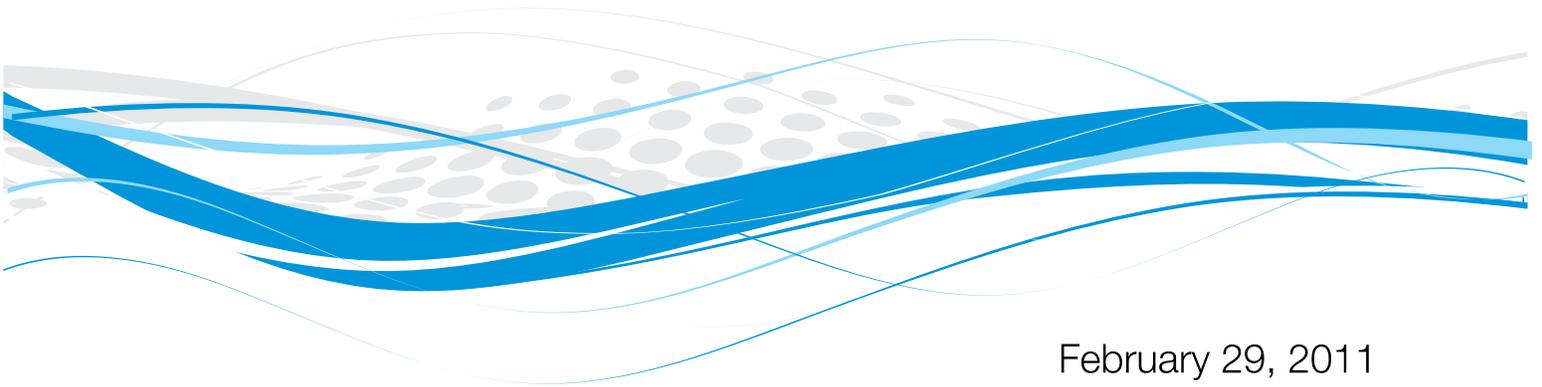


# The Impact of the Northeastern Youth Entrepreneurship Initiative: A Quantitative Evaluation and Report

Part 1: Impact Study



February 29, 2011

Commissioned by the North Claybelt Community Futures Corporation

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## Executive Summary

As entrepreneurship training becomes more prevalent, there has been more empirical research focused on establishing links between education and the act of venture creation. We relied on an extensive literature review to develop a sound framework for evaluating the Northeastern Youth Entrepreneurship Initiative's (NYEI) impact. We conducted telephone interviews with 139 NYEI participants ranging in age from twelve to twenty-nine. We also contacted a control group of 100 people aged sixteen to twenty-five who had not had any entrepreneurship training experience.

Research suggests that evaluating entrepreneurship development programs is a complex matter that is best accomplished using a variety of methods. It has proven difficult to measure the effectiveness of such programs on the basis of business start-ups, since the lag-time between exposure and start-up often exceeds typical evaluation time frames. There is considerable support for evaluating individual traits and aptitudes as a measure of entrepreneurial development. For example, there is a strong correlation between an individual's entrepreneurial orientation and the likelihood that he or she will start a business. Entrepreneurial orientation characteristics include such attitudes as self-efficacy, achievement motivation and creativity. As predicted, the results indicate a significant difference between the NYEI and control group, with the NYEI group generating higher scores on each trait.

We hypothesized that NYEI participants would be more likely to recognize opportunities in Northern Ontario and as a result, express their intention to remain in the region, and this was supported.

The results show that as predicted, NYEI respondents are more interested in starting a business than those in a control group, by a significant margin.

We also anticipated that those exposed to NYEI programs would be more likely to take business courses as a reflection of their greater interest in entrepreneurship. A slightly higher percentage of control group respondents actually took one or more business courses, but NYEI participants who did take courses completed a higher number of such courses per person.

This study provides empirical evidence that suggests the NYEI program is meeting its objectives of developing a more entrepreneurial culture and encouraging young people to remain in Northern Ontario.

The data collection in this study was limited by a very short evaluation process time frame. The quality, reliability and validity of future evaluations and impact assessments will improve if there is a commitment to supporting a long-term monitoring and evaluation process.

## 1. Introduction and Overview

The North Claybelt Community Futures Development Corporation (CFDC) administers the Northeastern Youth Entrepreneurship Initiative (NYEI) on behalf of thirteen participating CFDCs in Northeastern Ontario. The program encourages young people between the ages of seven and twenty-nine to explore and build entrepreneurship skills. It is funded by FedNor’s Youth Retention Strategy for Northern Ontario, the Ontario Trillium Foundation, participating CFDCs, and local corporate sponsors.

The rationale underlying the regional development approach lies in the synergy generated by leveraging collective resources to develop a culture of entrepreneurship. In addition, programs target youth from ages seven and up, under the assumption that introducing self-employment concepts when they are still young will have formative impacts. Several researchers suggest that entrepreneurial qualities are best taught at an early age (Rushing 1990; Van der Kuip and Verhuel 2003). Younger people are more impressionable, and entrepreneurial traits can be compared to personality traits that are developed in childhood. Indeed, the European Union (EU) has called on member states to promote entrepreneurial attitude development from primary school right through to university. Cultivating an entrepreneurial orientation early in life creates more awareness of entrepreneurship as a career choice, and develops basic qualities that individuals can draw upon in adulthood. This is important given that most people starting businesses are between the ages of 25 and 40 (Storey, 1994).

The NYEI evolved from a two-year pilot project known as the Regional Youth Entrepreneurship Initiative (RYEI), a program that ran from 2007-2009 across six CFDCs (see Figure 1). In the six-year period from 2004 to 2009, RYEI and other FedNor initiatives provided 4,865 young people with opportunities to learn entrepreneurial skills. In 2009, North Claybelt submitted a successful funding request to continue the program on behalf of its twelve partnering CFDCs. That funding agreement is now complete, and funders have requested a program evaluation report to determine how well the NYEI objectives were achieved.

**Figure 1: Evolution of the Northeastern Youth Entrepreneurship Initiative 2004-2011**



## 2. Research and Evaluation Framework

The number of entrepreneurship development courses offered by educational and public sector institutions has risen dramatically since the 1960s (Hannan, Leitch and Hazlett 2006). This is largely the result of a growing recognition that small firms play a significant role in net job creation. Micro-businesses –those that Industry Canada defines as having 1-4 employees– created 20% of the net new jobs between 1985-2003<sup>1</sup>.

With the increase in entrepreneurship training programs (ETP), there is a corresponding need to determine the benefits of entrepreneurship courses. The Consortium for Entrepreneurship Education (2008) states that entrepreneurship education has impacts beyond those explicitly related to starting and running a business. It encourages creative thinking and promotes a strong sense of self-worth and empowerment, as well as the following aptitudes:

- The ability to recognize opportunities.
- The capacity to generate new ideas and find the necessary resources to implement them.
- The capacity to create and operate a new firm.
- Critical thinking skills.

These skills are not only essential for entrepreneurship, but also for *intrapreneurship*, the application of innovative, value-generating ideas within a corporate setting (Pinchot and Pinchot 1978). In other words, entrepreneurial individuals may not necessarily start their own businesses, but that does not suggest they are any less valuable to the economy. Intrapreneurs add significant value to firms engaged in product development, applied research, project management and a wide range of other services. They are also thought to be more strategic thinkers, a quality highly-sought by many organizations (Filion 2002).

Hannan et al (2006) also propose that evaluating entrepreneurial training's impact must go beyond counting the number of business start-ups. The lag time between program completion and business start-up often exceeds the evaluation process window, making it very difficult to collect this data. To overcome this challenge, they evaluate ETP effects on student attitudes toward entrepreneurship and their beliefs in their ability to pursue an entrepreneurial career.

A growing body of research (Kolvereid and Moen 1997; Fayolle 2002) supports this notion. ETPs are thought to influence not only students' current entrepreneurial orientation, but also their future intentions (Kolvereid and Moen, 1997; Tkachev and Kolvereid, 1999; Fayolle, 2002). For example, individual assessments of self-efficacy (a key trait that distinguishes entrepreneurs from others) have been strong predictors of eventual behaviour (Bandura and Wood, 1989).

There is evidence suggesting that ETPs enhance entrepreneurial orientation and the likelihood of action at some point in the future. For example, researchers have determined there is a positive relationship between ETP and individual traits such as the need for achievement (Hansemark, 1998), self-efficacy (Ehrlich et al., 2000) and creativity (Carland and Carland 1991;

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<sup>1</sup> Industry Canada (2012) Small Business Research and Statistics, accessed February 26, 2012 at <http://www.ic.gc.ca/eic/site/sbrp-rppe.nsf/eng/rdo2119.html>.

Sexton and Bowmn 1983). Furthermore, there are significant differences between students who have attended entrepreneurship courses and those who have not.

We would expect then, that individuals who have participated in the NYEI and RYEI programs will demonstrate higher levels of the three entrepreneurial orientation traits. We also anticipate that they will demonstrate evidence of greater employability and a higher interest in self-employment opportunities. Finally, one of the objectives of the NYEI program is to reduce youth outmigration. We would therefore expect a greater percentage of NYEI participants to express intentions to remain in Northern Ontario than their counterparts in a control group.

### 3. Research Method

Due to the March 1, 2012 deadline for submitting the funding proposal, the timeline for conducting the evaluation process was limited to February 10-27. To maximize data collection, we worked with Oracle Poll Research Ltd. to conduct the surveys. Oracle Poll has been providing multilingual public opinion polling and market research since 1995. The firm operates out of Sudbury as well as Toronto and Montreal, and has an excellent understanding of Northern Ontario demographics.

We provided Oracle Poll surveyors with calling guidelines and an overview of project objectives as well as survey instruments in both English and French (Appendix A). We pilot-tested the survey for duration and comprehension prior to collecting field data. Surveys began on February 15, 2012.

North Claybelt provided a database of 1,814 RYEI and NYEI participants dating back to 2004. Individuals listed in the database ranged in age from seven to twenty-nine (see Figure 3.1).

**Table 3.1: Age Groups and Survey Eligibility in the NYEI Database**

Age Group	Number of Participants	Survey Eligibility and Comments
7-11	847	Ineligible due to young age and lack of capacity
12-15	601	Eligible with parental consent to respond
16 and older	366	Eligible; primary group of interest

There were 366 individuals sixteen years of age and older in the database. They comprised the primary target group for interviews. We wanted to maximize the number of participants over sixteen years of age for two reasons: first, we did not need parental approval to speak to them, which simplifies the contact process; and second, they would be of an age where they would have had more potential to demonstrate an entrepreneurial orientation. There were 601 participants aged twelve to fifteen. Interviews with these individuals required parental permission, and were not expected to be as meaningful simply due to their younger age and lack of experience. The remaining 847 participants were under age twelve, and therefore unlikely to show meaningful entrepreneurship-related outcomes.

Surveyors attempted to contact members of the over-sixteen group five times. They collected 123 complete responses, response rate of 34%. They also interviewed sixteen of the younger respondents. Individuals who agreed to participate answered the survey in the official language of their choice.

To establish a basis for comparison, we also tested a control group of 100 young people between the ages of sixteen and twenty-five. These individuals were selected randomly from throughout the same Northeastern Ontario catchment area in which NYEI operates. Each was asked to confirm that he or she had not previously attended an entrepreneurship program.

### **3.1 Measures**

We developed a survey instrument that would evaluate several different outcomes. We based our questions both on our discussions with funders (to determine the types of things they wanted to evaluate) and our review of the literature.

The survey measures two major areas: 1) entrepreneurial orientation traits and 2) evidence of regional economic impact.

We used established scales to measure three entrepreneurial characteristics (see Appendix A). The first trait, self-efficacy, measures the level of confidence in one's ability to perform in a given area. Entrepreneurs are thought to be higher in self-efficacy than their colleagues or counterparts in management. We adapted Chen, Gully and Eden's (2001) self-efficacy scale ( $\alpha=.86$ )<sup>2</sup>, using eight items. Achievement motivation –the desire to be successful in competitive situations or to perform with standard of excellence– is another characteristic that is strongly related to entrepreneurship. We used a scale ( $\alpha=.66$ ) adapted from Steers and Braunstein (1976). We also measured creativity –a defining element of entrepreneurship– using Price and Ridgeway's (2001) scale ( $\alpha=.86$ ).

To measure evidence of regional economic impact, we wanted to determine whether NYEI participants were more likely to be a) still in school; b) participating in the workforce; c) involved in self-employment; d) considering self employment; e) planning to remain in Northern Ontario.

Finally, we anticipated that NYEI participants' higher exposure to entrepreneurial training would make them more likely to take business-related courses in high school and university. We gauged this by asking respondents in both groups to report the number of courses they had taken.

## **4. Results**

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<sup>2</sup> Cronbach's alpha ( $\alpha$ ) is a value that demonstrates the reliability of a given scale. In general, numbers greater than .7 are considered acceptable. In the case of Achievement Motivation, we used the scale with the highest score possible that was still appropriate to these survey conditions.

#### 4.1 Entrepreneurial Orientation Traits

There is a significant difference at the  $p < .05$  level between the mean scores on each of the three entrepreneurial traits (Table 4.1). As expected, participants in the NYEI group have higher scores on each characteristic than do their counterparts in the control group.

This suggests that there is a strong correlation between higher entrepreneurial orientation traits and entrepreneurial training programs. For the purposes of this test, we selected those cases in a sub-group of participants over the age of 18.

**Table 4.1: Mean Scores on Entrepreneurship Orientation Traits**

Trait	Group	N	Mean	Std. Devn	Std. Error Mean	F	Significance	t	df
<b>Self Efficacy</b>	NYEI	54	0.21	1.13	0.15	6.33	0.01	1.02	108.00
	Control	56	0.00	1.01	0.14			1.02	105.57
<b>Achievement Motivation</b>	NYEI	54	0.21	1.13	0.15	4.23	0.04	0.94	108.00
	Control	56	0.01	1.09	0.15			0.94	107.53
<b>Creativity</b>	NYEI	54	0.18	1.09	0.15	3.99	0.05	0.96	108.00
	Control	56	-0.02	1.05	0.14			0.96	107.38

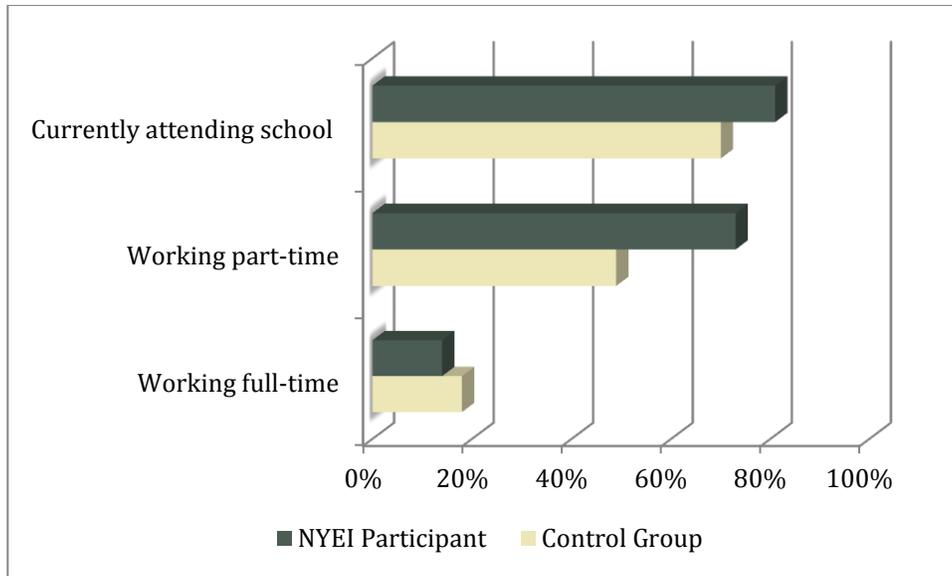
#### 4.2 Regional Economic Impacts

NYEI participants were somewhat more likely to be attending school than the control group (Figure 4.1). They were also more likely to be working part-time, and somewhat less likely to be working full-time. Part of this effect may be attributed to the difference in age across the groups: the median age in the NYEI group is 17, indicating that half of the individuals are likely still in high school. The median in the control group was 19, suggesting that more individuals would be available for full-time work.

Seventeen individuals in the NYEI and eighteen individuals in the control group are working full-time. Although we did not make any predictions in this area, Figure 4.2 demonstrates that NYEI participants tend to earn more than those in the control group.

Those who participated in NYEI were more likely to have part time jobs than those in the control group. 102 individuals in the NYEI group, or 73%, had part time jobs, while 49 (49%) had part time work in the control group. See Figure 4.3.

**Figure 4.1: Work/Education Status**



Item	Group	Frequency
Attending school	NYEI	112
	Control	70
Working part time	NYEI	102
	Control	49
Working fulltime	NYEI	17
	Control	18

Figure 4.2: Income Range from Full-time Employment

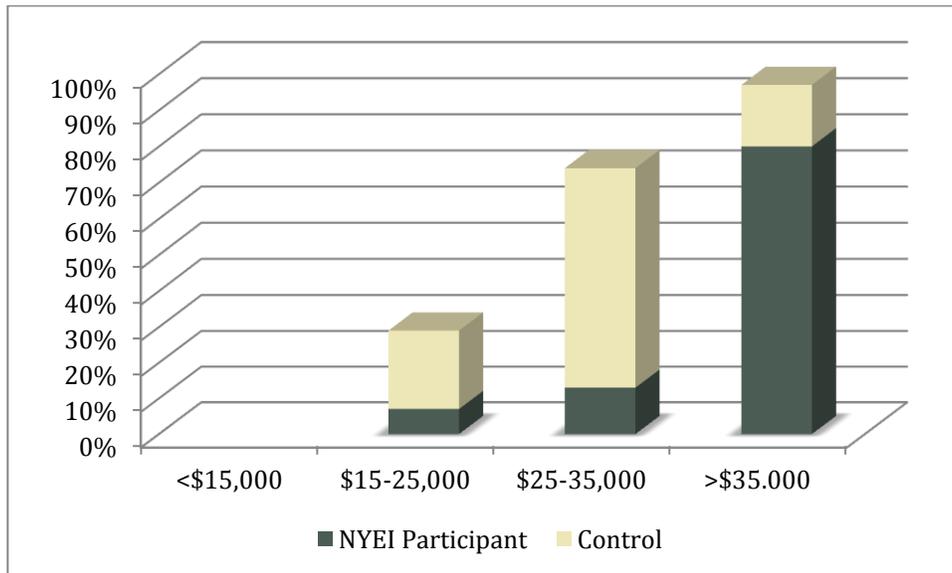
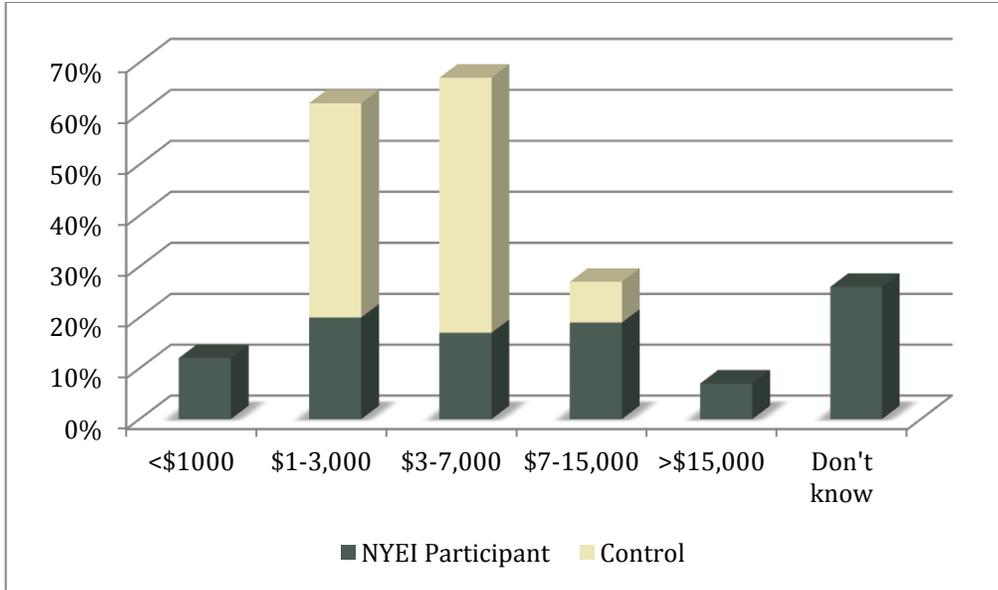
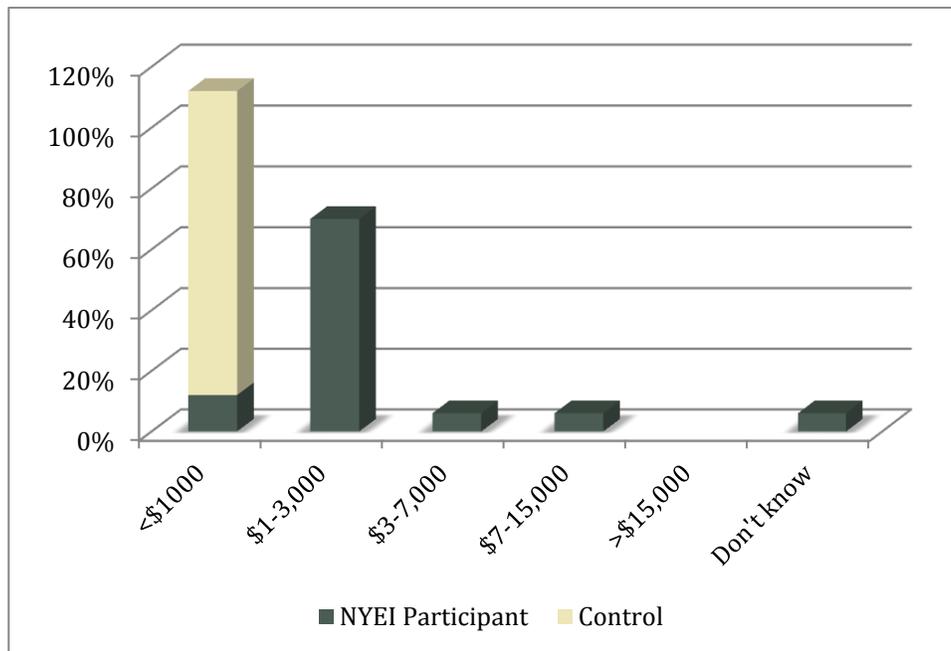


Figure 4.3: Income Range from Part-time Employment



NYEI participants are more likely to generate income by working for themselves. In the control group, 11 people (11%) earned self-employment income in the last year, nine of whom did so from babysitting. In the NYEI group, 16 people (14%) earned self-employment income (eight were babysitters). NYEI participants also tended to earn more through self-employment than did those in the control group. See Figure 4.4.

**Figure 4.4: Income Range from Self-employment**

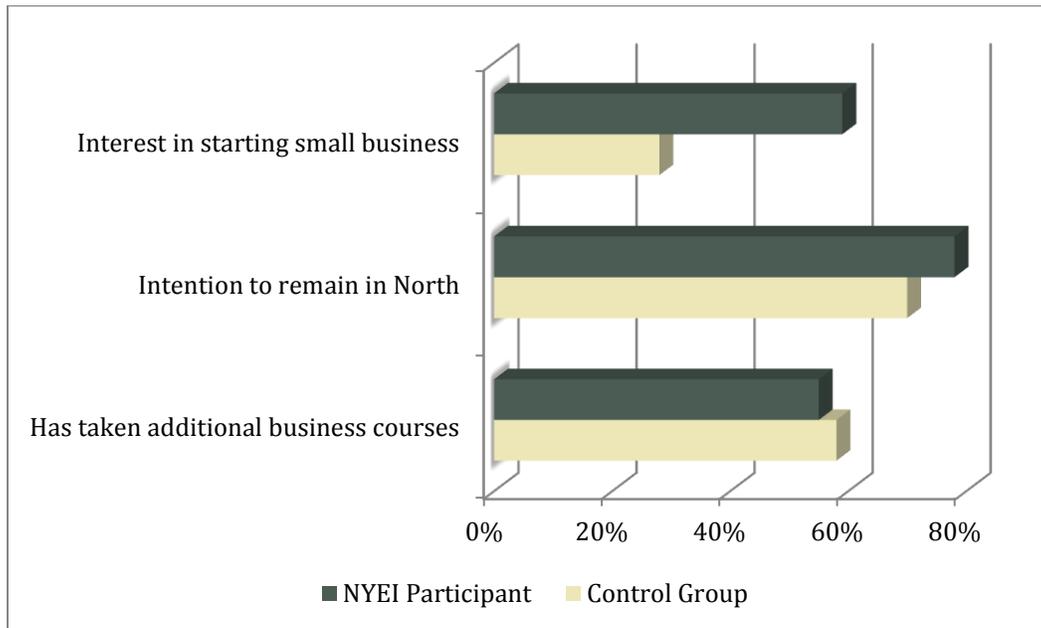


**4.3 Entrepreneurship and Youth Retention Objectives**

NYEI participants are more likely to be interested in starting a small business (59% vs 28%) and are more interested in remaining in northern Ontario (78% vs 70%) (Figure 4.5).

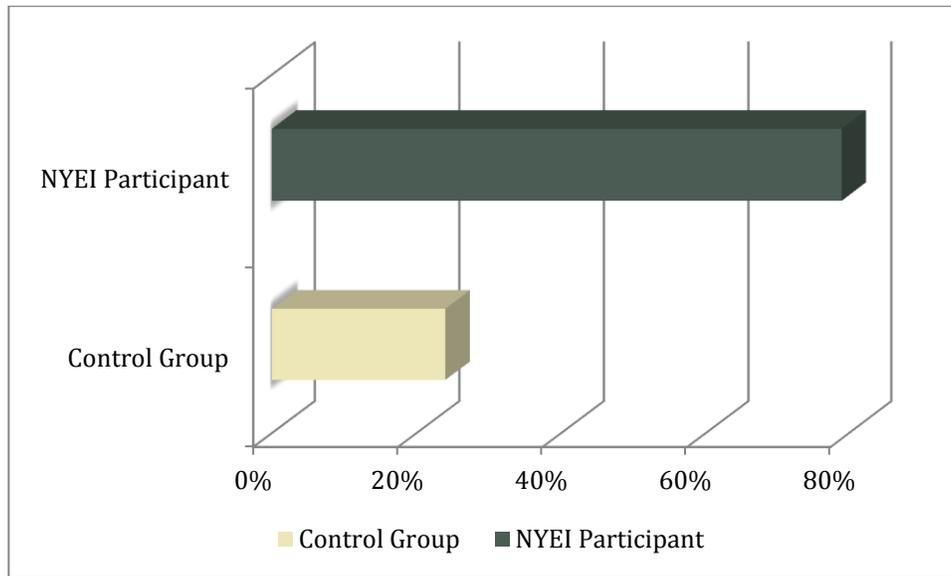
Of those who stated they were interested in starting a business, more in the NYEI group stated they would operate the business in Northern Ontario than in the control group (Figure 4.6).

**Figure 4.5: NYEI Entrepreneurship & Youth Retention Objectives**



We anticipated that more NYEI participants would take business courses than would members of the control group. 58% of control group respondents took at least one business course, while 55% of NYEI participants did so. However, NYEI respondents who did take courses tended to take more of them (Mean=1.4) than did their control group counterparts (Mean=1.25).

**Figure 4.6: Intent to Operate a Business in Northern Ontario**



## 5. Discussion

The results suggest a strong correlation between exposure to NYEI programs and positive outcomes such as:

- Increased employability
- Greater likelihood of generating income from self-employment
- Higher scores on entrepreneurial orientation traits such as self-efficacy, achievement motivation and creativity
- Increased intention to remain in Northern Ontario
- Greater likelihood of taking additional business courses

An ongoing evaluation process is important to ensure not only continued progress, but also accountability and continuous improvement. It will be important to track and evaluate participants over a relatively long time frame. As researchers have suggested, age-appropriate entrepreneurship training can begin as early as primary school. However, young participants are unlikely to demonstrate meaningful entrepreneurial orientation right away; results may not be apparent for several years.

Since 2009, North Claybelt has collected extensive data from participants to facilitate ongoing evaluation. The organization also asks parents to consent to follow-up calls after the program is completed. This facilitates evaluation and makes it easier to collect information on the evolution of participants' entrepreneurial traits. It may also be useful to administer pre- and post-tests of entrepreneurship traits to participants to monitor their development. To make ongoing assessments more cost-effective, it may be possible to develop an online evaluation tool that participants can complete in response to e-mail requests. Telephone surveys can be used to complement the on-line submissions if more data is necessary. Detailed recommendations for ongoing evaluation are presented in a separate document as Part 2 of this report.

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## Appendix A: Survey Instrument

**1. If record blank then ask:** How old are you?

- Enter numerical age between 16-25

**2. If record blank then ask:** How old were you when you took the program?

- Enter numerical age between 8-20

**3. How many times have you taken a YEP program?**

- Enter number between 1-5

**4. Are you currently employed full-time?**

- a) No
- b) Yes

If YES

What is your position/title?

- Open-ended

What is your income range?

- a) <15,000
- b) 15,000-25,000
- c) 25,000-35,000
- d) >35,000

Go to Question 5

**4. During the last year, have you earned any money by working at a part time job or working for yourself?**

- a) No
- b) Yes

If NO, go to Question 5

If YES

How did you earn this money?

- a) Part time job
- b) Working for yourself (e.g. babysitting, yardwork, dogwalking, business, etc.) –  
Position

What was the job title/position/role?

- Open-ended

The next questions has two parts:

What were you earnings from part-time work?

- a) Less than \$1000
- b) \$1,000-3,000
- c) 3,000-7,000
- d) 7,000-15,000
- e) More than 15,000

What are your earnings from self-employment work?

- a) Less than \$1000
- b) \$1,000-3,000
- c) 3,000-7,000
- d) 7,000-15,000
- e) More than 15,000

Do you intend to continue this activity (employment?)

- a) No
- b) Yes

**5. Are you interested in starting a small business?**

- a) No IF NO, Go to Question 7
- b) Yes

In the next year

In the next two years

In the next five years

Don't know

**6. Where do you plan to start a business?**

- a) Hometown

- b) Northern Ontario
- c) Elsewhere

**7. How many courses have you taken at school that would help you start a business?**

- a) 0
- b) 1-2
- c) 3-5
- d) More than 5

The following questions are answered using a scale of 1-7, where 1 means Strongly Disagree, and 7 means Strongly agree. (Note that the names, authors and alpha values of each scale were not shared with the respondents).

**Self efficacy, Chen Gully and Eden (2001) Alpha .86**

1. I can achieve most of the goals that I have set for myself.
2. When facing difficult tasks, I am confident that I can get them done.
3. In general, I think that I can obtain outcomes that are important to me.
4. I believe I can succeed at most anything if I set my mind to it.
5. I will be able to overcome many challenges.
6. I am confident that I can do many different tasks well.
7. Compared to other people, I can do most tasks very well.
8. Even when things are tough, I can do a good job.

**Achievement Motivation, Steers and Braunstein (1976) Alpha .66**

1. I do my best work when my job assignments are fairly difficult.
2. I always try hard to improve my performance at activities I choose to do.
3. I am willing to take moderate risks and stick my neck out if it will help me achieve my goals.
4. I try to avoid any added responsibilities on my job.
5. I try to perform better than people around me.
6. Getting ahead in life is important to me.
7. I can go for days on end without doing anything productive.

**Creativity (Price and Ridgeway 2001) Alpha =.86)**

1. Knowing how a product works offers almost as much pleasure as knowing that the product works well.
2. I am very creative when using products and sometimes use them differently than intended.
3. When I was younger, I really enjoyed taking things apart and putting them back together.
4. As long as a product works well, I don't really care how it works.
5. I am very curious about how things work.
6. If I can't figure out how something works, I would rather tinker with it than ask for help.
7. I never take anything apart because I know I'll never be able to put it back together again.
8. I like to fix things around the house.