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The Simulated Café: A Virtually Delivered Pre-employment Transition Program for Students with Autism

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Introduction

- Fewer than half the young adults diagnosed with autism are employed (Gotham et al., 2015; Chiang, et al, 2013).
- Individuals diagnosed with autism have a higher rate of unemployment compared to those with other disabilities (Buescher et al., 2014).
- Educators of individuals diagnosed with autism stress employment as a desired and measured outcome (Schall et al. 2012).
- Parents of individuals diagnosed with autism rated employment support as the greatest service priority (Neary et al., 2015).
- Individuals diagnosed with autism are 7.36 times more likely to be in paid employment if they receive vocational services (Park & Bouk, 2018).
- In the U.S., students with disabilities from the age of 16 must have transition services (Individuals with Disabilities Education Act, 2004). **Significance** - There is limited research on employment readiness programs in high schools for autism and we found no research on virtual employment readiness programs for high schools students.

PURPOSE - To explore whether the Simulated Café, an employment readiness program, shows preliminary promise in achieving intended outcomes and if the school staff, student's and families find the program acceptable.

OUTCOMES- 1) students increase their independence in completing job tasks of working in a café and 2) The program is acceptable to 2a) staff, 2b) students and 2c) student's' families.

Methods

Study Design: A single group design. Pre and post-test measured student change in independence. Post-test measured acceptability, appropriateness, and feasibility of the Simulated Café.

Inclusion Criteria: Diagnosis of autism, verbal communication, aged 15 - 20 years old, physically and cognitively able to use technology, able to follow simple one-steps directions consistently and able to read on a second-grade level or higher.

Measures:

Outcome 1) Assessment of Functional Living skills (AFLS) (Partington & Mueller, 2015 (Restaurant section of the vocational subtest). This is a criterion-referenced skills assessment tool. For 20 questions students receive 0-2 points and for 12 questions 0-4 points.

Outcome 2) Surveys created to measure acceptability of the simulated café; 2a) survey for staff, 2b) survey for students and 2c) survey for student's' family. Each survey included 9 questions. Each question used a 4 point Likert Scale (1-Strongly disagree to 4- Strongly Agree).

Program Description

The Simulated Café was a 6 week virtual summer program. There were 3 sessions a week, 2 individual sessions and 1 class session provided via Microsoft teams. This program used an occupation-based approach to introduce students to basic employment skills and basic skills for working in a café. The program was designed based on best evidence for technology aided instruction, particularly video modelling and video prompting since video based instruction has been used successfully for vocational training (Rosen, et al., 2017; Van Laarhoven, et al., 2018; Gentry, et al., 2015). Other methods of instruction included teaching and role playing of social and work behaviours. These methods reinforce the participants' socialization communication and emotional control skills (Liu, et al., 2013).

Sample Session (see Table 1)

- Review the previous session
- Discussion on the session's topic/task
- Video model of task/skill
- Demonstration of task/skills
- Practice/role play task/skill

Data Analysis

The program was evaluated using descriptive analysis.

Outcome 1) To measure if students increased their independence in completing job tasks: , pre- and post-row scores of the restaurant section of the vocational subtest of the AFLS were calculated. Criterion: If 80% of students increased their scores, .

Outcome 2) To determine if 2a) school staff, 2b) students and 2c) student's families find the program acceptable; the mean score for all responses was calculated for each acceptability question. Criterion: Respondents mean score of 3 or more indicates agreement that the Simulated Café is Acceptable.

Table 1
Simulated Café Session Topics

Week	Session 1	Session 2	Session 3
1	Greeting supervisor and coworkers Attendance	Signing in Asking for assistance Following directions	Review with class greeting, signing, attendance and asking for assistance
2	Being on time Appropriate hygiene for work	Setting the table	Review with class hygiene and setting the table
3	Cleaning the table	Washing dishes	Review with class cleaning the table and washing dishes
4	Describing menu and taking orders	Asking customers if they need anything else How to tell when food is spoiled & sell-by date	Review with class taking orders and how to tell when food is spoiled
5	Writing and giving bill to customer	Letting supervisor know when completed tasks Sorting and cleaning cutlery	Review with class giving bill and sorting cutlery
6	Review all tasks, prepare and make checklist for cafe	Make a café for family	Review all concepts with class by playing a jeopardy game and making checklist

Results

Demographics

3 male participants, 1 female
2 participants were 16 years old, 1 was 17, 1 was 18

Outcome 1) Students increase independence in job tasks of working in a café (Figure 1)

- All students showed an increase in their scores on the AFLS.

Outcome 2a) The program is acceptable to Staff (Figure 2)

- The aggregate mean for the Aim was 3.2., staff found the program is acceptable.

Outcome 2b) (Figure 3)

- The aggregate mean score for the student survey was 3. Student participants found the program acceptable.

Outcome 2c) (Figure 4)

- The aggregate mean for the family survey was 3., students' families found the program acceptable.

Figure 1

Assessment of Functional Living Skills

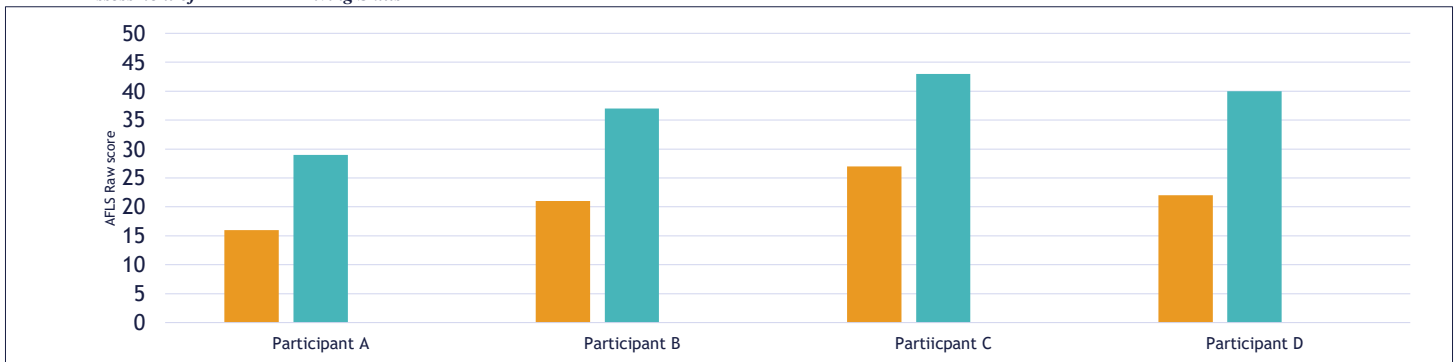


Figure 2

Staff Aggregate Responses on Program Acceptability (n=5)

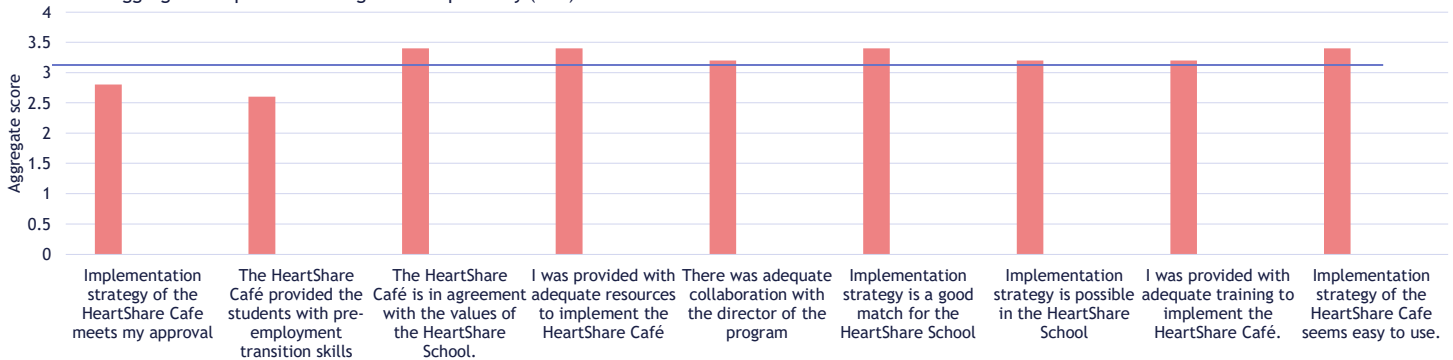


Figure 4

Student Responses on Program Acceptability (n=4)

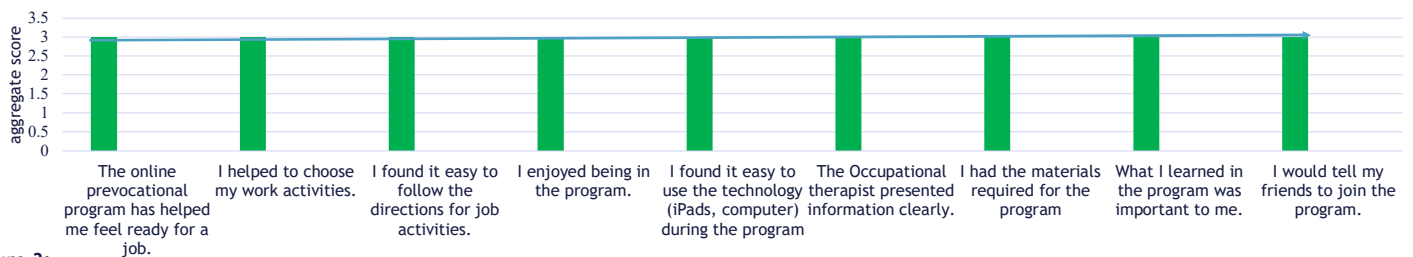
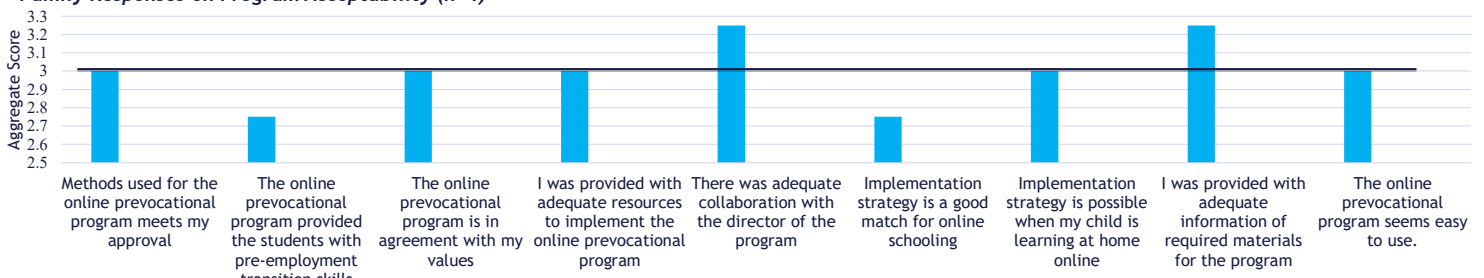


Figure 3:

Family Responses on Program Acceptability (n=4)



Conclusions

The program demonstrated preliminary promise that a pre-employment transition program delivered virtually may increase the skills for high school students with autism for working in a café.

The program met the criterion for each established outcome

- All students increased their scores on the restaurant section of the AFLS
- Staff, families and students found the program acceptable

Discussion

- One difficulty in providing the program was attempting to avoid further stress on the families, which were already stressed due to the covid-19 pandemic.
- Upon request of the teacher and administrator, the program continues, includes another class and changed to in-person once the students returned school in-person.

Implications:

- Prevocational skills for individuals with autism may be delivered in simulated environment
- It may be feasible and acceptable to deliver a family café program online. There are benefits for delivering the program online including having greater involvement from families and the ability to practice tasks in a natural environment; especially since many restaurant skills are also needed for homemaking skills such as washing dishes, setting the table and cleaning the table. Having natural access to family members provided opportunities to practice and generalize these skill
- Future programs done virtually should add more methods to decrease burdens on families (such as providing more resources initially and spreading the program out over a longer period).
- Future programs should evaluate the feasibility of performing similar simulated programs for other jobs such as janitorial, clerical and retail and should include a larger sample size

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