Intervening early with youth with developmental disabilities using a tailored approach that considers each youth's unique strengths and interests will improve future employment outcomes for these youth.

IMPACT

Cohort 3 Report

January 31, 2023

Rachelle Hole, Colin Reid, Laura Mudde

This program is funded by the Government of Canada and the Province of British Columbia.

THE UNIVERSITY OF BRITISH COLUMBIA

Canadian Institute for Inclusion and Citizenship

British Columbia
Employment Network

IMPACT Project Partners:

Aspire Richmond

Burnaby Association for Community Inclusion

Chilliwack Society for Community Living

Community Living Victoria

Delta Community Living Society

Inclusion Langley Society

PosAbilities Association of British Columbia

Uniti

Project Managers:

Iryna Dubeniuk, (2022-2023)

Nicola Dunne (2020-2022)

Project Consultant:

Annette Borrows (2020-2023)

Canadian Institute for Inclusion and Citizenship

The University of British Columbia

Phone 604 822 5872 Email: cic.ubc@ubc.ca

@CIICUBC Website Facebook

Research Team:

Rachelle Hole, PhD

Colin Reid, PhD

Laura Mudde, MA

To cite this report:

Hole, R., Reid, C., & Mudde, L. (Jan. 2023). *IMPACT: Cohort 3 Report*. The UBC Canadian Institute for Inclusion and Citizenship in partnership with the BC Employment Network. Funded by the Ministry of Social Development and Poverty Reduction. 58 pages.

Executive Summary

The IMPACT program was developed in 2019 in response to the low labour market participation of individuals with intellectual and developmental disabilities (IDD) in British Columbia (BC).

As of March 31, 2019, only 24.2% of individuals supported by Community Living BC (CLBC) reported some employment earnings, with 82% of these reporting earnings below $10,000 a year (CLBC, 2019). IMPACT aims to address these low employment outcomes by intervening early with transitioning youth between the ages of 15 - 19. By transitioning youth, we mean youth who are preparing to transition or who are actively transitioning from high school to post high school life. Guided by employment specialists, IMPACT programs provide a range of opportunities such as training around employment, work experiences, employment opportunities, and peer involvement with potential employers.

The IMPACT project officially began in 2020 with eight member organizations of the BC Employment Network (https://bcenetwork.ca) located in the Lower Mainland and the Southern Vancouver Island of BC. The project involved three cohorts of youth over three years. This third report details the findings of the evaluation for Cohort 3 which ran in the summer of 2022.

The IMPACT research investigates whether and how intervening early with youth with IDD using tailored approaches to employment positively impacts employment outcomes. The hypothesis guiding this research is: *Intervening early with youth with IDD using a tailored approach that considers each youth's unique strengths and interests will improve future employment outcomes for these youth.* A concurrent mixed methods formative evaluation design informs the research (Creswell & Plano Clark, 2011). Each of the eight agencies participating in IMPACT developed and delivered summer youth employment interventions, and a neutral, arms-length evaluation was conducted of the third cohort by researchers from the UBC Canadian Institute for Inclusion and Citizenship. The UBC Behavioural Research Ethics Board granted ethics approval for this research. The agencies, through internal resources and/or partner organizations (e.g., school districts), recruited youth based on convenience and sample criteria. The third cohort of 2022 consisted of 100 youth: ninety youth with IDD actively participated in the program, and 10 youth unable to participate, but who did provide entry and exit information, formed the control group.

Data related to agency intervention and youth engagement were collected through several instruments, including pre- and post-interviews. These interviews included demographic information, an assessment of level of support (level of disability), questions about the youth's knowledge of employment, and the completion of a Meticulon Assessment Survey (MAS, 2020). This scale is an assessment instrument covering eleven predictive domains for getting a job and job retention; for example, organization and teamwork. In addition, agency staff systematically recorded their youth's activities in an ongoing developmental diary to document the youth's engagement in the IMPACT project. During the exit interview, youth were also asked about their experiences in the program. Furthermore, eighty-nine parents completed the MAS as it pertained to their youth at the beginning and end of the employment intervention. Finally, 35 parents completed a post-intervention online survey eliciting their individual perspectives of the IMPACT Program.

Outcomes reveal an increase in overall paid and unpaid work experience through the youth's engagement with IMPACT, as well as an increase in MAS employability domains and self-assessed knowledge about employment. Thirty youth participated in unpaid work experience and thirty-three obtained paid employment. Agency interventions with participating youth improved the youth's unique strengths, interests, and confidence about their employment and work skills.

Contents

Contact Information

Dr. Rachelle Hole
Canadian Institute for Inclusion and Citizenship
University of British Columbia Okanagan

ARTS/FHSD
1147 Research Road,
Kelowna, BC V1V 1V7
rachelle.hole@ubc.ca
cic.ubc@ubc.ca

Introduction

In British Columbia (BC), only 24.2% in BC (CLBC, 2019) and, in Canada, only 22.3% of individuals with intellectual and developmental disabilities (IDD) indicated some kind of employment (Statistics Canada, 2012); and, when employed, individuals with IDD receive low wages, work few hours, and their work sometimes takes place in segregated settings (Almalky, 2020; Carter et al., 2012; Grossi et al., 2020; Grigal et al., 2014; Hole et al., 2011; Smith et al., 2021). As of March 31, 2019, only 24.2% of individuals supported by Community Living BC (CLBC) reported some employment earnings, with 82% of these reporting earnings below $10,000 a year (CLBC, 2019). These statistics are striking given the importance of employment for most working-age adults. Work is a major aspiration for people with IDD and a key mechanism for enacting social inclusion (Cramm et al., 2009; Flores et al., 2011; Humber 2014; Johoda et al., 2009; Lysaght et al., 2012). Employment is one important means through which individuals with IDD can lead full, rich lives as members of their communities (Chiang et al., 2013). As a result, researchers, policy makers, practitioners, family members, and individuals with IDD (often referred to as self-advocates in Canada) are calling for improved employment outcomes for individuals with IDD. Given the underemployment and unemployment of working age individuals with IDD, eight community living organizations of the BC Employment Network located in the lower mainland and South Vancouver Island undertook a project aimed at improving employment outcomes for individuals with IDD, and based on research evidence, they focused on youth ages 15 to 19 years old.

In Canada, research on employment and transitioning youth with IDD is sparse. In fact, the majority of empirical work comes from researchers in the United States (U.S.), Australia and United Kingdom (Hole et al., 2011). This research repeatedly demonstrates that transition initiatives and planning are “falling short” (Cheak-Zamora et al., 2015; Magnuson, 2013; Nord, 2020; Smith et al., 2021; Sung et al.., 2015; Wehman et al., 2014a; Wehman et al., 2014b). That said, there is strong evidence indicating specific domains that improve employment outcomes (e.g., Carter et al., 2012). One key predictor of successful employment outcomes for working-age individuals with IDD is early intervention, particularly when youth are transitioning from school to work (Cimera et al., 2014; Cimera et al., 2013; Shattuck et al., 2012; Sung et al., 2015). To date, research on early interventions focused on youth and employment has tended to concentrate on youth specific ‘job tasks’ associated with a particular job (e.g., within retail, restaurant, clerical settings), only a minority of youth intervention studies focused on ‘pre- employment interventions,’ a seeming absence given the importance of early intervention and career planning (Seaman & Cannella-Malone, 2016). Moreover, early vocational supportand work experience is another predictor of employment for transitioning youth (Baumann etal., 2013; Cheak-Zamora et al., 2015; Grigal et al., 2014; Simonsen & Neubert, 2012; Sung et al., 2015). In fact, working age youth with IDD who were employed upon completion of high school were likely to remain employed and receive competitive wages (Burgess & Cimera, 2014; Cimera et al., 2014; Wehman et al., 2014; Sung et al., 2015). Both transition policy and recommended practice emphasize the necessity of providing youth with disabilities a strong foundation of compelling career development experiences early in their high school years (Carter et al., 2012). Given the importance of early intervention, the IMPACT Project is dedicated to an employment intervention for transitioning youth ages 15 – 19 years.

The principal issue addressed through IMPACT is improving employment related transition planning and supports for youth with IDD with the goal to improve employment outcomes of transitioning youth with IDD. The hypothesis guiding this work is:

Intervening early with youth with IDD using a tailored approach that considers each youth's unique strengths and interests will improve future employment outcomes for these youth.

1. Methods

IMPACT uses a concurrent mixed methods formative design to evaluate the outcomes of IMPACT over three cohorts (Creswell & Plano Clark, 2011). Cohort 1 and Cohort 2 experienced COVID-19-related restrictions. Cohort 3 experienced these restrictions to a lesser extent. Nevertheless, the eight organizations at times used modified interventions to align with public health orders and health safety. The developmental diaries used to document the intervention activities are reflective of these modified interventions in which some occurred in online settings and some in direct in-person settings. In light of these limitations, the guiding research questions for Cohort 3 were: "*In what ways is intervening early with youth effective in producing positive employment related outcomes?*" and, *"What methods of intervention are statistically correlated to the employment outcomes of the youth?"*

1.1 Recruitment and sampling

Several inclusion criteria guided the selection and recruitment of the youth participant sample: 1) aged between 15 and 19 years at the start of the program, 2) has a diagnosed IDD, and 3) the youth has a parent/caregiver to provide consent if the youth is under 19, the age of majority in BC.[1]

All eight agencies approached recruitment through a variety of means. A recruitment flyer was distributed to local organizations positioned to assist with recruitment (e.g., Inclusion BC, STAIDD Navigators, and CLBC). In addition, agencies recruited through their local school districts, and internal resources. Each agency held virtual or an in-person information session with potential youth and their caregivers, or in-person individual sessions when requested. Interested youth were invited to participate. Youth who declined were invited to participate as part of the control group. In total, 90 youth actively participated in an IMPACT summer program dispersed across the eight organizations. The number of youth per agency was as follows: one agency recruited seven youth; one agency recruited eight youth; one agency recruited ten youth; one agency recruited eleven youth; three agencies recruited twelve youth, and one agency recruited eighteen youth. Agency interventions included meetings with the youth in-person or virtually and individual youth diaries included details about those meetings and whether they were one-on-one or in a group setting. Ten youth across these agencies were not exposed to any interventions and became the control group. These 10 youth completed both the entrance and exit interviews and the Meticulon Assessment Survey (MAS) at the start and end of the program.

1.2 Data collection

Upon consenting to participate in the program, entrance interviews were conducted prior to commencing the program. Entrance interviews were conducted in-person, unless a virtual meeting was appropriate given COVID protocols. Throughout the intervention, staff kept developmental

1 Recruitment in May and June of 2022 meant three youth were 14 years of age, turning 15 later in the year and one youth was 19 years old, turning 20 later in the year.

diaries documenting the activities during the program, both directly with the youth and on behalf of the youth, and logged employment experiences (paid and unpaid). Employment outcomes (paid and unpaid) were also documented at the end of the program. Each youth was given a $25 gift card four times during their involvement in IMPACT. They received a gift card following the entrance and exit interviews and monthly during their time in the program. Youth in the control group were given a $25 gift card after both the entrance and exit interviews as well.

Results regarding agency intervention and youth engagement were collected using several instruments. Pre- and post-interviews were conducted directly with the youth and their parents/caregivers. For the purposes of this report, “Parent(s)” will be used as an umbrella term to refer to parents and caregivers/guardians. The entrance interviews with the youth include demographic information (e.g., age, level of education, self-identified level of disability/support needed), questions about the youth’s knowledge of employment, and the MAS (MAS, 2020). The entrance interviews with the parents include demographic information about the youth (e.g., age, gender, ethnicity, level of disability/support needed) and the MAS. The exit interviews for the youth repeated the knowledge of employment questions, the MAS, and supplementary questions about the youth’s experience in the program. The parent exit interview repeated the MAS for their youth. In addition, agency staff were instructed to systematically record their youth’s intervention activities (activities conducted on-behalf of the youth and activities conducted directly with the youth) to document the youth’s and employment specialists’ activities as they relate to program delivery and employment experiences (paid and unpaid). Finally, a short parent reflection survey was conducted to explore parents’ evaluation of the IMPACT Program.

Cohort 3 used the changed scales, proposed after the pilot (Cohort 1) to better reflect the agencies’ interventions and the youth’s experiences in IMPACT. The next section details the measures used in the data collection process.

1.3 Measures

Evaluation of IMPACT is based on data gleaned from the youth themselves in their entrance and exit interviews. Youth answered questions about their general knowledge of employment and expectations for the IMPACT program. Youth completed the Meticulon Assessment Survey (MAS), which consists of 11 predictive domains of getting a job and keeping a job. In addition, employment specialists asked youth four questions related to their experience with IMPACT and their overall satisfaction with the interventions. After a brief summary of the entrance and exit surveys, this report provides both entrance and exit results of the youth’s responses in IMPACT Cohort 3 over time.[2] Parents provided additional feedback and reflection about IMPACT and their youth’s engagement. Similar to the youth, parents completed the MAS and answered questions that allowed for the evaluation of the IMPACT program.

The entrance interviews first collected demographic data. Participants and their parents completed questions about the youth’s sex/gender, age, ethnicity, minority status, and highest completed level of education. These questions were followed by scales and multiple-response questions to gain further insight into the youth’s baseline experiences before engagement with IMPACT.

2 Follow-up questions were distributed to Cohort 2 youth in 2022. A report on the findings was provided to the eight agencies.

The Arc's Level of Support Subscale

The Arc's Self-Determination Scale (Wehmeyer 1995) was developed to assess the level of self-determination of adults with mental and developmental disabilities (p. 5). This project specifically adopted the Arc's Level of Support Subscale to enable students to self-assess the level of support needed in seven areas of assistance (Wehmeyer 1995, p. 6).

The Level of Support subscale consists of 7 questions (see below) along a 3-point scale. Youth indicated "None" (1 point), "A Little" (2 points), or "A Lot" (3 points) of support needed in response to each question.

Arc's Level of Support Subscale questions:

- When it comes to self-care how much support/assistance do you need?
- When it comes to learning how much support/assistance do you need?
- When it comes to mobility how much support/assistance do you need?
- When it comes to self-direction how much support/assistance do you need?
- When it comes to receptive and expressive language how much support/assistance do you need?
- When it comes to capacity for independent living how much support/assistance do you need?
- When it comes to economic self-sufficiency how much support/assistance do you need?

This is an additive scale, with scores constrained to values between seven and 21; the higher the score, the greater the self-assessed need for support. The mean score then represents a general tendency to "None", "A Little", or "A Lot" of support needed in the seven areas questioned.

The Cronbach's alpha for this scale is 0.62.

Support

Another closely related general question in connection to the Arc's Level of Support Subscale asked youth about their overall need for support during the day. This overall question consists of a 5-point scale ranging between 1 and 5: "None" (1 point), "A Little" (2 points), "A Medium Amount" (3 points), "A Lot" (4 points), to "I need support all the time" (5 points).

Employment

To assess the influence of employment interventions on the youth to see whether and how a tailored approach will improve future employment outcomes, entrance surveys inquired about their previous work experience in direct response format. Questions asked about previous paid, and/or volunteer work experience and whether the youth was 'currently employed' at the time of the entrance interview. Youth were subsequently asked about their work experiences and employment outcomes at the exit interview. This is important in order to gauge change in employment outcomes over time and to assess the effectiveness of IMPACT in providing meaningful employment training and engagement with the youth. Agencies collected data related to the individual youth's work experience at entrance and exit interviews. Pie charts and tables are used in the results section of this report to demonstrate any change in the youth's previous work experience and work experience gained through participation in IMPACT based on the entrance and exit interview data. These figures also distinguish between paid and unpaid work experiences.

Meticulon Assessment Survey (MAS) Inventory

Entrance and exit Interviews for both youth and parents included the MAS. The MAS was originally developed by Meticulon Consulting (2020) as an assessment instrument covering multiple predictive domains for getting a job and job retention based on the research evidence. Meticulon Consulting (2020) provides employment support to working-age individuals with autism spectrum disorder and their consulting and MAS Inventory are used to support these individuals with their employment journey. This scale allows for an assessment of the youth's employment capacities and capability domains or employability skills. The MAS includes the following employment domains:

- Time Expectations (3 questions);
- Organization (4 questions);
- Authority (3 questions);
- Teamwork (4 questions);
- Perseverance (3 questions);
- Responsibility (3 questions);
- Motivation Level (3 questions);
- Mindfulness (3 questions);
- Self-Awareness (3 questions);
- Communication Skills (2 questions);
- Personal Appearance (1 question).

These questions were given values according to a 5-value Likert-scale ranging from "Strongly Disagree", "Disagree", "Neither Agree nor Disagree", "Agree", to "Strongly Agree". Points allotted to these answers range from 1 to 5, respectively.

Knowledge about employment

Youth were asked fill-in-the-blank questions related to their general knowledge about employment. Table 3 displays the 5 questions asked. Question 1, 2, and 3 could be answered with "Nothing", "A little", "A fair amount" or "A lot" for 1 to 4 points, respectively. For question 4, answer options were "Not excited", "A little excited", "Fairly excited" or "Very excited" followed by question 5 with answer options "Not confident", "A little confident", "Fairly confident" or "Very confident". These response categories were assigned from 1 to 4 points. Individual mean scores for these five questions are calculated based on the youth's responses at both entrance and exit interviews to gauge change over time in their knowledge about employment after IMPACT interventions.

Control Group

The youth's engagement in IMPACT is compared to some of the answers provided by a smaller control group of youth who did not receive any interventions. Similar to participating youth, the youth in the control group completed the Arc's Level of Support Subscale, general questions about their knowledge of employment, and the MAS. However, these youth did not participate in the IMPACT interventions, workshops, or employment services.

The results of the entrance and exit interviews for all 100 youth in Cohort 3 are presented in section two of this report. This includes the results for the 90 participating youth and the 10 youth that did

not participate (the control group). The discussion will provide some reflection about the use of a control group as well as the limitations and value of this group for the overall hypothesis guiding this research.

Parent/Caregiver Survey

For this third cohort, parents provided additional feedback and reflection about IMPACT and their youth's engagement. In addition to the MAS, parents completed an online survey also distributed in Cohorts 1 and 2. This 10-minute questionnaire asked parents to reflect on their youth's experience in the IMPACT program through five statements. These statements ranged in possible responses from "Strongly disagree" to "Strongly agree" on a 5-point Likert-response to gauge appreciation for the program as observed by the parent/caregiver (each statement ranging from 1 point – 5 points, respectively).[3]

The response statements are:

- "I am overall satisfied with our experience with the Summer Employment Service Program"[4]
- "Your youth enjoyed learning and experiencing employment related activities"
- "I feel that the things my youth learned during our time with the program will help them to get a paid job in the future"
- "I feel like the program addressed potential barriers to employment/volunteer experience/work experience through skill and ability training"
- "I feel like the program improved the soft skills of my youth (soft skills refer to social and emotional skill, such as confidence and communication)"

1.4 Data Analysis

The data collected during the entrance and exit interviews, intervention diaries, employment outcomes (paid and unpaid), and parent survey were processed using SPSS data analysis software (IBM SPSS Statistics Data Editor 27). Data and results for this report (see also Appendix A) were generated by running descriptive and frequency statistics within SPSS.

We included Pearson Two-Tailed Bivariate Correlation analyses[5] related to the level of support indicated in the Arc's Level of Support Subscale and Overall Support question from the entrance interview (see Table A11). We ran other correlation analyses to see what types of agency interventions are significantly correlated to the youth's employment outcomes. Additional tests were conducted based on demographic descriptive statistics, the Arc's Level of Support Subscale, and Overall Support as well as methods of intervention.

3 Unlike the measures in the MAS and other scales, which are added together to produce cumulative scales, these five statements represent five separate measures.

4 The 'Summer Employment Service Program' refers to IMPACT. Since not all agencies used thesame name for the IMPACT program, this is the common name for all agencies to engage with.

5 Correlation levels are deemed statistically significant $p \leq .05$, $p \leq .01$, and $p \leq .001$ referring to less than or equal to .05 level, less than or equal to .01 level, and less than or equal to .001 level indicated in result tables by *, **, or ***. When no asterisk is indicated the difference is not statistically significant on any of these levels.

Youth responses regarding their general knowledge about employment during both the entrance and exit interview were compared over time, reporting their mean scores and difference between exit and entrance with Paired Samples t-Tests as seen in Table 4 of this report. Additionally, we compared the MAS scales over time in Paired Samples t-Tests for both youth and parents.

2. Results[6]

Youth Participants

Of the 100-youth engaged with IMPACT Cohort 3, 90 youth actively participated in 2022. Ten youth were unable to actively participate at this time and were assigned to the control group. They did not participate in any intervention, but completed both the entrance and exit interviews. We describe the results from the control group after the preliminary analysis of the 90 active youth.

2.1 Demographic Results

Sex/Gender

Of the 90-participating youth, 64 (71.1%) identified as male, 23 (25.6%) as female, one (1.1%) as non-binary, and two (2.2%) preferred not to answer (seeTable A1).

Age

The average age of this sample is 17, with a minimum age of 14 and a maximum age of 19 as of June 1st 2022 (see Table A2). The mode of the sample was 17 years of age (35.6%) (see Table A3).[7]

Ethnicity

Similar to Cohort 2, parents answered questions related to the youth's ethnicity, as a significant number of youth were uncertain about the concept of ethnicity. To the question, "Do you identify as Indigenous?", three (3.3%) identified as such, 85 (94.4%) did not identify as Indigenous, and two (2.2%) preferred not to answer the question (see Table A4).[8]

Minority

In line with the interview question about the youth's ethnicity, parents were asked if their youth identified as a visible minority, to which 36 (40.0%) answered "Yes", 51 (56.7%) answered "No", and three (3.3%) answered "I prefer not to answer" (see Table A5).

6 The appendix provides tables with results generated through SPSS referenced in text as "see TableA#" to refer to corresponding data.

7 At the start of the program in June of 2022, three youth were 14 years-of-age of which two were part of the control group. One youth in the control group was 19.

8 Missing values are indicated only when they occur.

Education

Another demographic question asked the youth about their highest level of education finished at the time of their entrance interview in the Summer of 2022.[9] The three most common answers reflected that 11 youth completed Grade 10 (12.2%), 34 youth completed Grade 11 (37.8%), and 30 youth completed Grade 12 (33.3%) as of June 1st 2022 (see Table A6).[10]

2.2 Supports

The Arc's Level of Support Subscale

For the 90-participating youth, this scale reveals a mean score of 1.856 overall in the 7 areas of support measured in the Arc's Level of Support Subscale (see Table A7). Of the 7 areas, support in self-care reveals the lowest mean score of 1.344, whereas support for independent living (mean 2.244) and support in learning (mean 2.167) and economic self-sufficiency (mean 2.167) are the three highest mean scores for areas of self-determined support needed (see Table A8).

Overall Support

For N=90, the overall support scale reflects a mean of 2.82 on a scale of 1 to 5, with 1 ("No support"), 2 ("A little support"), 3 ("A medium amount of support"), 4 ("A lot of support"), to 5 ("I need support all the time"). This mean has a standard deviation of .995 (see Table A9 and Table A10). When parents were asked the same question, the overall support mean score is 3.14 as observed by the parent, with a standard deviation of .775. The previous 7-item Arc's Level of Support Subscale and this overall support scale as answered by both youth and parent show positive correlations that are statistically significant at the .05 level and the .01 level (see Table A11). Youth-identified Arc's Level of Support and Overall Level of Support show a weak positive correlation at .284. The parent-identified Overall Level of Support for the youth and the youth-identified Arc's Level of Support show a moderate-strong correlation at .667. The parents and the youth-identified Overall Level of Support show a weak positive correlation at .329.

2.3 Employment

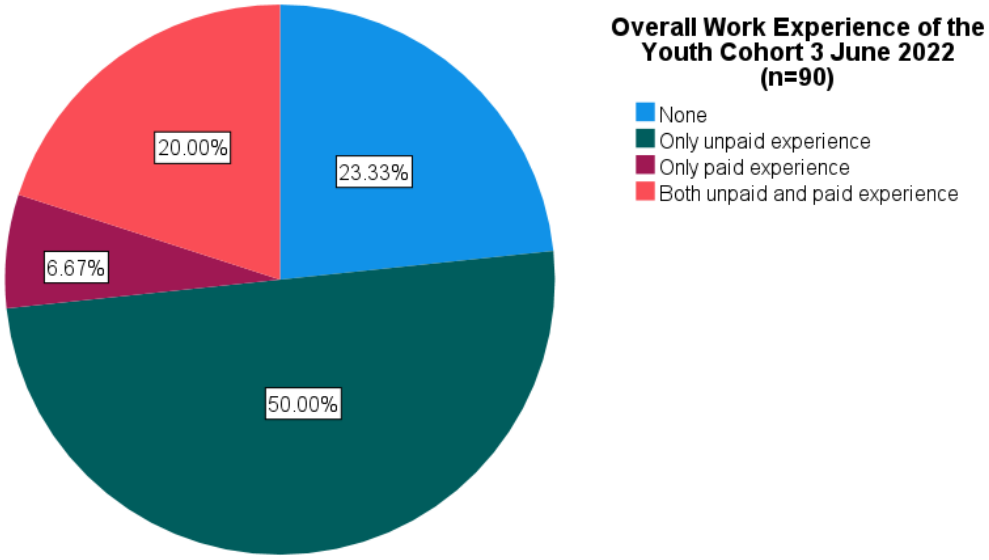
Employment at entrance

Of the 90 participants, 14 youth (15.6%) were employed at the time of their entrance interview (see Table A12). Of those same 90 participants, 17 (18.9%) indicated to have had previous paid employment (see Table A13). Sixty-six (73.3%) of the youth previously had a volunteer job (see Table A14). Putting these data together, Figure 1 provides an overview of work experience of the 90 youth before any IMPACT intervention (see also Table A15).

9 1 missing (1.1%).

10 Answers which for example contain "currently in Grade 11" are transferred to Grade 10 as the last finished grade.

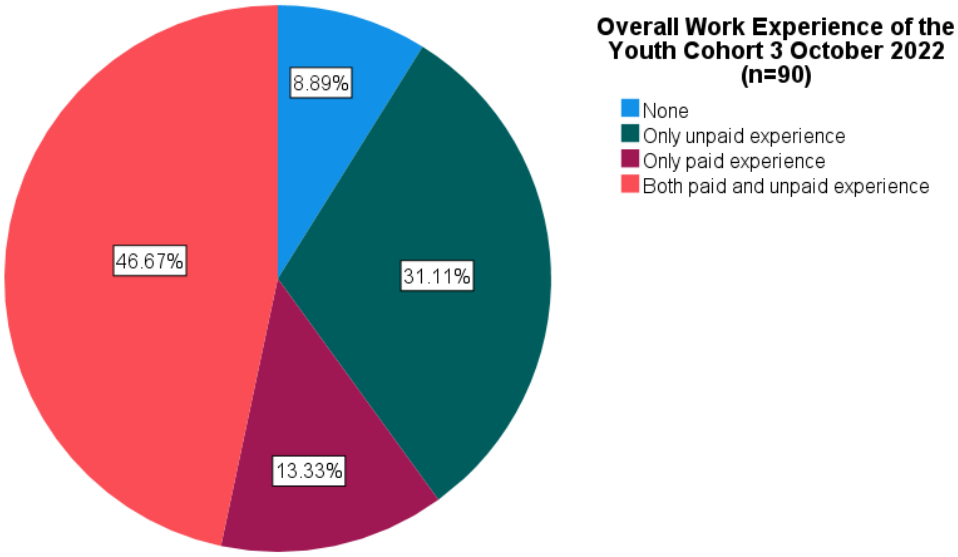
Figure 1. Work experience before IMPACT intervention



Employment at exit

Forty-three of the 90 youth (47.8%) held or obtained a paid job during IMPACT as reported on the exit interviews (see Table A16). Thirty-one out of 90 youth (34.4%) participated in an unpaid work experience (see Table A17). Overall, 62 youth (68.9%) gained some form of work experience (whether paid or unpaid) during their involvement with IMPACT (seeTable A18 and A19). Participants were able to hold more than 1 job or to engage with more than 1 work experience through IMPACT (see Table A18). Based on their previous work experience indicated in Figure 1, Figure 2 reflects change in the overall work experience of the youth after participation in IMPACT.

Figure 2: Work Experience after IMPACT Intervention



Types of employment

Sixty-two out of 90 youth obtained either paid or unpaid work experience. Of these 62, forty youth obtained one work experience (paid or unpaid), twelve also obtained a second paid or unpaid work experience. One youth obtained three work experiences and one youth participated in four unpaid or paid work experiences through their engagement with IMPACT. The eight respective agencies also logged the respective industries the youth's work confirmations could be categorized in (see Table A21).

Types of work experience

Results from the agency data as reflected in the intervention diaries provides the level of engagement of the youth with the IMPACT training and exercises. Divided into four categories ranging from 0-25, 26-50, 51-75, 76-100 percent, 63 or 70.0% of the youth were very engaged (engagement level 76%-100%) (see Table A22). This participation or level of engagement was also measured through the number of interventions either in direct contact or on behalf of the youth (see Table A23 and A24).[11] The distribution of work experiences of the 62 youth with some form of work engagement (68.9% of the sample) ranges from full-time employment (2), full-time seasonal employment (4), part-time employment (16), part-time seasonal employment (21), to self-employed (1), and unpaid work experience (30).[12] The multiple responses experiences for some of the youth are reflected here in Table 1, seen in the total work-related experiences – paid or unpaid – being 74 for 62 participants of the 90-youth sample.

Table 1: Work Experiences of 70 Participants according to Agency Data

Type of Employment	Frequency
Full-time	2
Full-time Seasonal	4
Part-time	16
Part-time Seasonal	21
Self-Employment	1
Work Experience[13]	30
Total	**74**

11 Interventions were distinguished as in direct contact with the youth or indirectly on behalf of the youth during the IMPACT program. An example of an intervention conducted on behalf of a youth is the time spent organizing workshops for the youth.

12 Important to note that full-time employment does often not apply to this study sample. Most types of employment whether paid or unpaid are for under 12 hours a week. Most of the youth are combining this with some form of education.

13 Work experience here refers to an experience within the IMPACT program, including for instance the warehouse simulation and other agency organized work experiences.

3. Evaluation

Youth response to IMPACT

When asked about their experience with IMPACT, 82 of the youth (91.1%) agreed or strongly agreed that they were satisfied with their experience in the program with a mean score of 4.30 (see Table A25 and Table A26). Seventy-nine youth (87.8%) enjoyed the activities while participating in the program (see Table A27). Seventy-two of the 90 youth participants (80%) indicated that they had learned strategies for acquiring a paid job during the program (see Table A28), and 81 youth (90.0%) indicated that the things they learned during the IMPACT program will help them acquire a paid job in the future (see Table A29).

Knowledge about employment

The table below shows the mean scores for the youth's general knowledge about employment. These five questions on a 4-point scale were completed during the entrance and exit interviews. Youth's answers ranged from "Nothing/Not" (1-point), "A little" (2-points), "An average amount/Moderately" (3-points), to "A lot/Very" (4-points). Table 2 presents the mean for each question at entrance and exit followed by a column that reflects the difference between exit and entrance to allow for determination of statistical significance. Table 2 reveals an overall increase in the youth' mean scores related to knowledge about employment that are statistically significant increases.[14]

Table 2: Knowledge about Employment at Entrance and Exit Interviews

Question	Mean Entrance	Mean Exit	Difference Exit – Entrance
When it comes to employment, I know …about how to start looking for a job.[15]	2.24	2.73	.49***
When it comes to employment, I know … about the kind of job I want.	2.38	2.86	.48***
When it comes to employment, I know … about what qualities employers are looking for in an employee.	2.44	3.03	.59***
When it comes to getting a job, I feel … excited about working.	2.77	3.14	.37**
When it comes to getting a job, I feel … confident.	2.63	2.90	.27**

* Statistically significant at less than or equal to .05 level.

** Statistically significant at less than or equal to .01 level.

*** Statistically significant at less than or equal to .001 level.

14 Paired Samples t-Tests.

15 1 missing for this question (n=90).

MAS Inventory

Table 3 engages with the mean scores per MAS domain for the entrance and exit interview as well as the difference between exit and entrance and the potential statistical significance of that change in the mean score (see Table A30).

Table 3: Paired Samples t-Test MAS Mean Scores Entrance and Exit Interview[16]

Domain	Mean Entrance	Mean Exit	Difference Exit - Entrance
Time Expectations	3.78	3.96	.18*
Organization	3.92	4.02	.10
Authority	3.83	3.99	.15*
Teamwork	3.90	4.06	.16*
Perseverance	3.65	3.82	.17*
Responsibility	3.84	3.98	.13
Motivation Level	4.10	4.04	-.06
Mindfulness	4.23	4.41	.18**
Self-Awareness	3.68	3.95	.27***
Communication Skills	3.89	3.97	.08
Personal Appearance	3.91	4.26	.35**

* Statistically significant at less than or equal to .05 level.

** Statistically significant at less than or equal to .01 level.

*** Statistically significant at less than or equal to .001 level.

Parent MAS Inventory

Table 4 engages with the MAS for the parents. Mean scores are similarly provided per domain for the entrance and exit interviews as well as the difference between exit and entrance and potential statistical significance of the change in the mean score.

[16] The difference between individual categories may appear incorrect as a result of rounding.

Table 4: Paired Samples t-Test MAS Mean Scores Parent/Caregiver Entrance and Exit Interview[17]

Domain	Mean Entrance	Mean Exit	Difference Exit – Entrance
Time Expectations	3.63	3.81	.18*
Organization	3.45	3.63	.18*
Authority	3.43	3.59	.16
Teamwork	3.63	3.72	.08
Perseverance	3.30	3.39	.08
Responsibility	3.46	3.72	.26**
Motivation Level	3.83	3.90	.07
Mindfulness	4.30	4.25	-.04
Self-Awareness	3.48	3.44	-.04
Communication Skills	3.14	3.38	.25**
Personal Appearance	3.53	3.74	.21

* Statistically significant at less than or equal to .05 level.

** Statistically significant at less than or equal to .01 level.

*** Statistically significant at less than or equal to .001 level.

4. Control Group

The sample of youth selected for the third cohort consisted of 100 participants. Ten of those participants became the control group. These youth did not receive any interventions and completed the entrance and exit interview. Control group participants in this study are meant to support our multi case study and exploration of differences within and between cases. Envisioned segmentation for the control group of both Cohort 2 and Cohort 3 is approximately 10% of the total population engaged with IMPACT in those two cohorts. We recognize that the limitations of the small size of the control group. This smaller sample only allows us to make tentative conclusions when comparing it to the N=90 youth who underwent the intervention.

Demographic information

Of the youth in the control group, nine identify as male (90.0%), which is higher than the participating youth (see Table A33). In terms of age, the control group was younger on average than the participating youth with a mean age of 16 (see Table A34). One of the youth in the control group identifies as Indigenous (10.0%) (see Table A35). Two youth (20%) identify as visible

17 10 missing (n=80).

minorities, and one youth (10%) prefers not to answer (see Table A36). Most of the control group finished Grade 11 (60%) (see Table A37).

Support

In engaging with the questions related to the Arc's Level of Support Subscale and the overall need of support during the day, the control group scores are higher for the 7-item subscale with a mean score of 1.871 (see Table A37 and Table A38). To the question regarding the overall support needed during the day, the control group displays a mean of 2.80 (see Table A39).

Employment

One youth (10%) indicated they have had a previous job (see Table A40). One of the 10 youth in the control group was employed at the time of the entrance interview (see Table A41). Five youth, or 50% indicated that they had previous unpaid/volunteer work experience (see Table A42). The overall previous work experience (paid and unpaid) of the control group is 50%. Upon exit, none of the youth in the control group indicated that they had gotten a paid or unpaid job or work experience (see Table A43). Their overall employment experience during the summer of 2022 was constant. This means the youth' overall work experience does not shift, as is reflected in Table 5.

Table 5: Overall Work Experience Control Group for Entrance and Exit

Type of Work Experience	Frequency	Percent
None	5	50.0
Only unpaid work experience	3	30.0
Only paid work experience	1	10.0
Both paid and unpaid work experience	1	10.0
Total	10	100.0

Knowledge about Employment

Like the participating youth, the youth in the control group were asked about their knowledge about employment. Table 6 relates their respective mean scores for these questions and their difference by subtracting entrance from exit scores.

Table 6: Knowledge about Employment at Entrance and Exit Interviews Control Group

Question	Mean Entrance	Mean Exit	Difference Exit – Entrance
When it comes to employment, I know [blank]about how to start looking for a job.	2.10	2.10	0
When it comes to employment, I know [blank] about the kind of job I want.	2.50	2.80	.30
When it comes to employment, I know [blank] about what qualities employers are looking for in an employee.	2.50	2.50	0
When it comes to getting a job, I feel [blank] about working.	2.90	3.20	.30
When it comes to getting a job, I feel [blank].	3.00	2.80	-.20

* Statistically significant at less than or equal to .05 level.

** Statistically significant at less than or equal to .01 level.

*** Statistically significant at less than or equal to .001 level.

Meticulon Assessment Survey

The control group likewise completed the Meticulon Assessment Survey (MAS) inventory at both entrance and exit interviews. Their results are shown in Table 7 (see also Table A44). The scores were not statistically significantly changed between entry and exit scores, indicating that these individuals neither benefited nor were disadvantaged by not participating in IMPACT interventions.

Table 7: MAS Mean Scores Entrance and Exit Interview Control Group

Domain	Mean Entrance	Mean Exit	Difference Exit - Entrance
Time Expectations	4.27	3.97	-.3
Organization	4.35	3.78	-.58
Authority	4.13	3.87	-.27
Teamwork	4.53	3.90	-.63
Perseverance	4.30	3.63	-.67
Responsibility	4.47	3.93	-.53
Motivation Level	4.43	4.03	-.4
Mindfulness	4.80	4.00	-.8
Self-Awareness	4.23	3.63	-.6
Communication Skills	4.55	3.90	-.65
Personal Appearance	4.30	3.80	-.5

* Statistically significant at less than or equal to .05 level.

** Statistically significant at less than or equal to .01 level.

*** Statistically significant at less than or equal to .001 level.

5. Parent Reflections about IMPACT

Parent/Caregiver Online Survey

During this third cohort, 27 parents/caregivers replied to the online survey. Of the 27 respondents, 25 (92.6%) identified as a parent, compared to 97.5% who identified as a parent in the Parent/Caregiver entrance interview (see Table A45). The responses to five statements related to their experience with IMPACT and their observations about their youth's engagement with IMPACT show an overall positive response to these statements. Mean scores per question (between 1 and 5 points) gravitate to 4 points or "Agree" (see Table A46 to Table A50). To the statement, "As a parent/caregiver, I noticed changes in my youth's behaviour, attitude, and actions during the course of the Summer Employment program" 22 (81.5%) responded with "Yes".

6. Discussion

Objectives

Similar to our objectives in Cohorts 1 and 2 of IMPACT, the objective of this research is to determine how intervening early with youth with IDD using a tailored approach will improve future employment outcomes. Analysis of data from Cohort 3 provides more results that provide support for our research hypothesis. Based on youth feedback and their answers related to general knowledge about employment and the MAS, youth appeared to benefit from and enjoy their participation in the IMPACT Summer Program. The positive findings based on data from the Cohort 1 and Cohort 2 – that early engagement with IDD youth through employment experiences increase the future job market engagement for these youth – are reinforced by the results from Cohort 3 data. The interviews conducted with youth in combination with the recorded intervention activities through the developmental diaries reveal overall enthusiasm among the youth to engage in employment and job readiness training.

Unfortunately, many youth with IDD do not receive employment-related transition planning and supports (Butcher & Wilton, 2008; Lysaght, Ouellette-Kuntz, & Lin, 2012; Simonsen & Neubert, 2012). IMPACT addresses this unmet need by focusing on tailored employment supports for youth, and findings from the research will inform best practices for supporting transitioning youth with IDD from school to work. Few interventions focus solely on employment or post-secondary aspirations for transitioning youth with IDD. Rather, most transition planning for youth with IDD focuses on leisure or recreational activity. Unlike their peers without disabilities, youth with IDD are not routinely included in employment-related planning and preparation. Informed by the predictors of improved employment outcomes for youth with IDD (Simonsen & Neubert, 2012; Carter et al., 2010; Carter et al., 2012), IMPACT provides a consistent and reliable conduit to youth with IDD to explore different kinds of employment through activities (e.g., community involvement) that are demonstrated predictors of future labour market participation (e.g., Carter et al., 2010).

Demographic descriptive statistics

The sample for Cohort 3, similar to Cohorts 1 and 2, is predominantly male, does not identify as Indigenous or a visual minority, is on average 17 years of age, and has completed Grade 11 or 12. For inclusion purposes, the Cohort 3 sample includes three youth that were 14 years of age at the start of the program in 2022, turning 15 later in the year, while one youth was 19 years of age, turning 20 later in the year. This age range is in line with the research objective and captures youth in in their transition years from school to post-secondary education and employment.

Employment-related transition, furthermore, is a gendered experience. While males are diagnosed with IDD more frequently than are females, research that looks at sex/gender, employment, and IDD indicates that when it comes to sex/gender, males are hired more frequently, work more hours, and are paid more (e.g., Kaya et al., 2018; Sung et al., 2015). Given this discrepancy, a sex/gender-based analysis is important to consider within this research's objectives of tailored early intervention with IDD youth.

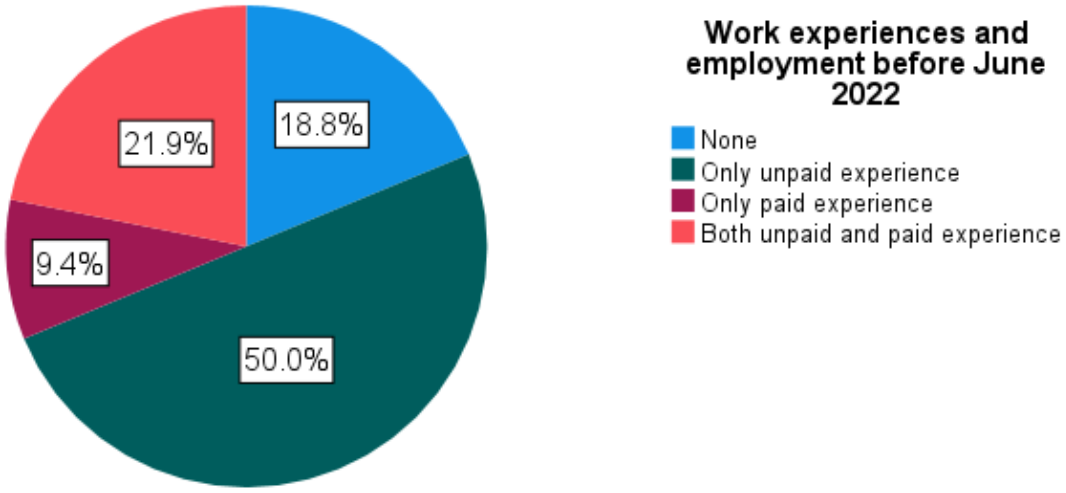
Sex/Gender based analysis

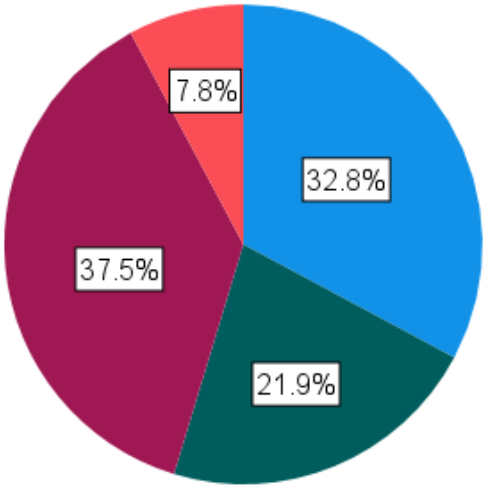
A sex/gender-based analysis for Cohort 3 brings forward two dominant groups identifying as male (n=64) and female (n=23). For the purpose of this sex/gender-based analysis, we excluded one participating youth who identified as non-binary (n=1) and two youth who preferred not to answer

this question about sex/gender during the entrance interview (n=2). This exclusion is solely based on the smaller representations (n=1 and n=2) of these two sex/gender categories. The 7-item Arc's Level of Support Subscale for males displays a mean score of 1.85. Those youth that identified as female similarly have a mean score of 1.85. The Overall Support scale shows a mean of 2.83 for females, whereas males reveal a mean score of 2.81.

In terms of employment, 67.2% of the male participants gained paid (37.5%), unpaid (21.9%), or both paid and unpaid (7.8%) work experience through their engagement with IMPACT (Figure 3). Figure 3 provides three pie charts of employment and work confirmations for male participants before, during, and after IMPACT participation. For the 23 youth that identified as female, 73.9% gained work experience through IMPACT. Of these 17 females, 30.4% gained paid work experience, 43.5% gained unpaid work experience, and 26.1% gained both paid and unpaid work experience (Figure 4). Since these categories are not mutually exclusive, we can combine the sub-categories for paid versus unpaid work experience by adding the orange category to both the unpaid and paid experiences. This means 56.5% of the female participants obtained paid work experiences and 43.5% obtained unpaid work experiences. For both female and male participant groups, previous work experience is statistically significantly correlated to employment outcomes ($p \leq .001$).

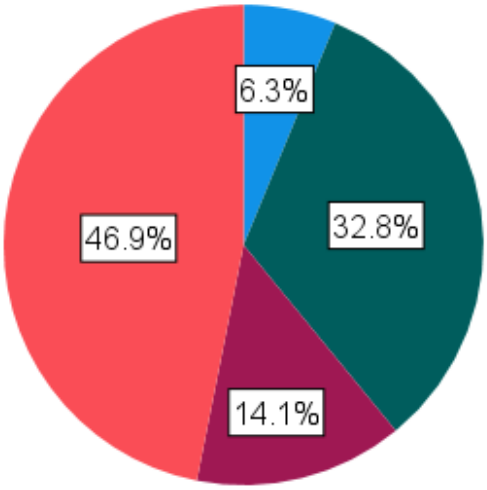
Figure 3: Work Confirmations Cohort 3 Males (n=64)





Work experiences paid or unpaid through IMPACT Cohort 3

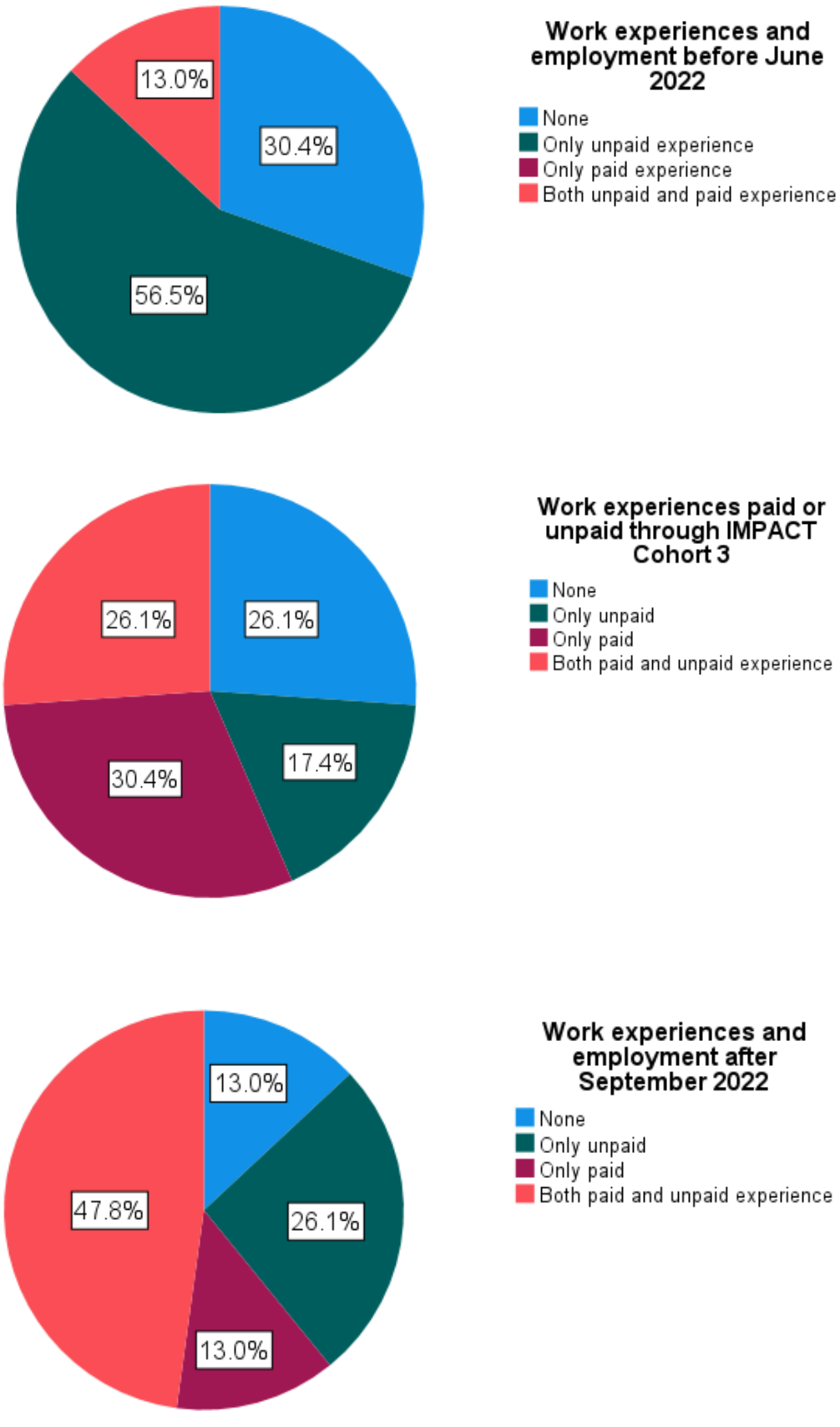
- None
- Only unpaid
- Only paid
- Both paid and unpaid experience



Work experiences and employment after September 2022

- None
- Only unpaid
- Only paid
- Both paid and unpaid experience

Figure 4: Work Confirmations Cohort 3 Females (n=23)



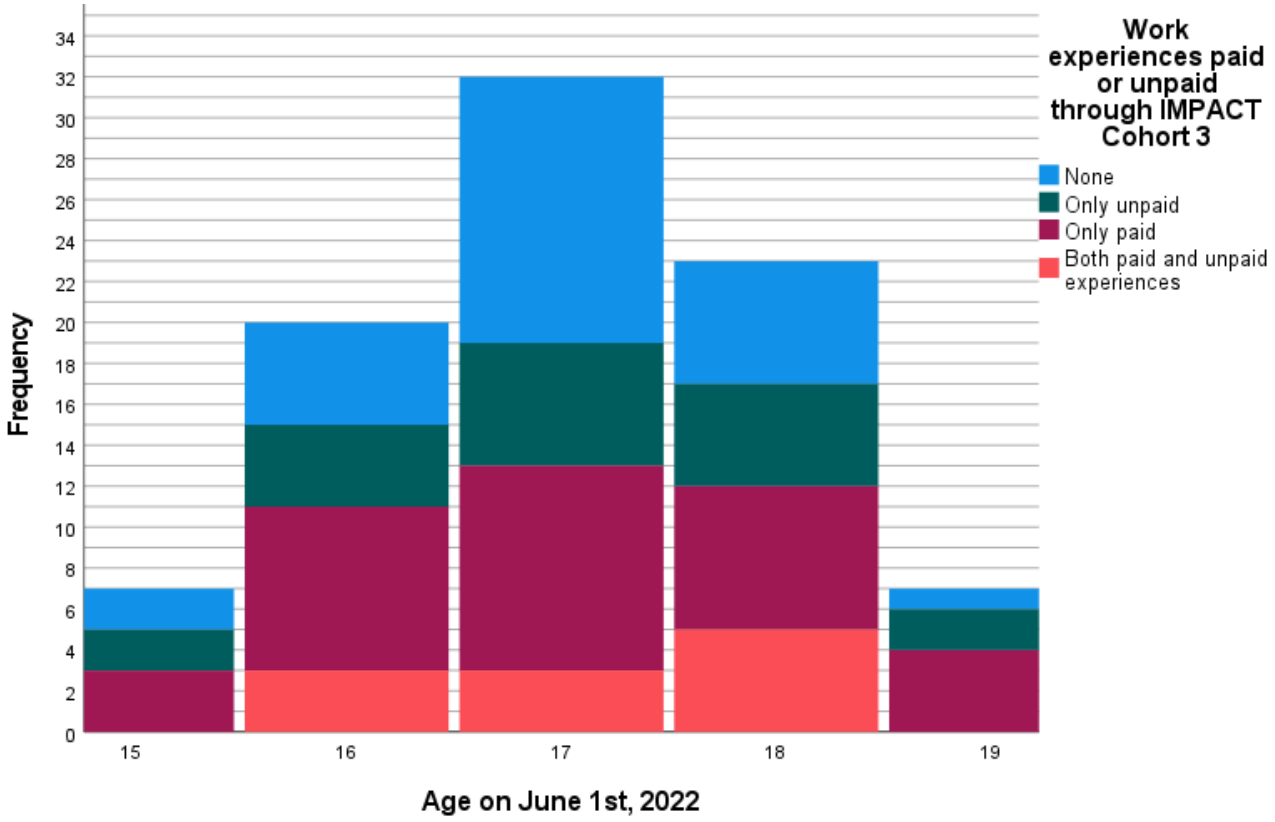
When splitting the file by sex/gender, a Paired Samples t-Test for the MAS reveals the domains Responsibility, Mindfulness, Self-Awareness, and Appearance showed statistically significant increases for males (statistically significant at the less than or equal to .01 or .05 level). For females, none of the domains reveals a statistically significant change, which could be due to the difference in sample size since the larger male sample size may account for the greater likelihood of finding statistical significance. The knowledge about employment survey split according to sex/gender reveals statistically significant results for both the male and female group (see Table A31).

When we conduct a partial correlation controlling for the effect of sex/gender this reveals that the Arc's Level of Support Subscale and the Overall Support scale are positively correlated and statistically significant ($p \leq .001$). However, a sex/gender-based analysis of work confirmations did not show a statistically significant correlation between sex/gender and work experience outcomes. This lack of a statistically significant correlation between sex/gender and work experience outcomes, we anticipate, is a result of the iterative multi-year study aspect of IMPACT. Researchers communicated previous sex/gender disparities in findings of the pilot Cohort 1 and Cohort 2 with all eight participating agencies. Given previous research findings based on GBS+ analyses, this communication about sex/gender disparities in work experience outcomes for previous cohorts may have been formative in the interventions with youth in Cohort 3 and consequently have affected Cohort 3's results related to the GBA+ analysis.

Age-based analysis

When we split the data file by age and compare the groups and their work confirmations, we see that for the 15-year-old group (n=7), three gained paid employment (42.9%) and two (28.6%) gained unpaid employment. In the 16-year-old group (n=20), eleven youth (55.0%) gained paid employment and seven (35.0%) gained unpaid work experience. In the 17-year-old group (n=32), thirteen or 40.7% of the age group gained paid work experience. Nine or 28.2% gained unpaid employment or work experience. Of the 18-year-old group (n=23), twelve (52.1) gained paid work experience versus ten (43.4%) who obtained unpaid employment. Finally, in the 19-year-old group (n=7), four youth gained paid work (57.1%) and two (28.6%) gained unpaid work experience (Figure 5).

Figure 5: Work experiences gained through Summer Program per age group (n=90)



When conducting the Pearson Bivariate correlation, work experiences reported during the exit interview are correlated significantly at the .01 level with confidence about employment (Table A20).

Type of Intervention

The type of intervention as logged by the agencies in the intervention diaries for the youth can be analyzed against obtained paid or unpaid work experience. These types of interventions are logged in minutes, creating a total amount of time for each activity spent with the agency for each youth. Table 8 shows gaining paid work experience and skill-building interventions show a positive or direct relationship ($p \leq .001$). Skill building exercises as a method of direct intervention with the youth included hands-on work experiences. These exercises differed per agency, but often included activities such as resume building, cover letter writing, and personalized courses that show a statistically significant correlation with the paid employment outcomes for participating youth in Cohort 3.

Table 8: Pearson Correlation Bivariate for Work Experience Outcomes and Interventions

		Total time spent in skill building
Youth gained a paid job during their time in IMPACT	Pearson Correlation	.459***
	Sig. (2-tailed)	<.001
	N	90
		Total time spent job searching
Overall unpaid and paid work experience of the youth after active participation in IMPACT	Pearson Correlation	.230*
	Sig. (2-tailed)	<.029
	N	90
		Total time spent with a job coach
Overall unpaid and paid work experience of the youth after active participation in IMPACT	Pearson Correlation	.348**
	Sig. (2-tailed)	<.001
	N	90

* p ≤ .05
** p ≤ .01.
*** p ≤ .001.

In addition, the total time spent with a job coach and overall work experiences after participation in IMPACT shows a positive or direct relationship (p ≤ .001). Similarly, total time spent in job searching activities and overall work experiences after active participation in IMPACT shows a positive relationship (p ≤ .05).

Method of Intervention and Communication

Agencies also kept track of the method of communication during and for interventions. Time was measured for each intervention as occurring in-person one-on-one, virtual one-on-one, in-pers in a group, in a virtual group, on the phone, texting, and through emails. In general, the agencies were asked to keep track of whether these meetings and interventions were happening directly with the youth, or on behalf/behind the scenes to support the youth's employment goals. These types of communication and connection are also correlated to the paid and unpaid work confirmations of the youth and presented in Table 9. We see this with paid work experience and time spent in person one-on-one interactions. Time spent directly with youth in a virtual setting is positively correlated with the paid and unpaid work experience gained during IMPACT (see Table 9). The total time spent directly with youth in a face-to-face setting is positively correlated with the overall work experiences gained through participation in IMPACT.

Employment outcomes and self-identified levels of support

Employment outcomes do not appear to be correlated with the self-identified level of support needed. This lack of statistically significant correlation might indicate level of support did not define or limit the youth in obtaining work experiences through IMPACT.

Table 9: Pearson Correlation Bivariate for Work Experience Outcomes and Agency Interactions

Correlations						
		Total time spent in minutes	Total time spent on behalf in minutes	Total time spent directly in minutes	Total time spent directly virtually in minutes	Total time spent directly in-person in minutes
Youth obtained paid work experience during IMPACT	Pearson Correlation	-.176	-.187	-.144	**.478****	**-.295****
	Sig. (2-tailed)	.098	.078	.176	.000	.005
	N	90	90	90	90	90
Youth obtained unpaid work experience during IMPACT	Pearson Correlation	-.144	-.023	-.190	**.225***	**-.247***
	Sig. (2-tailed)	.174	.833	.072	.033	.019
	N	90	90	90	90	90
Total Work Experience after IMPACT	Pearson Correlation	.170	.180	.139	**-.464****	**.286****
	Sig. (2-tailed)	.110	.089	.191	.000	.006
	N	90	90	90	90	90

* p ≤ .05.
** p ≤ .01.
*** p ≤ .001.

Employment outcomes

The overall employment outcomes reveal a strong engagement from 62 youth in either paid or unpaid work experience opportunities. Other information gained from the data, is the type of employment most youth engage with. The average age of our sample of IDD youth does not allow for a direct application of full-time job parameters, or even paid part-time notions of employment. Often, these youth engage in part-time work only a few days a week and with short shifts (2-3 hours). This is less surprising when we consider these employment experiences are frequently in combination with education, volunteer work, and other community-based activities.

Their work experiences whether paid or not, often engaged with service industry, paper routes, warehouse packaging, cash registries, and outside labour and maintenance. When describing their previous work experience and volunteer jobs, reports from the youth highlight the essential community ties and connections in gaining employment experience through family and/or friends,

school districts, and community-based social services. Agency engagement was instructive in expanding the horizon of employment possibilities, confidence, and skill building for youth through for instance warehouse simulation training and building a resume for jobs and opportunities outside of their unpaid work experience within their smaller community environment.

Knowledge about employment

The questions engaging with the youth' self-assessed general knowledge about employment as measured before and after IMPACT interventions show a statistically significant increase in all five questions for the 90 participating youth. These questions show a statistical increase in the most significant way. The complete set reveals the impact of the agencies' interventions, including but not limited to how to go about looking for a job, how to dress, how to work in a team, and how to engage with authority figures with confidence. This is also supported by the MAS results.

Meticulon Assessment Survey

The MAS focuses on the self-reported strength or level of agreement with statements pertaining to 11 specific domains that are established as predictors of getting a job and keeping a job. One of the first things to notice about the results was the already high mean scores at entrance interviews across the 11 domains in which most statements score around 4 points on the 5-point scale ("Agree"). Most domains also reveal an increase in score post-intervention. As the results show, the statistically significant increase in mean score is discernible in seven domains: Time Expectations, Authority, Teamwork, Perseverance, Mindfulness, Self-awareness, and Personal Appearance. This result exceeded previous results in Cohort 2.

Control Group

Even though this control group is too small to look at the correlation between their work experience, the Arc's subscale, and the MAS domains, this group will be of interest after the inclusion of control group participants from all cohorts to potentially look at the correlations between previous unpaid and paid work experience, the Arc's Level of Support Subscale, and the MAS domains of employability. This can be compared with the participant group who receive intervention through IMPACT. Nevertheless, the small control group for this cohort hints at how IMPACT intervention created a change in work and employment experience in the positive sense for the engaged participant group not necessarily experienced by the ten youth in the control group.

Parent Survey

In this cohort, we distributed a parent survey through Qualtrics, similar to the survey sent out during the Cohort 1 pilot and Cohort 2. Results reveal positive responses from most of the parents. The feedback in these surveys combined confirm the importance of programs such as IMPACT outside of specific employment goals. Soft skills such as confidence and responsibility in other areas of life are affected by the IMPACT program as well. In response to the open question about the noticeable changes in their youth due to the IMPACT program, responses include:[18]

18 For the sake of anonymity, pronouns and names have been replaced in these responses and grammar and syntax altered for clarity

- My youth is more positive and hopeful about employment opportunities compared with their attitude before the program.
- My child was very resistant to getting a job and this program empowered them. They are now working.
- My youth's confidence increased and their willingness to try and their overall perseverance improved.
- My youth seemed to have more confidence in themselves. They were excited to go to work as people were needing them to do their job. The fact they were getting paid made them excited and wanting to succeed.
- Youth became more punctual and more confident.
- Youth became more aware of their responsibilities and their communication skills at work.

These responses reveal the use of the IMPACT program beyond the employment objectives in the everyday lives of the youth as observed by the people close to them.

Youth responses to the IMPACT program

These feedback results from the youth, like the parent responses, reflect the enthusiasm and engagement of the youth within their respective IMPACT programs. Apart from the statistical results presented above, a more qualitative response from the participants reveals the importance of the interventions and the gained trust of the individual youth in being capable and able to function in an employment environment. A random selection of some of the open answer responses to what the youth learned, include:

- Being organized, on time, to do a good job, friendly, polite, socializing.
- Body language, dressing up for interviews.
- Budgeting, Time management, Safety at work.
- Cleaning picnic tables and office Being on time Work ethic.
- Customer service, information about different jobs from guest speakers, Health and safety.
- Health and safety, communication skills, money management, getting ready for interviews.
- How to communicate and make friends.
- How to communicate with others and how to talk to other people.
- How to interact in a calm way with peers and how to keep calm in stressful situations.
- I learned about how to quickly find a job, how to use indeed, and how to work independently.
- I learned how to act and deal with certain customers. I learned how to properly speak to the manager and how to be in an interview. I learned how to be safe at work.
- I learned how to get a job, how to behave at a job, what not to do at a job, and how to prepare for interviews.
- I learned many skills and how to deal with different work situations (difficult customers), learned more skills on how to interact and handle social situations.
- Roles and responsibilities in Customer service, different jobs, hazards in a workplace, safety at workplace, appropriate behaviour at work.
- Logically these types of responses are found among the engaged to very engaged youth and the youth participating in more Agency interventions, respectively.

Random selection of some of the open answer responses to what the youth liked about the program, include:

- “Everything, I just enjoyed it”
- A bit smarter and a bit more capable of finding a job.
- Conversations with others, learning new skills, guest speakers from different jobs.
- Help me learn how to find a job, how to interact with coworkers at work site.
- I am loving this program; Provides a huge impact on my life, teaches you a lot about how to live as an adult. Very useful information.
- I like the part where we made each other sandwiches. I liked the other weekend events too.
- I liked folding the clothes and sorting out toys. I liked my coworkers and coming in for the weekend.
- I liked how patient and kind everyone was. I liked how actually fun everything was and it wasn’t boring at all. I liked how inclusive everything was.
- I liked learning how to work in the grocery store and the restaurant.
- I liked that it was a great way to learn about what a job is like in real life and how to succeed and do well at said job, I also liked how everything was broken down into digestible parts.
- It was fun! I enjoyed the weekend events, working, and meeting coworkers.
- It was fun. It was something to get out my comfort zone.
- Learning how to clean and having a real job.
- Learning skills, games, guest speakers.
- Liked how each day was a bit different and there was a variety of activities.
- Meeting different people, guest speakers sharing information about different jobs.
- Meeting new people, learning different skills, videos.
- That it was after school, that you got supports.
- Very supportive, games day, ice breakers, learning skills.
- Working in a team.
- You tube videos, meeting people, learning about different jobs from guest speakers, learning about different skills.

7. Assessment

Limitations

Over the past three Cohorts, COVID-19 has played a role. In 2022, Cohort 3 dealt with fewer challenges related to COVID-19 with health restrictions being lifted, although limitations were still apparent. Some agencies and the individual mentors opted to engage with their youth online, while others opted for in-person and others opted for a hybrid approach. And, while the effects of COVID-19 were still present, the pandemic has taught us the value of the possibilities of remote and virtual engagement. In fact, we learned that in some instances the hybrid delivery of the IMPACT programming and/or the youth’ comfort with online engagement is less about the method of contact and more about the number of hours spent either in-person or online.

Although the program serviced and supported about 90 youth, their experiences within the programming of the eight agencies are diverse and connected to coping mechanisms and

resilience during the summer employment activities, both online and in-person. Not all interventions with youth are uniform across the agencies and, instead, tailored to the agency's model of engagement and the youth's level of engagement.

As briefly mentioned above, the control group size presents limitations to the types of analyses we were able to run with the data from Cohort 3. Although youth fit the same selection criteria and are broadly comparable in terms of age, sex/gender, and highest level of education, some discrepancies exist between the two groups as control group participants were more often male and generally older than the participating youth. Despite this limitation, the control group provides context to the outcome of intervention with the participating youth in terms of obtained work experience and soft skills that those youth in the control group were not exposed to.

Concluding Summary

Regardless of these limitations, results show an overall positive outcome for most of the actively engaged youth. Victories include the mentorship experiences and overall appreciation of the connection made between youth and their employment specialists at the respective agencies. The randomly chosen open answers from youth included above only reflect a small part of the excitement and appreciation youth expressed about their experiences with their agencies and employment specialists. This is further corroborated by the positive change over time in the youth's general knowledge about employment, the positive change in most domains in the MAS inventory, and paid and unpaid work experiences.

References

Almalky, H.A. (2020). Employment outcomes for individuals with intellectual and developmental disabilities: A literature review. *Children and Youth Services Review, 109*.

Baumann, P., Newman, C.J., & Diserens, K. (2013). Challenge of transition in the socio-professional insertion of youngsters with neurodisabilities. *Developmental Neurorehabilitation, 16*(4), 271 – 276.

Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report, 13* (4), 544 – 559.

Burgess, S., & Cimera, R. (2014). Employment Outcomes of Transition-Aged Adults with Autism Spectrum Disorders: A State of the States Report. *American Journal on Intellectual & Developmental Disabilities*, *119*(1), 64 – 83.

Butcher, S., & Wilton, R. (2008). Stuck in transition? Exploring the spaces of employment training for youth with intellectual disability. *Geoforum, 39* (2), 1079 – 1092.

Carter, E.W., Ditchman, N., Sun, Y., Trainor, A.A., Swedeen, B., & Owens, L. (2010). Summer employment and community experiences of transition-age youth with severe disabilities. *Council for Exceptional Children, 76* (2), 194 – 212.

Carter, E.W., Austin, D., & Trainor, A.A. (2012). Predictors of postschool employment outcomes for young adults with severe disabilities. *Journal of Disability Policy Studies, 23* (1), 50 – 63.

Cheak-Zamora, N.C., Teti, M., & First, J. (2015). 'Transitions are scary for our kids, and they're scary for us': Family member and youth perspectives on the challenges of transitioning to adulthood with Autism. *Journal of Applied Research in Intellectual Disabilities,* Article first published online: 5 March 2015.

Chiang, H., Cheung, Y.K., Li,H., & Tsai, L.Y. (2013). Factors associated with participation in employment for high school leavers with autism. *Journal Autism Dev Disord*, 43, 1832 – 1842.

Cimera, R.E., Burgess, S., & Bedesem, P.L. (2014). Does providing transition services by age 14 produce better vocational outcomes for students with intellectual disability? *Researchand Practice for Persons with Severe Disabilities, 39*(1), 47 – 54.

Cimera, R. E., Burgess, S., & Wiley, A. (2013). Does providing transition services early enable students with ASD to achieve better vocational outcomes as adults? *Research and Practice for Persons with Severe Disabilities, 38*(2), 88 – 93.

Community Living British Columbia (2019). *Periodic report for employment*. Prepared for the Roundtable on Inclusive Employment, March 31, 2019.

Community Living British Columbia & Community Partners. (2013). *Community Action Employment Plan*. Community Living British Columbia, March 2013, 44 pages.

Cramm, J.M., Finkenflugel, H., Kuijsten, R., & Van Exel, J. (2009). How employment support and social integration programmes are viewed by the intellectually disabled. *Journal of Intellectual Disability Research*, *53*(6), 512 – 520.

Flores, N., Jenaro, C., Orgaz, B.M., & Martin, M. (2011). Understanding quality of workinglife of workers with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities*, *24*(2), 133 – 141.

Grigal, M., Migliore, A., & Hart, D. (2014). A state comparison of vocational rehabilitation support of youth with intellectual disabilities' participation in postsecondary education.

Journal of Vocational Rehabilitation, *40*(3). 185 – 194.

Grossi, T., Nord, D., & Andersen, J. (2020) Earning a real wage: A statewide investigation of young adults with intellectual and developmental disabilities. *Intellectual and Developmental Disabilities, 58*(4), 264 - 272.

Hole, R., Stainton, T., & Tomlinson, J. (2011). *Social and economic outcomes: Are supported employment services for individuals with developmental disabilities a good investment?* The Community Living Research Project, The Centre for Inclusion and Citizenship, University of British Columbia, and Community Living British Columbia, Provinceof British Columbia, May 2011. Report prepared for Community Living British Columbia, 23 pages.

Humber, L.A. (2014). Social inclusion through employment: the marketisation of employment support for people with learning disabilities in the United Kingdom. *Disability & Society, 29*(2), 275 – 289.

Jahoda, A., Banks, P., Dagnan, D., Kemp, J., Kerr, W., & Williams, V. (2009). Starting a new job: The social and emotional experience of people with intellectual disabilities. *Journal of Applied Research in Intellectual Disabilities*, *22*(5), 421 – 425.

Kaya, C., Fong, C., Philli, R., Hartman, E., Wehman, P., Iwanaga, K., Pai, C.H., & Avellone, L. (2016). Vocational rehabilitation services and competitive employment for transition-age youth with autism spectrum disorders. *Journal of Vocational Rehabilitation*, 4(1), p. 73-83.

Lysaght, R., Ouellette-Kuntz, H., & Lin, C-J. (2012). Untapped potential: Perspectives on the employment of people with intellectual disabilities. *Work, 41*, 409 – 422

Magnuson, L. (2013). Families and uncertainty: Using Problematic Integration Theory in transition services. *Journal of Applied Rehabilitation Counseling*, *44*(1), 12 – 17.

Nord, D. (2020). Special issue on employment for transition-age youth and young adults with IDD. *Intellectual and Developmental Disabilities, 58* (4), 262-263.

Seaman, R., & Cannella-Malone, H. (2016). Vocational skills interventions for adults with Autism Spectrum Disorder: A review of the literature. *Journal of Developmental & Physical Disabilities, 28*(3), 479 – 494.

Shattuck, P., Narendorf, S., Cooper, B., Sterzing, P., Wagner, M., & Taylor, J. (2012). Postsecondary education and employment among youth with an autism spectrum disorder. *Pediatrics, 129*(6), 1042 – 1049.

Simonsen, M.L., & Neubert, D.A. (2012). Transitioning youth with intellectual and other developmental disabilities: Predicting community employment outcomes. *Career Development and Transition for Exceptional Individuals, 36*(3), 188 – 198.

Smith, J.M., Sherwood, K., Blajeski, S., Ross, B., Smith, J.D., Jordan, N., Dawalt, L., Bishop, L., * Atkins, M.S. (2021). Job interview and vocational outcomes among transition-age youth receiving special education pre-employment transition services. *Intellectual and Developmental Disabilities, 59* (5), 405-421.

Statistics Canada. (2012). *Canadian Survey on Disability*. The Government of Canada.

Sung, C., Sanches, J., Kung, H-J., Wang, C-C., & Leahy, M.J. (2015). Gender differences in vocational rehabilitation service predictors of successful competitive employment for transition-aged individuals with autism. *Journal of Autism and Developmental Disorders, 45*(10), 3204 – 3218.

Wehman, P., Schall, C., & Carr, S. (2014). Transition from school to adulthood for youth with Autism Spectrum Disorder. *Journal of Disability Policy Studies, 25*(1), 30 – 40.

Wehman, P., Sima, A.P., Ketchum, J., West, M.D., Chan, F., & Luecking, R. (2014). Predictors of successful transition from school to employment for youth with disabilities. *Journal of Occupational Rehabilitation, 25*, 323 – 334.

Wehmeyer, M.L., & Palmer, S.B. (2003). Adult outcomes for students with cognitive disabilities three-years after high school: The impact of self-determination. *Education and Training in Developmental Disabilities, 38*(2), 131 – 144.

Wehmeyer, M. L. (1995). A career education approach: Self-determination for youth with mild cognitive disabilities. *Intervention in School and Clinic*, 30(3), 157-163. doi:10.1177/105345129503000305

Wehmeyer, M.L. (1995). *The ARC's self-determination scale: Procedural guidelines*. Arlington, Texas: Office of Special Education and Rehabilitation Services.

Yin, R.K. (2003). *Case study research: Design and methods.* Thousand Oaks, CA: Sage.

Appendices

Appendix A: Tables Corresponding to Results Section 2

1. Demographic descriptive statistics (n=90)

Tables A1 to A6 display the demographic statistics for the 90-participating youth (n=90).

Table A1: Gender

	Frequency	Percent
Male	64	71.1
Female	23	25.6
Non-binary	1	1.1
Prefer not to answer	2	2.2
Total	90	100

Table A2: Age

Mean	17.00
Minimum	14
Maximum	19

Table A3: Age Distribution

	Frequency	Percent
14	1	1.1
15	7	7.8
16	20	22.2
17	32	35.6
18	24	25.6
19	7	7.8
Total	90	100.0

Table A4: Ethnicity

Do you identify as Indigenous?	Frequency	Valid Percent
Yes	3	3.3
No	85	94.4
I prefer not to answer	2	2.2
Total	90	100.0

Table A5: Minority

Do you identify as a visible minority?	Frequency	Percent
Yes	36	40.0
No	51	56.7
I prefer not to answer	3	3.3
Total	90	100.0

Table A6: Education

Highest level of education	Frequency	Valid Percent
Grade 8	1	1.1
Grade 9	3	3.3
Grade 10	11	12.2
Grade 11	34	37.8
Grade 12	30	33.3
Grade 13 and over	10	11.1
Total	89*	100

* 1 missing

2. Supports

Tables A7 to A11 refer to the data in response to questions about self-determined level of support needed (Arc's Level of Support Subscale and Overall Support). Table A11 looks at the statistically significant correlation between the Arc's Subscale and the Overall Support.

Table A7: ARC's Subscale

ARC 7- item scale	
Valid	90
Missing	0
Mean	1.8556
Std. Deviation	.36937

Table A8: Arc's Level of Support Subscale Descriptive Statistics

	N	Mean	Std. Deviation
When it comes to self-care how much support/assistance do you need?	90	1.344	.5438
When it comes to learning how much support/assistance do you need?	90	2.167	.5854
When it comes to mobility how much support/assistance do you need?	90	1.500	.7228
When it comes to self-direction how much support/assistance do you need?	90	1.822	.6800
When it comes to receptive and expressive language how much support/assistance do you need?	90	1.744	.7120
When it comes to capacity for independent living how much support/assistance do you need?	90	2.244	.7238
When it comes to economic self-sufficiency how much support/assistance do you need?	90	2.167	.7228

Table A9: Overall Support

*What level of support do you need to do the things you do?**	Parent (n=80)	Youth (n=89)**
Mean	3.137	2.820
Std. Deviation	.7753	.9950

*Minimum is 1.0 and maximum is 5.0
** 1 missing

Table A10: Overall Support Distribution for Youth

	Frequency	Valid Percent
None	6	6.7
A little	29	32.6
A medium amount	35	39.3
A lot	13	14.6
I need support all the time	6	6.7
Total	89*	100

* 1 missing

Table A11: Correlation Arc and Overall Support

		What level of overall support does your youth need (Parent)	*What level of overall support do you need* (Youth)	Arc's Level of Support 7-item Subscale
What level of overall support does your youth need (Parent)	Pearson Correlation	1	.329**	.667**
	Sig. (2-tailed)		.003	<.001
	N	89	79	89
What level of overall support do you need (Youth)	Pearson Correlation	.329**	1	.284*
	Sig. (2-tailed)	.003		.011
	N	79	80	80
Arc's Level of Support 7-item Subscale	Pearson Correlation	.667**	.284*	1
	Sig. (2-tailed)	<.001	.011	
	N	89	80	90

*. p ≤ .05.
**. p ≤ .01.
*** p ≤ .001.

3. Employment

Tables A12 to A19 relate the paid and unpaid work experience of the 90 youth. Tables A12 to A15 refer to work experience and employment before IMPACT intervention, during the entrance interview. Tables A16 to A20 refer to the gained work experience after IMPACT intervention at the exit interview.

Table A12: Employed at Entrance

	Frequency	Percent
Yes	14	15.6
No	76	84.4
Total	90	100

Table A13: Previously Employed

	Frequency	Percent
Yes	17	18.9
No	73	81.1
Total	90	100.0

Table A14: Unpaid Work Experience

	Frequency	Percent
Yes	66	73.3
No	24	26.7
Total	90	100.0

Table A15: Overall Work Experience of the Youth before the start of IMPACT

	Frequency	Percent
None	21	23.3
Only unpaid work experience	45	50.0
Only paid work experience	6	6.7
Both paid and unpaid work experience	18	20.0
Total	90	100.0

Table A16: Youth gained paid work experience

	Frequency	Percent
Yes	43	47.8
No	47	52.2
Total	90	100.0

Table A17: Youth gained unpaid work experience

	Frequency	Percent
Yes	31	34.4
No	59	65.6
Total	90	100.0

Table A18: Overall Work Experience of the Youth during IMPACT Interventions

	Frequency	Percent
None	28	31.1
Only unpaid work experience	19	21.1
Only paid work experience	32	35.6
Both unpaid and paid work experience	11	12.2
Total	90	100.0

Table A19: Overall Work Experience of the Youth after IMPACT Interventions

	Frequency	Percent
None	8	8.9
Only unpaid work experience	28	31.1
Only paid work experience	12	13.3
Both unpaid and paid work experience	42	46.7
Total	90	100.0

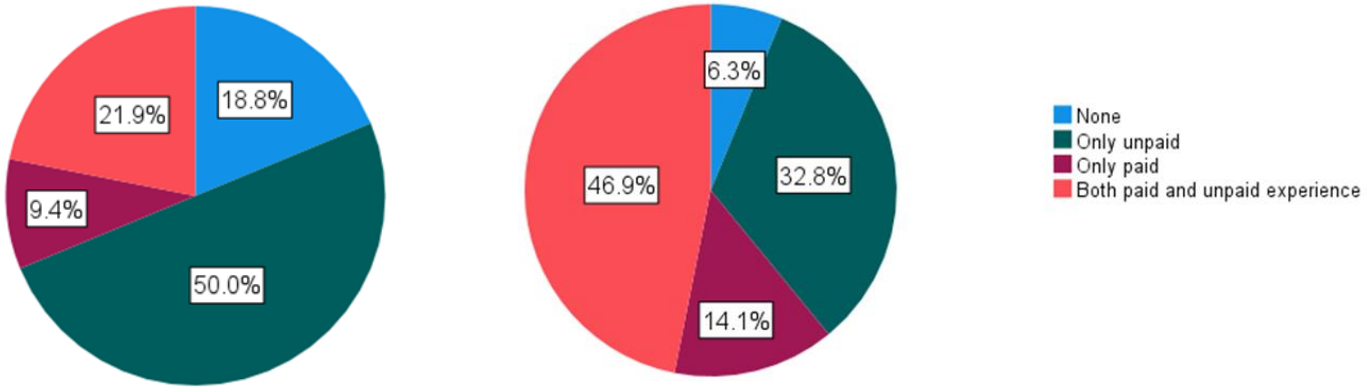
Table A20: Correlation Gained Work Experience and Confidence

		Knowledge about Employment: The youth feels confident about getting a job **before IMPACT**	Knowledge about Employment: The youth feels confident about getting a job **after IMPACT**
Work Experience per October 2022 for Youth that participated in IMPACT	Pearson Correlation	.278**	.492**
	Sig. (2-tailed)	.008	<.001
	N	90	90

*. p ≤ .05.
**. p ≤ .01.
*** p ≤ .001.

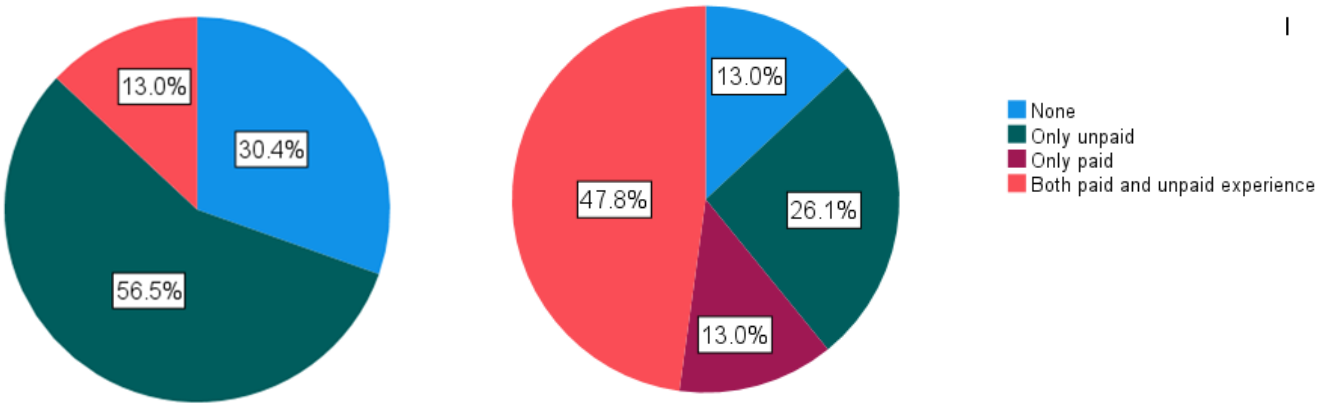
Figure A1: Sex/Gender Distribution of Employment before and after IMPACT

Male Youth (n=64)



June 2022 September 2022

Female Youth (n=23)



June 2022 September 2022

4. Agency Data

Tables A21 to A24 display the specific data gleaned from agency intervention and employment diaries. They specify the type of employment in a multiple response set (Table A21), sectors of employment (Table A22), level of engagement with IMPACT activities and interventions (Table A23 and A24), and a follow question about employment (Table A25).

Table A21: Work Experiences of 62 Participants according to Agency Data*

Type of Employment	Frequency
Full-time	2
Full-time seasonal	4
Part-time	16
Part-time seasonal	21
Self-employed	1
Work experience	30
Total	**74**

*26 youth did not gain any work experience during IMPACT

Table A22: Work Confirmation Sectors of Industry for youth according to Agencies*

	1st Job	*2nd Job*	*3rd, 4th, 5th Job*	Total
Health Occupations	1	-	-	1
Education/Law/Social Service/Community	14	7	-	21
Arts/Culture/Recreation/Sport	9	-	-	9
Sales/Service	13	1	2	16
Trades/Transport/Equipment	8	3	-	11
Natural Resources/Agriculture	7	3	1	11
Manufacturing/Utilities	5	-	-	5
Total	57	14	3	74

*Work confirmation sectors not available for 5 youth employment activities logged in individual agency exit interviews

Table A23: Level of Engagement of Youth according to Agency Diaries

	Frequency	Percent
Minimally engaged 0% - 25%	3	3.3
Somewhat engaged 26% - 50%	9	10.0
Engaged 51% - 75%	15	16.7
Very engaged 76% - 100%	63	70.0
Total	90	100.0

Table A24: Interventions

Total time spent with the youth in minutes (n=90)	Directly	On behalf	Direct Virtual	Direct In-person
Mean	2008	804	312	1696
Std. Deviation	1268.5	696.9	508.3	1441.8
Minimum	270	30	0	0
Maximum	9750	2760	1860	9750

Table A25: After IMPACT

Are you still employed (paid)?	Frequency	Valid Percent
Yes	27	64.3
No	15	35.7
Total	48*	100.0

*48 missing

5. Evaluation

Tables A26 to A30 correspond to evaluation questions asked of the participating youth in relation to their IMPACT experiences.

Table A26: Descriptive Statistics Youth Experience*

	N	Mean
I liked my experience in the IMPACT Program	90	4.30
I enjoyed the activities while participating in the IMPACT Program	90	4.13
I learned different ways how to get a paid job during the IMPACT Program	90	3.98
I feel that the things I learned during my time in the IMPACT Program will help me get a paid job in the future	90	4.24

*Range from 1.0 to 5.0

Table A27 Youth Program Experience

I liked my experience in the IMPACT Program	Frequency	Percent
Neutral	8	8.9
Agree	47	52.2
Strongly agree	35	38.9
Total	90	100.0

Table A28 Youth Program Participation

I enjoyed the activities while participating in the MPACT Program	Frequency	Valid Percent
Disagree	1	1.1
Neutral	10	11.1
Agree	55	61.1
Strongly agree	24	26.7
Total	90	100.0

Table A29 Youth Program Acquiring Paid Employment

I learned different ways how to get a paid job during the IMPACT Program	Frequency	Percent
Strongly disagree	1	1.1
Disagree	3	3.3
Neutral	14	15.6
Agree	51	56.7
Strongly agree	21	23.3
Total	90	100.0

Table A30 Youth Program Future Employment

I feel that the things I learned during my time in the IMPACT Program will help me get a paid job in the future	Frequency	Percent
Neutral	9	10.0
Agree	50	55.6
Strongly Agree	31	34.4
Total	90	100.0

6. Meticulon Assessment Survey (MAS) Inventory and Knowledge about Employment

Table A31 displays the Paired Samples T-Test for the MAS inventory per employment skill domain at the entrance and the exit interviews for the 90-participating youth. The eleven domains (Time expectations, Organization skills, Authority, etc.) are paired according to their entrance and exit scores for each participant. Table A32 is an additional table to engage with the Knowledge about Employment at entrance and exit compared to notions of gender.

Table A31: Paired Samples T-Test Meticulon Assessment Survey (n=90)

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Time Expectations Exit - Entry	.17778	.79981	.08431	.01026	.34530	2.109	89	.038*
Organization Exit - Entry	.102278	.82525	.08699	-.07007	.27562	1.182	89	.241
Authority Exit - Entry	.15185	.71573	.07544	.00195	.30176	2.013	89	.047*
Teamwork Exit - Entry	.16250	.61536	.06486	.03362	.29138	2.505	89	.014*
Perseverance Exit - Entry	.17407	.65003	.06852	.03793	.31022	2.541	89	.013*
Responsibility Exit - Entry	.13704	.83747	.08828	-.03837	.31244	1.552	89	.124
Motivation Level Exit - Entry	-.05926	.59456	.06267	-.18379	.06527	-.946	89	.347
Mindfulness Exit - Entry	.18148	.63435	.06687	.04862	.31434	2.714	89	.008**
Self-Awareness Exit - Entry	.26667	.74820	.07887	.10996	.42337	3.381	89	.001**
Communication Skills Exit - Entry	.07778	.65733	.06929	-.05990	.21545	1.123	89	.265
Appearance Exit - Entry	.34444	1.01849	.10736	.13113	.55776	3.208	89	.002**

*. p ≤ .05.
**. p ≤ .01.
*** p ≤ .001.

Table A32: Knowledge about Employment compared to Sex/Gender

	Mean Entrance Male n=64	Mean Exit Male n=64	p-value (Male)	Mean Entrance Female n=23	Mean Exit Female n=23	p-value (Female)
When it comes to employment, I know [blank] about how to start looking for a job.	2.266	2.70	<.001***	2.217	2.78	.004**
When it comes to employment, I know [blank] about the kind of job I want.	2.266	2.88	<.001***	2.739	2.91	.426
When it comes to employment, I know [blank] about what qualities employers are looking for in a good employee.	2.406	2.98	<.001***	2.565	3.17	.003**
When it comes to getting a job, I feel [blank] about working.	2.813	3.13	.040*	2.696	3.22	.025*
When it comes to getting a job, I feel [blank].	2.641	2.86	<.038*	2.652	2.96	.184

*Statistically significant at less than or equal to the .05 level.
**Statistically significant at less than or equal to the .01 level.
.***Statistically significant at less than or equal to the .001 level

7. Control Group

Demographic data for the 10-control group youth (n=10) is made visible in Tables A33to A40. Tables A41 to A44 relate their employment details which remained unchanged over the course of the IMPACT program. Table A45 provides the Paired Samples T- Test for the MAS inventory similar to Table A31 for the participating youth.

Table A33: Gender

What gender do you identify as?		Frequency	Percent
Control Group	Male	9	90.0
	Female	1	10.0
	Total	10	100.0
Participants	Male	64	71.1
	Female	23	25.6
	Non-binary	1	1.1
	Prefer not to answer	2	2.2
	Total	90	100.0

Table A34: Age as of June 2021

		Frequency	Percent
Control Group	14	2	20.0
	15	3	30.0
	16	2	20.0
	17	2	20.0
	18	1	10.0
	Total	10	100.0
Participants	14	1	1.1
	15	7	7.8
	16	20	22.2
	17	32	35.6
	18	23	25.6
	19	7	7.8
	Total	90	100.0

Table A35: Ethnicity

Do you identify as Indigenous?		Frequency	Valid Percent
Control Group	Yes	1	10.0
	No	9	90.0
	Total	10	100.0
Participants	Yes	3	3.3
	No	85	94.4
	I prefer not to answer	2	2.2
	Total	90	100.0

Table A36: Minority

Do you identify as a visible minority?		Frequency	Percent
Control Group	Yes	2	20.0
	No	7	70.0
	I prefer not to answer	1	10.0
	Total	10	100.0
Participants	Yes	36	40.0
	No	51	56.7
	I prefer not to answer	3	3.3
	Total	90	100.0

Table A37: Education

Highest level of completed education		Frequency	Valid Percent
Control Group	Grade 9	2	20.0
	Grade 10	2	20.0
	Grade 11	3	30.0
	Grade 12	2	20.0
	Grade 13 and over	1	10.0
	Total	10	100.0
Participants	Grade 8	1	1.1
	Grade 9	3	3.3
	Grade 10	11	12.2
	Grade 11	34	37.8
	Grade 12	30	33.3
	Grade 13 and over	10	11.1
	Total	89*	100.0

* 1 missing

Table A38: Arc's Level of Support 7-item Subscale

Control Group	N	10
	Mean	1.8714
Participants	N	90
	Mean	1.8556

Table A39: Arc's Level of Support Subscale Descriptive Statistics Control Group

	N	Mean	Std. Deviation
When it comes to self-care how much support/assistance do you need?	10	1.500	.7071
When it comes to learning how much support/assistance do you need?	10	2.200	.6325
When it comes to mobility how much support/assistance do you need?	10	1.900	.8756
When it comes to self-direction how much support/assistance do you need?	10	1.700	.6749
When it comes to receptive and expressive language how much support/assistance do you need?	10	2.000	.6667
When it comes to capacity for independent living how much support/assistance do you need?	10	1.700	.9487
When it comes to economic self-sufficiency how much support/assistance do you need?	10	2.100	.8756

Table A40: Overall Support

What level of support do you need to do the things you do?		
Control Group	N	10
	Mean	2.800
Participants	N	90
	Mean	2.820

6.1 Control group employment data

Table A41: Previous Paid Work Experience

Did you previously have a paying job?		Frequency	Percent
ControlGroup	Yes	1	10.0
	No	9	90.0
	Total	10	100.0
Participants	Yes	17	18.9
	No	73	81.1
	Total	90	100.0

Table A42: Currently Employed

Are you currently employed?	Frequency	Percent
Yes	1	10.0
No	9	90.0
Total	10	100.0

Table A43: Unpaid Work Experience

Do you have unpaid volunteer or work experience?	Frequency	Percent
Yes	5	50.0
No	5	50.0
Total	10	100.0

Table A44: Paid Work Experience Exit

Did you get a paid job?		Frequency	Percent
Control Group	No	10	100.0
	Total	10	100.0
Participants	Yes	43	47.8
	No	47	52.2
	Total	90	100.0

Table A45: Paired Samples T-Test Meticulon Assessment Survey Control Group Continued

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Control Group	Time Exit – Time Entry	-.3000	1.7174	.5431	-1.5285	.9285	-.552	9	.594
	Org Exit – Org Entry	-.5750	1.6204	.5124	-1.7342	.5842	-1.122	9	.291
	Auth Exit – Auth Entry	-.2667	1.8446	.5833	-1.5862	1.0529	-.457	9	.658
	Team Exit – Team Entry	-.6250	1.5997	.5059	-1.7694	.5194	-1.235	9	.248
	Pers Exit – Pers Entry	-.6667	1.5870	.5019	-1.8019	.4686	-1.328	9	.217
	Resp Exit - Resp Entry	-.5333	1.7582	.5560	-1.7911	.7244	-.959	9	.363
	Mot Exit – Mot Entry	-.4000	1.6982	.5370	-1.6148	.8148	-.745	9	.475
	Mind Exit – Mind Entry	-.8000	1.4333	.4533	-1.8253	.2253	-1.765	9	.111
	Self Exit – Self Entry	-.6000	1.7199	.5439	-1.8303	.6303	-1.103	9	.299
	Com Exit – Comm Entry	-.6500	1.5820	.5003	-1.7817	.4817	-1.299	9	.226
	App Exit – App Entry	-.5000	1.6499	.5218	-1.6803	.6803	-.958	9	.363

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Participants	Time Exit – Time Entry	.1778	.7998	.0843	.0103	.3453	2.109	89	.038*
	Org Exit – Org Entry	.1028	.8253	.0870	-.0701	.2756	1.182	89	.241
	Auth Exit – Auth Entry	.1519	.7157	.0754	.0020	.3018	2.013	89	.047*
	Team Exit – Team Entry	.1625	.6154	.0679	.0336	.2914	2.505	89	.014*
	Pers Exit – Pers Entry	.1741	.6500	.0685	.0379	.3102	2.541	89	.013*
	Resp Exit – Resp Entry	.1370	.8375	.0883	-.0384	.3124	1.552	89	.124
	Mot Exit – Mot Entry	-.0593	.5946	.0627	-.1838	.0653	-.946	89	.347
	Mind Exit – Mind Entry	.1815	.6344	.0669	.0486	.3143	2.714	89	.008**
	Self Exit – Self Entry	.2667	.7482	.0789	.1100	.4234	3.381	89	.001***
	Com Exit – Comm Entry	.0778	.6573	.0693	-.0599	.2155	1.123	89	.265
	App Exit – App Entry	.3444	1.0185	.1074	.1311	.5578	3.208	89	.002**

*Statistically significant at less than or equal to the .05 level.
**Statistically significant at less than or equal to the .01 level.
.***Statistically significant at less than or equal to the .001 level

8. Reflection about Youth

Tables A46 to A51 reveal the data gleaned from the parent/caregiver online survey distributed in September and October of 2022, as well as the Meticulon Assessment Survey completed by the parents/caregivers at entrance and exit in perceived eleven domains of employability.

Table A46: Parent/Caregiver Relationto the Youth

	Frequency	Percent
Parent	24	92.3
Other: not specified	2	7.7
Total	26	100.0

Table A47: Parental Program Satisfaction

"I am overall satisfied with our experience with the Summer Employment Service Program"		
	Frequency	Percent
Disagree	1	3.7
Neutral	1	3.7
Agree	12	44.4
Strongly agree	13	48.2
Total	27	100.0

Table A48: Parental Reflection on Youth's Experience

"Your youth enjoyed learning and experiencing employment related activities"		
	Frequency	Percent
Neutral	3	11.1
Agree	8	29.6
Strongly agree	16	59.3
Total	27	100.0

Table A49: Parental Reflections on Youth's Future Employment

"I feel that the things my youth learned during our time with the program will help them to get a paid job in the future"		
	Frequency	Percent
Disagree	1	3.7
Neutral	1	3.7
Agree	12	44.4
Strongly agree	13	48.2
Total	27	100.0

Table A50: Parental Reflection on Youth's Barriers to Employment

"I feel like the program addressed potential barriers to employment/volunteer experience/work experience through skill and ability training"		
	Frequency	Percent
Disagree	1	3.7
Neutral	5	18.5
Agree	13	48.2
Strongly agree	8	29.6
Total	27	100.0

Table A51: Parental Reflection on Soft Skills

"I feel like the program improvedthe soft skills of my youth (Soft skills refer tosocial and emotional skills, such as confidence and communication)"		
	Frequency	Percent
Disagree	1	3.7
Neutral	1	3.7
Agree	17	63.0
Strongly agree	8	29.6
Total	27	100.0