mithaug & Hanawalt, 1978).

Highly, moderately or least preferred tasks are identified based on how often they are chosen (Bambara, Ager & Koger, 1994; Mithaug & Hanawalt, 1978; Parsons et. al., 1990).

Multi-stimulus preference assessments

Multiple stimuli are presented at the same time.

Participants make a selection and engage in the associated task (Lattimore, Parsons, & Reid, 2003; Reid et. al., 2007).

The chosen stimuli may be removed or replaced for the next trial.

Work Task Preference Assessment Studies

Participants

- Mostly adults with ID
- Only one study with transition-age participants with ASD

Setting

- Mostly community work sites (10) or segregated settings (9)
- Only three studies in school settings.

Selection of tasks - Five studies used a questionnaire or interview to select tasks.

Presentation of task choices

- Most studies used objects or task materials
- One used video clips (Horrocks & Morgan, 2009).

Technology-based Career Assessments

Videos have been used in computer-based assessments of career preferences that focused on broader career categories (Ellerd, Morgan & Salzberg, 2002; Ellerd, Morgan & Salzberg, 2006; Hall, Morgan & Salzberg, 2014; Morgan, 2003; Morgan & Horrocks, 2011; Stock, Davies, Secor & Wehmeyer, 2003).

- Many of the participants had mild or moderate ID, some had verbal communication ability, and some had learning disabilities without ID.
- No participants with ASD.

Technology-based Preference Assessments

Computers and tablets have been used in 13 paired-stimulus or multi-stimulus preference assessments by presenting electronic images or videos on screen.

- Preferences for toys, activities, social interactions, specific videos, and types of video models were assessed.
- Participants all had ASD and included mostly children and some adults (none 16-19 years old).

What prerequisite skills do students need?

The Assessment of Basic Learning Abilities (ABLA), a test of discrimination skills, has been used to classify participants into levels to predict their ability to make choices with different types of assessments (Conyers et al., 2002; de Vries et al., 2005; Reyer & Sturmey, 2006; Lee et al., 2008).

- Level 2 (able to place an object into correct container in stable position)
- Level 3 (able to place an object into correct container when the position of the container varies)
- Level 4 (able to match an object to a container based on color and shape)
- Level 6 (able to place an object in a container when verbally requested)

Prerequisite Skills

Preferences Assessed	Level 2	Level 3	Level 4	Level 6
Food and non-food reinforcers (Conyers et al., 2002)	-	Objects	Objects Pictures	Objects Pictures Spoken words
Leisure activities (de Vries et al., 2005)	-	Objects	Objects Pictures	Objects Pictures Spoken words
Work tasks (Reyer & Sturmey, 2006)	Objects*	-	Inconsistent	Objects Pictures Spoken words*
Leisure activities (Lee et al., 2008)	-	Objects	Objects Pictures* Videos*	Objects Pictures Videos

* indicates inconsistent results

Research Questions

1. Do object-based, picture-based, and video-based assessments of job task preferences produce similar results for transition students with ASD and ID?
2. Does performance on the Assessment of Basic Learning Abilities - Revised (ABLA-R), an assessment of discrimination abilities, predict the presentation method (object, picture, video) that participants will understand?
3. What presentation method of work task preference assessments is most efficient?
4. What presentation method is preferred by participants?

Methods



Participants

- Special Education students at the non-public school where the study was conducted
- Ages 14 - 21
- Educational diagnosis of autism listed on the IEP
- Intellectual disability documented by diagnosis in the IEP, psychological report, or assessment results
- Minor (under 18) or documentation of having a guardian if over 18
- Score at level 3 or higher on the ABLA-R
 - 2 participants - Level 3
 - 2 participants - Level 4
 - 3 participants - Level 6

Setting

Assessments were conducted in familiar settings (e.g. conference room area, school kitchen) in a non-public special education school attended by the participants in a metropolitan Midwestern city.

Work Task Preference Questionnaire

Work Task Preference Questionnaire completed by a parent / guardian and a teacher:

- List five job tasks the participant would like and five they would not like.
- Describe how the participant shows he likes and does not like an activity.

Two preferred and two non-preferred tasks were identified for each participant.

- Based on match between parent and teacher responses
- If no match, top choice was taken from each.
- Practical considerations - Ability to represent task with an object, ability to carry out task in school, exclusion of tasks with similar materials

Objects and Tasks Included

- Whisk - stir batter
- Clorox wipes - wipe handrails
- Dustpan* - sweep
- Dishpan* - load dishwasher
- Trash bag* - take out trash
- Divided box* - sort office supplies
- Watering can - water plants
- Spray bottle* - clean tables
- Mop - mop floor
- Laptop* - data entry
- Kleenex box- stock supply closet
- Soup can - bag food
- Placemat - set table
- Handheld vacuum - vacuum floor
- Shirt - fold clothes
- Dish sponge - wash dishes
- Pop can - stock fridge
- Knife - cut potatoes
- Pot - heat water on stove

* = used for more than one participant

Work Task Preference Assessments

Nine total assessment sessions were conducted with each participant.

- **Object** - One object selected to represent each work task
- **Picture** - 3 x 5 inch color photos of each object, printed on copy paper and laminated.
- **Video** - 5-10 second video clips created from the initial object-based assessment session, presented on Kindle Fire tablets

An object-based assessment was always done in the first session, and the presentation type was varied across remaining sessions.

All assessment sessions were completed within approximately one month.

Assessment Session Procedure

Each object / picture / video was presented and the participant engaged in the associated task for 30 seconds or until completion.

Paired choices were presented, the participant was asked to “pick one,” and then engaged in the chosen task for 30 seconds. Videos were played one at a time and participants selected between two tablets.

Each combination of tasks was presented once per assessment session.

Presence of “like” or “dislike” behaviors was recorded while doing the selected task.

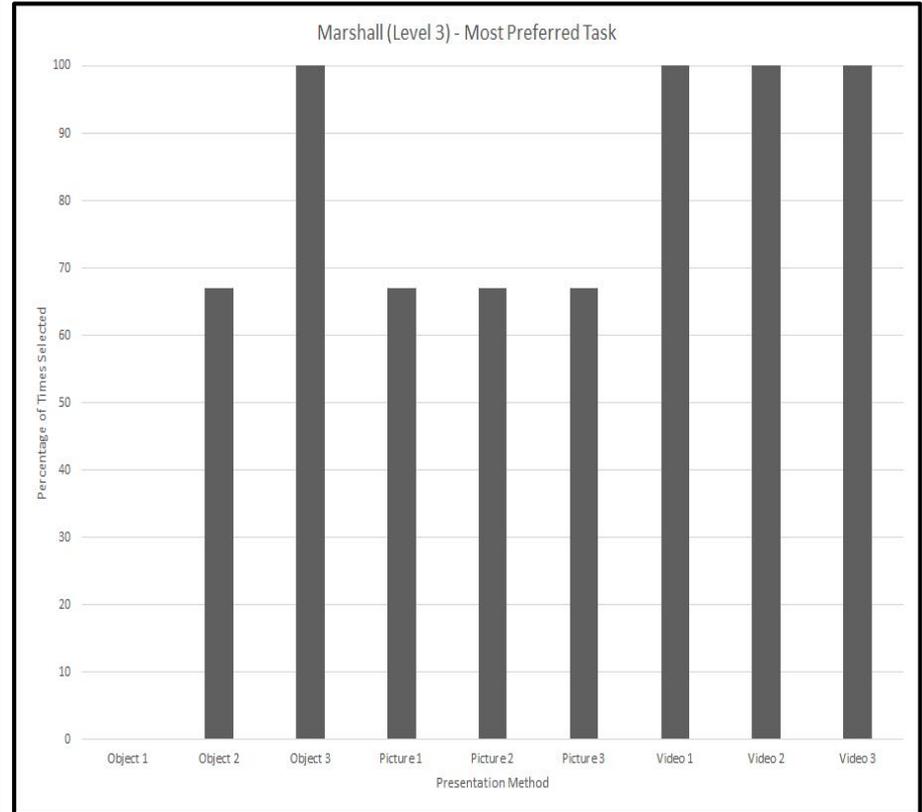
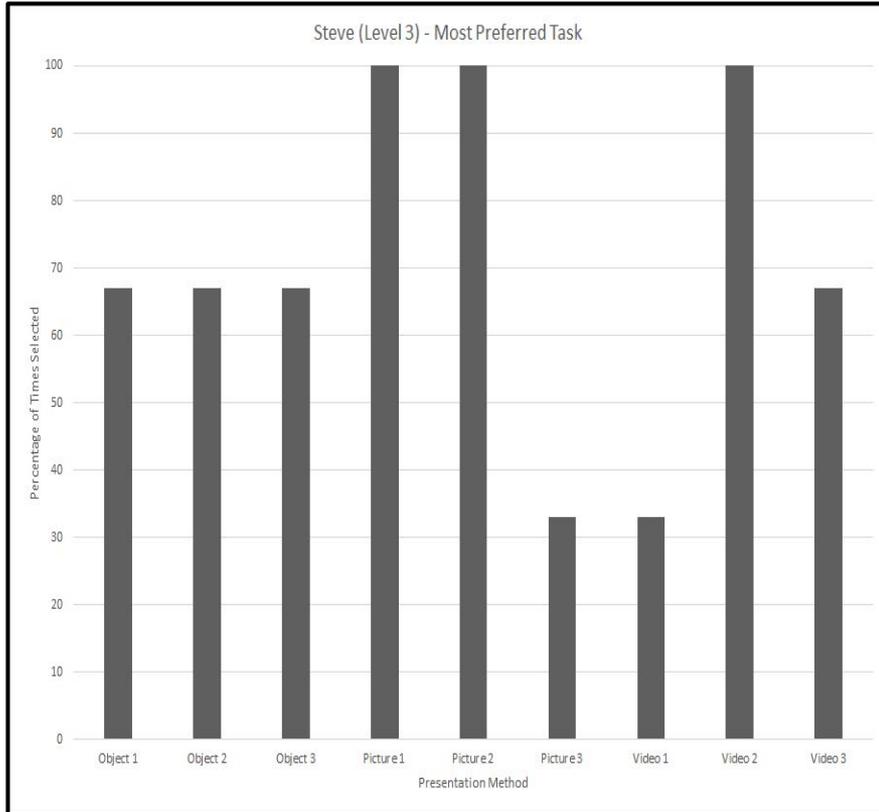
All sessions were video-recorded. Time was calculated to the second using the videos from the time the first object/picture/video was set down until completion of the final task.

Demonstration

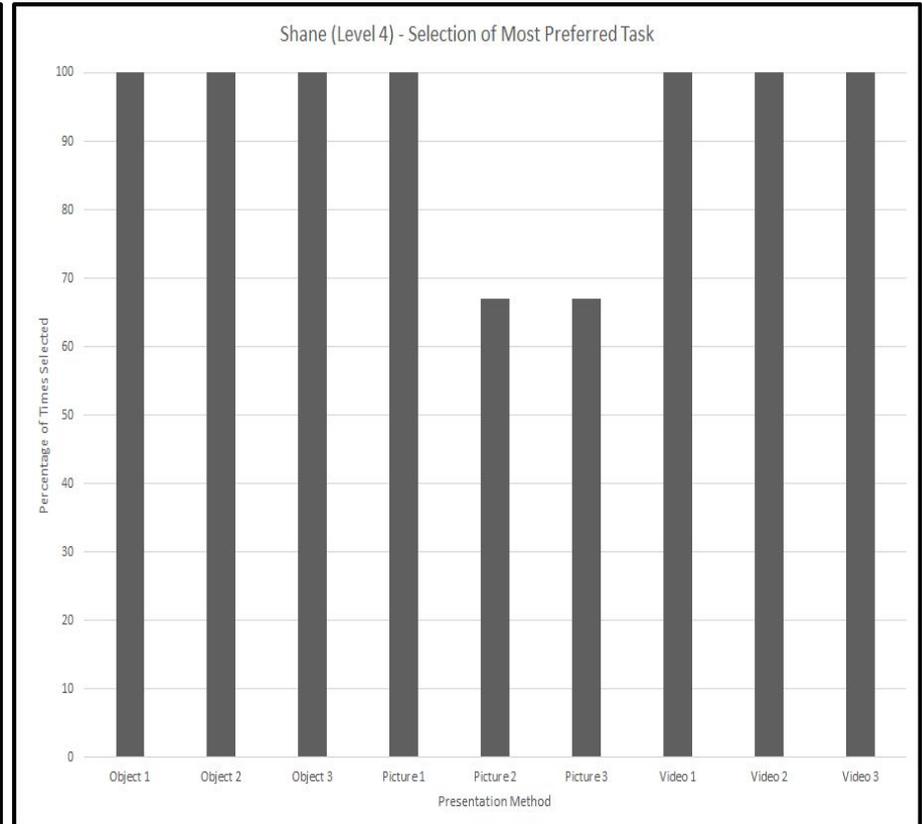
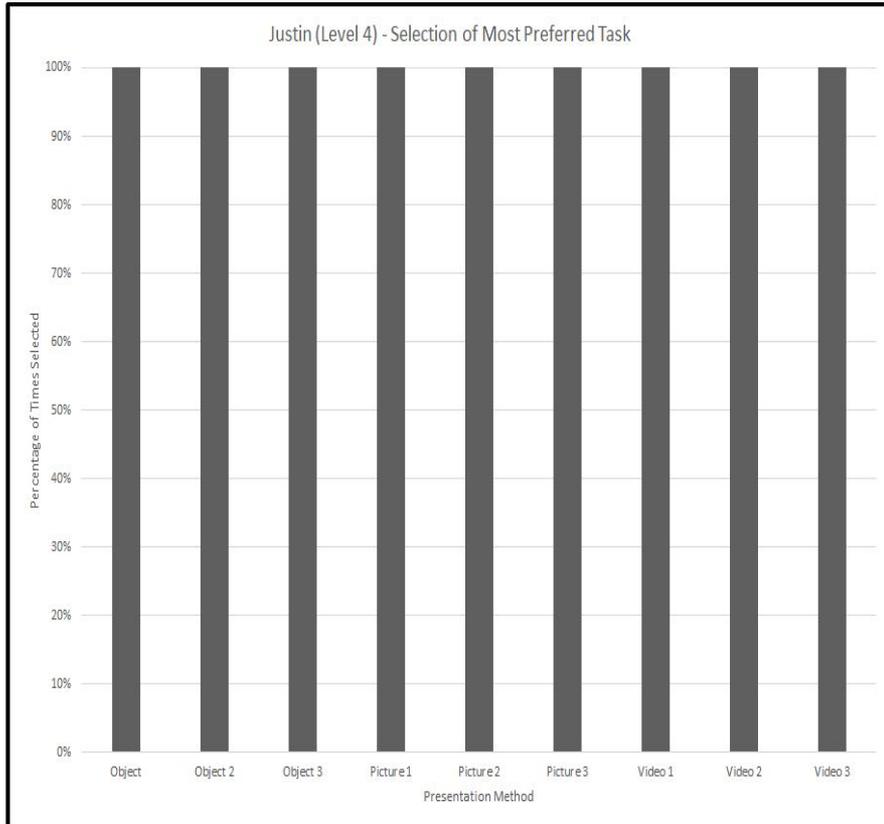
Results



Results - Most Preferred Tasks - Level 3

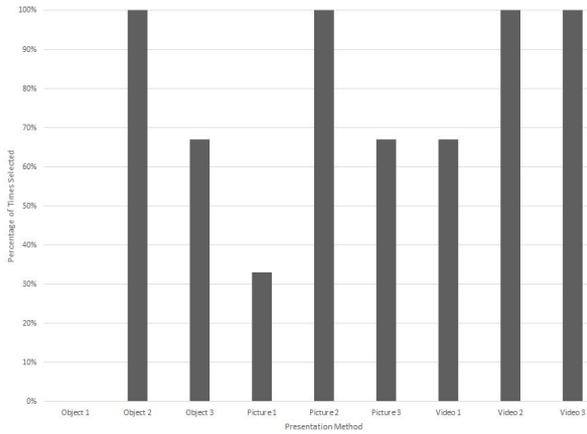


Results - Most Preferred Tasks - Level 4

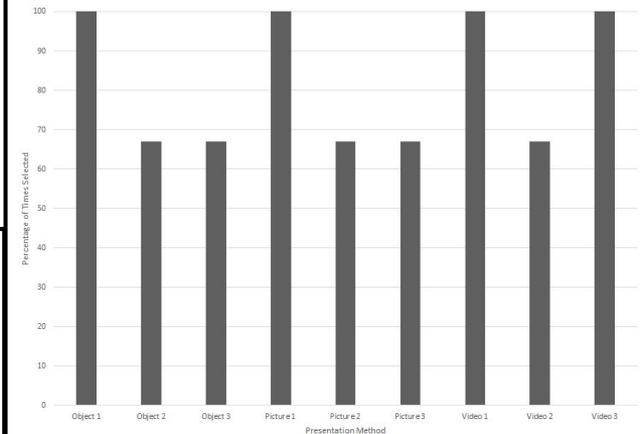


Results - Most Preferred Tasks - Level 6

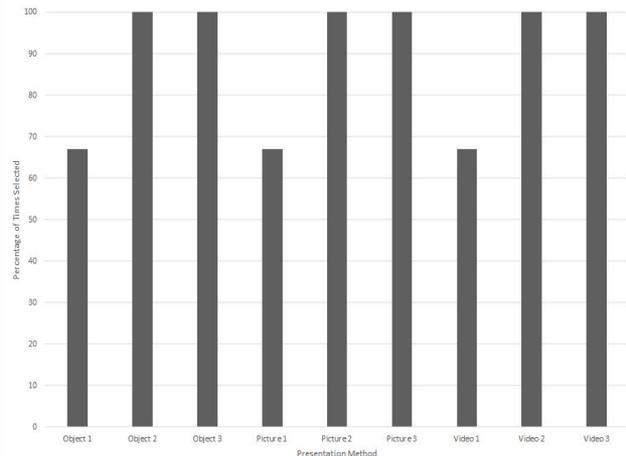
James (Level 6): Most Preferred Task



Nick (Level 6) - Most Preferred Task



Malcolm (Level 6) - Selection of Most Preferred Task



“Like” and “Dislike” Behaviors

ABLA Score	Participant	“Like” Behaviors	“Dislike” Behaviors
Level 3	Steve	Both “like” and “dislike” 1x during most preferred	
	Marshall	Both at same time 3x during nonpreferred	
Level 4	Justin	Both during different trials of highly and moderately preferred	Refused to engage or complete during all nonpreferred
	Shane	During preferred (7/25)	
Level 6	James	None indicated	None indicated
	Malcolm	Not observed	1x during nonpreferred
	Nick	Not observed	Not observed

Time Required for Assessments

Assessment Type	Average time	Range
1st Object assessment	11:15	9:17 - 12:11
2nd & 3rd Object assessments	9:05	7:34 - 11:27
Picture	9:21	7:39 - 11:03
Video	13:08	10:24 - 16:46

Procedural Fidelity

Sixteen videos from the 63 assessment sessions were randomly selected for review.

- 100% showed all of the procedural steps were present.
- There was 98% agreement of participant selections between data sheets and video recordings. Two errors were noted.
- There was 99% agreement on presence or absence of “like” and “dislike” behavior. One participant was observed to have “dislike” behavior that was not indicated on the data sheet.

During one assessment session with Justin, an incorrect task choice was presented in error had already been presented in the reverse order. After realizing the mistake, the researcher resumed the correct sequence of pairings, resulting in seven choices presented during that session.

Discussion



Comparison of Presentation Methods

A job task preference was identified for each participant.

The video presentation method showed the most consistent results and identified the most preferred task for 6/7 participants.

- Three participants had the most consistent results with video presentation.
- One participant selected his preferred task 100% of the time regardless of presentation method, one had the same pattern of results with all methods, and one showed more consistent results with both object and video.
- One participant's preferred task was identified most consistently with pictures.

ABLA level did not seem to affect most participants' understanding of choices presented in different ways.

Infrequent “Like” and “Dislike” Behaviors

Not observed with high frequency for most participants

Justin very clearly demonstrated “dislike” behaviors during non preferred tasks, and Shane clearly showed “like” behaviors during his preferred task.

Some participants had contradictory “like” and “dislike” behaviors, but with low frequency. For Steve, Marshall, and Justin, both types of behavior occurred for the same task.

Efficiency

The most effective method for determining preferences, video-based assessment, was also the most time consuming.

Times for the object-based and picture-based assessments were similar.

Social Validity

Participants willingly engaged in the assessment sessions, and no refusals were observed based on the presentation method.

Several participants displayed impatience or boredom during the video-based assessment sessions, during which they watched the same 5-10 seconds video clips multiple times, particularly on the final selections.

- Four of the participants attempted to make selections before videos finished.
- Two participants were observed to look around the room and did not appear to be attending while videos played.
- Justin seemed particularly impatient during all video assessment sessions, as demonstrated by repeatedly tapping and pushing away the tablet.

Other Reflections

Need for repetition across multiple sessions - Two participants did not select their most preferred task at all during the first assessment session. The first session took longer than subsequent sessions with the same procedure.

Comparison to parent and teacher opinions - For all but one participant, the most preferred task was one that a parent and / or teacher thought would be preferred.

Moderately preferred and non-preferred tasks were also identified by the assessments and should be considered when seeking community employment.

Limitations

Selection of tasks to include - based on parent and teacher responses, limited by the ability to represent with an object, had to be done in school

Thirty second time period - preferences could differ over longer work period, possible preference for variety / alternating tasks over longer time periods

Definition of like / dislike behaviors - Parent / teacher responses unclear or subjective

Pairs only presented once per session - E.g. If BC was presented, CB would not be; Could affect results if participant prefers left or right side

Does not assess other factors - environmental preferences, skill level, availability of jobs in the community

Areas for Future Research

Development of valid, reliable, and efficient employment preference assessments for students with ASD, ID, and limited communication ability that are accessible to teachers

- Make the video-based assessment more efficient
 - Multi-stimulus assessment
 - Videos playing simultaneously
 - Allow selection before video ends
- Explore different ways to present picture choices
 - Electronic pictures
 - Pictures of student performing the task (rather than pictures of task materials)

Analyze the relationship between preference and skill

Evaluate preferences for environmental factors

Your turn to try it!

Questions?

Work Task Preference Assessment Data Collection Form

Student: _____

Date: _____

Task presentation method (circle): object picture video

Tasks:

A		C	
B		D	

Behaviors:

"Like"	"Dislike"

Selection (circle)		"Like" Behaviors Observed	"Dislike" Behaviors Observed	Notes
left	right			
A	B			
D	C			
C	B			
D	A			
A	C			
B	D			

Time from beginning instructions to completion of final task: _____

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