



Helping Youth Pursue Education (HYPE): Exploring the Keys to Transformation in Postsecondary Access and Retention for Youth in Underserved Neighbourhoods

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Outline

- HYPE objective & design
- HYPE Relational Engagement Model
- HYPE participants' profile and pathways
- Research questions
- Methodology
- Key Findings
- Recommendations

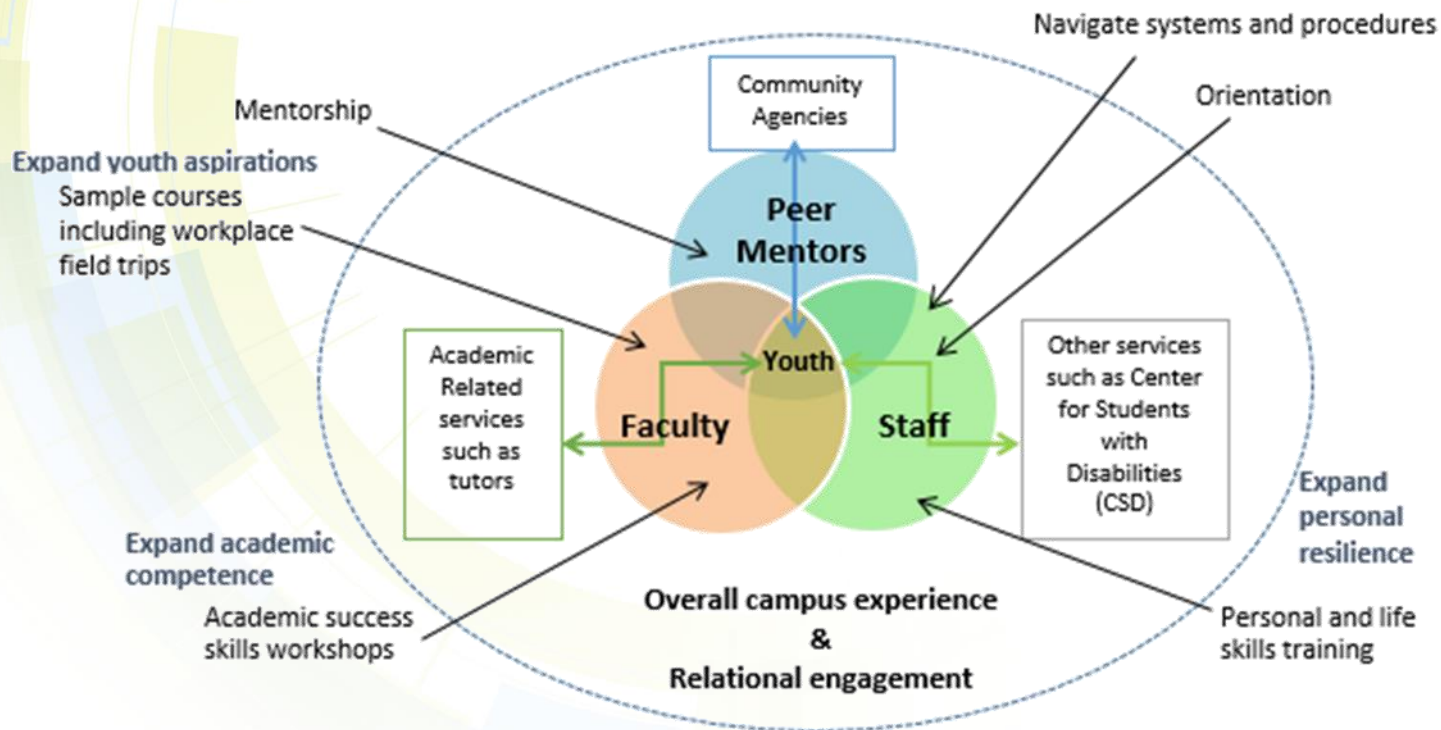


HYPE – Helping Youth Pursue Education

- Help young people to overcome the economic and social barriers that may have interfered with school attendance in the past
 - Youth aged 17-29
 - Primarily living in the underserved neighborhoods of Toronto.
- To reduce as many barriers as possible to post-secondary education:
 - Six-week on-campus educational experience
 - Tuition-free: learning materials, transportation, and meals



HYPE – Components of the Relational Engagement Model

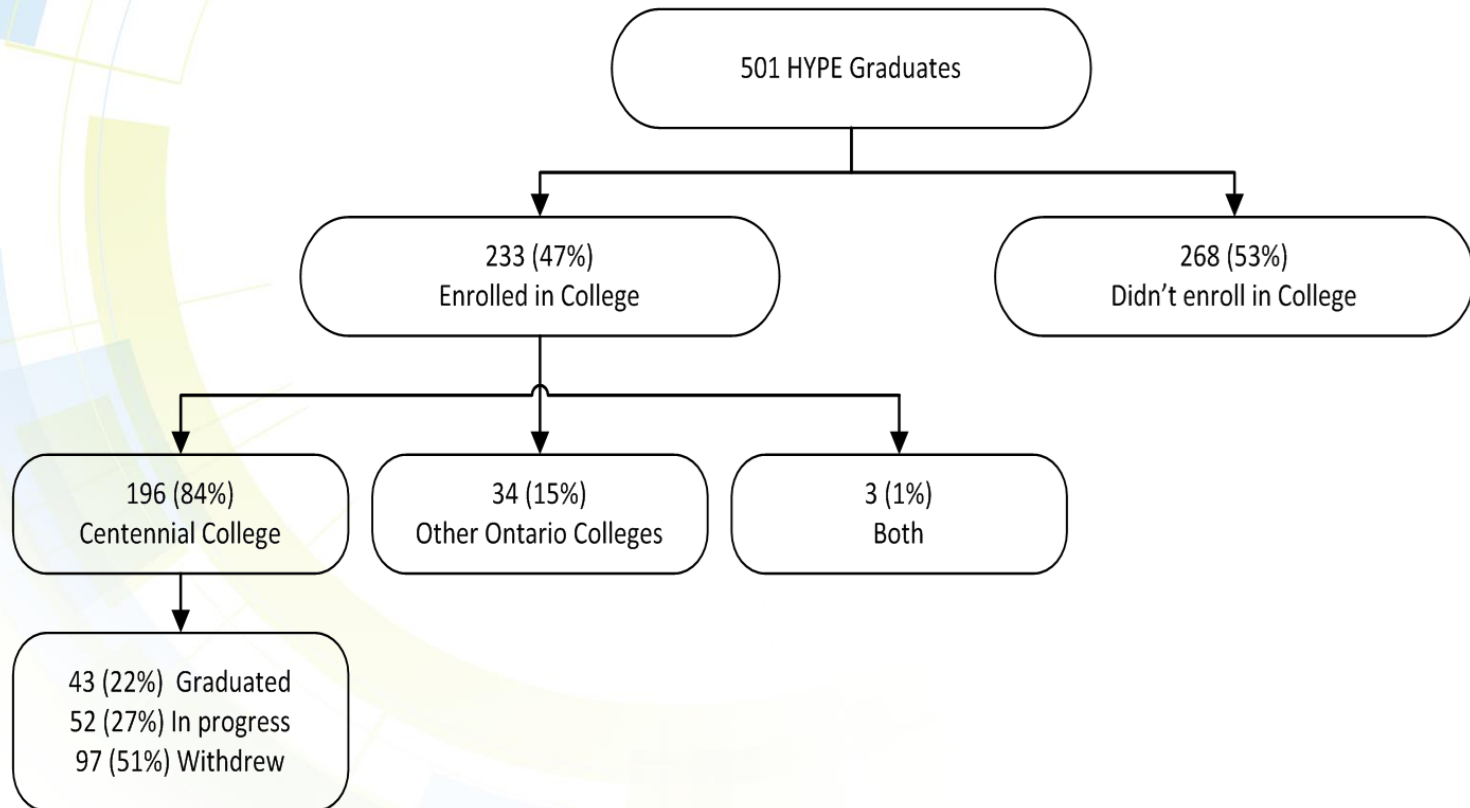


HYPE Participants

	HYPE year					
	2011	2012	2013	2014	2015	Total
HYPE Participants	69	134	131	121	134	589
HYPE Graduates	56	119	103	101	122	501
HYPE Graduation %	81	89	79	84	91	85
HYPE graduates registered at Centennial						
Graduated	5	20	9	5	4	43
In progress	1	5	7	14	25	52
Withdrew	19	18	21	27	12	97



HYPE Graduates Pathways



Research Questions

- What are the student level predictors of participating in the HYPE program at Centennial College?
- What are the differences in students' success among key indicators (persistence, graduation, and academic performance), and do they vary according to participation in the HYPE program?



Methodology

Step 1

- Multiple logistic regression model predicting HYPE participation
- Produce probability of participation

Step 2

- Use the propensity scores to assess and correct observed selection bias
- Visual inspection of density plots
- Creation of a matched group of non-HYPE students to be used as a control group

Step 3

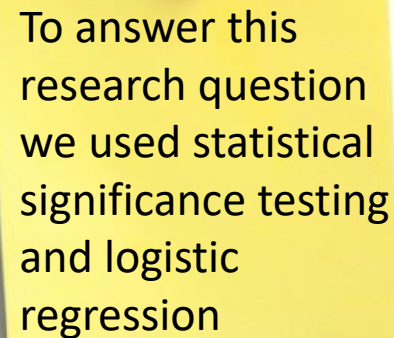
- Evaluate the effectiveness of the matching technique
- Select the best-fitting model

Step 4

- Estimate the Average effect of Treatment on the Treated (ATT)

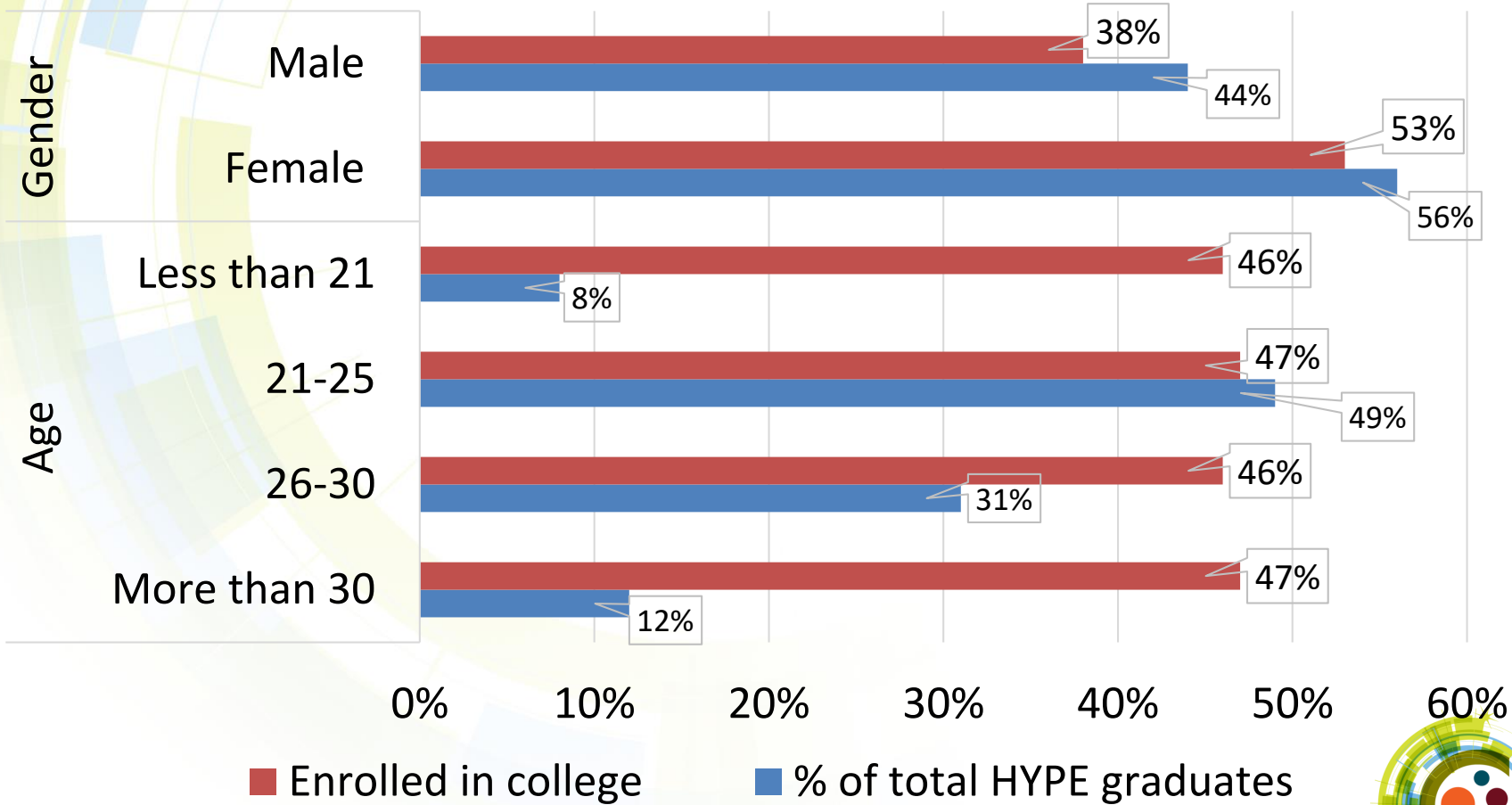
Research Question 1

- What are the student level predictors of participating in the HYPE program at Centennial College?

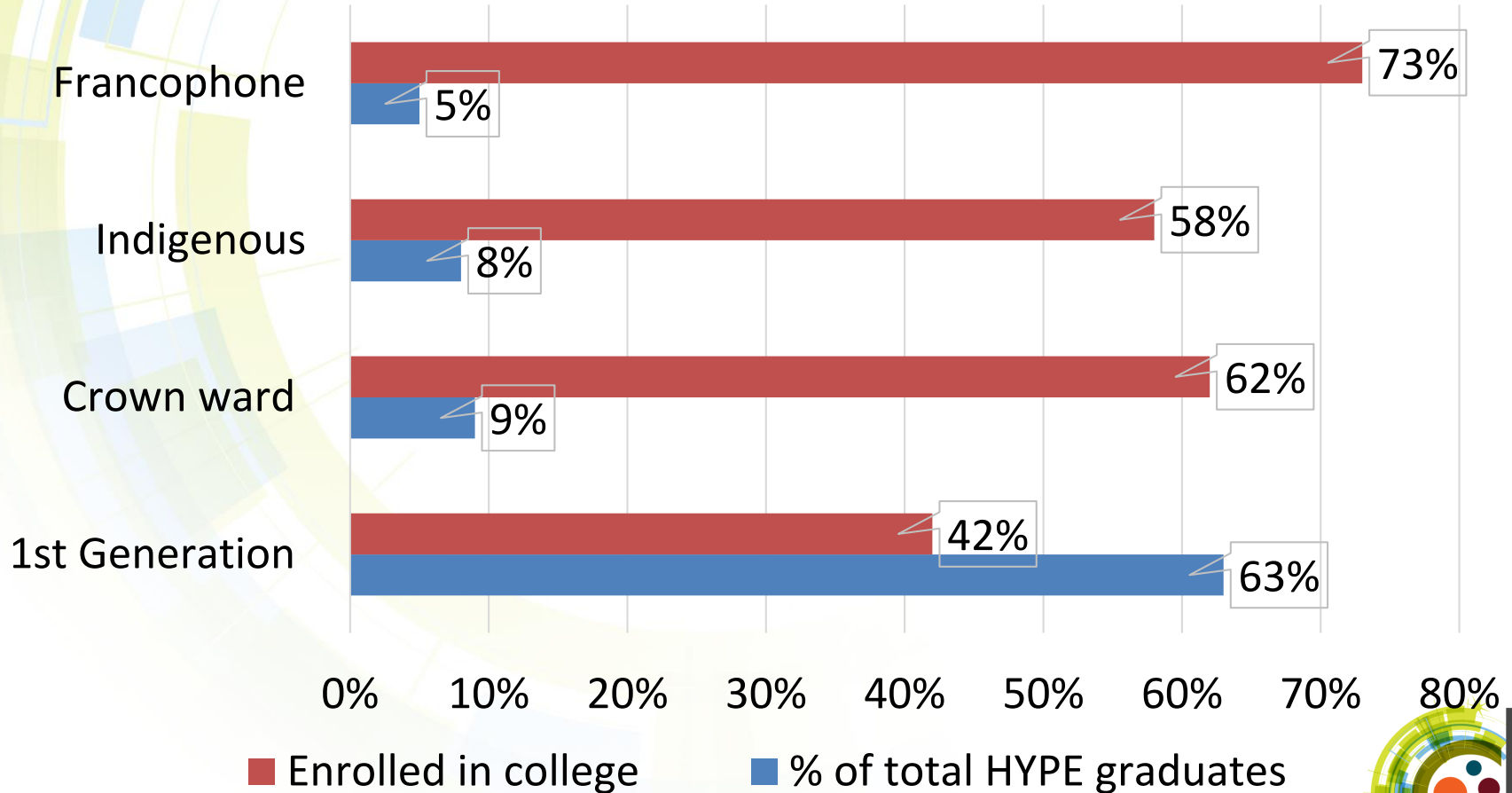


To answer this research question we used statistical significance testing and logistic regression

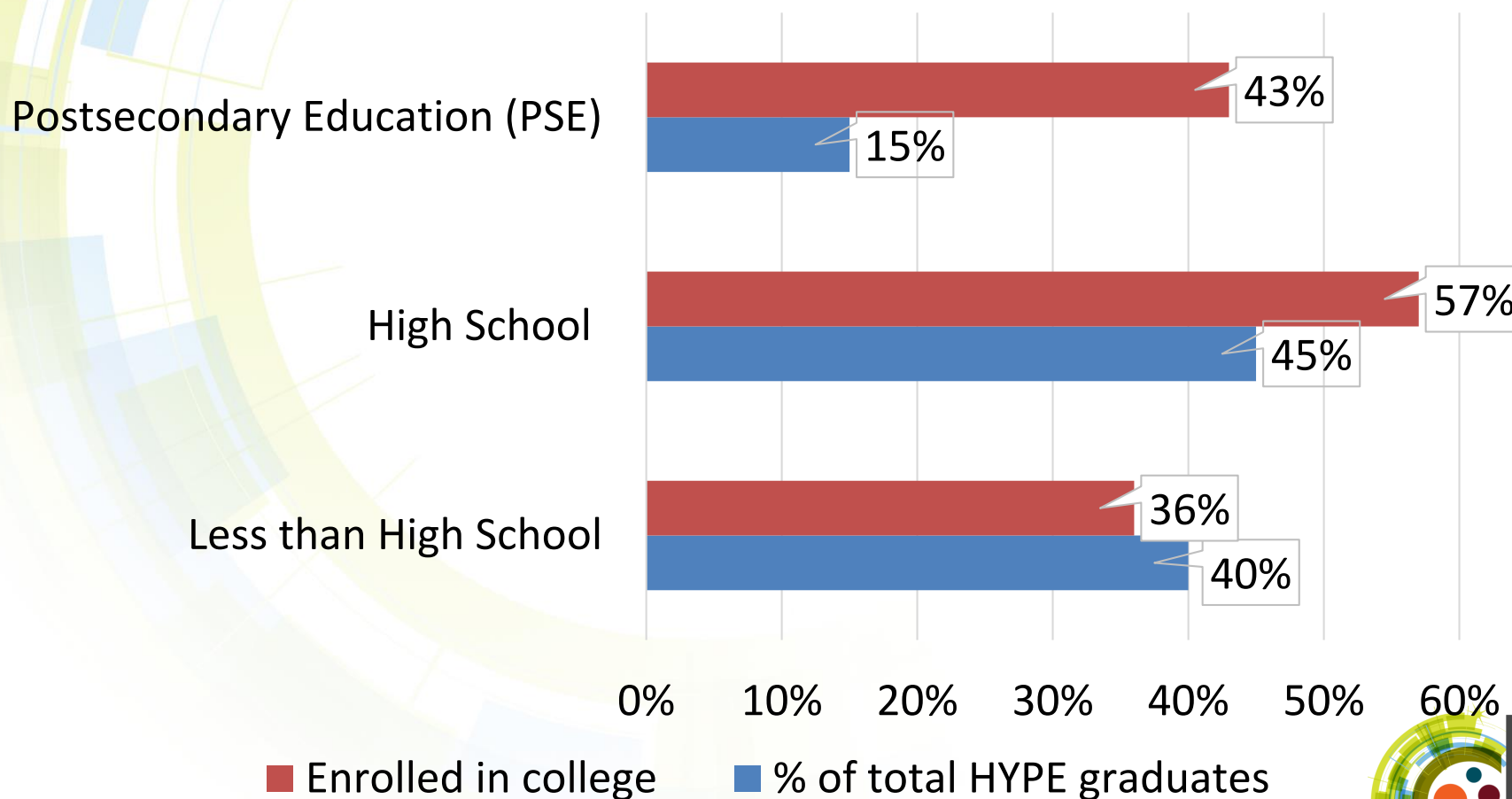
HYPE – Graduates Profile



HYPE – Graduates Profile



Highest Educational Level Achieved



HYPE - Neighborhood Attributes

Percentage of population	City of Toronto 2011	HYPE students	Enrolled in college	
			No	Yes
Born in Canada	51%	43.3%	43.3%	43.3%
No certificate	11%	12.8%	13.0%	12.7%
High School	21%	25.6%	25.5%	25.7%
Postsecondary Education	69%	61.6%	61.5%	61.6%
Unemployment Rate	9%	11.5%	11.4%	11.7%
Visible minority	49%	66.1%	65.6%	66.6%

Source: City of Toronto



Who participates in HYPE?

- Female students were about two times more likely than male students to participate in HYPE program.
- HYPE students were more likely to be mature students compared to non-HYPE students.
- First generation students were two times more likely to be in the HYPE program compared to other Centennial students.
- The lower the level of education, the more likely someone is to participate in HYPE.



Research Question 2

- What are the differences in students' success among key indicators (persistence, graduation, and academic performance) and do they vary according to participation in the HYPE program?



Impacts of participation in the HYPE program on the key indicators



Success Level

Program
Completion



Persistence

1st year
Persistence



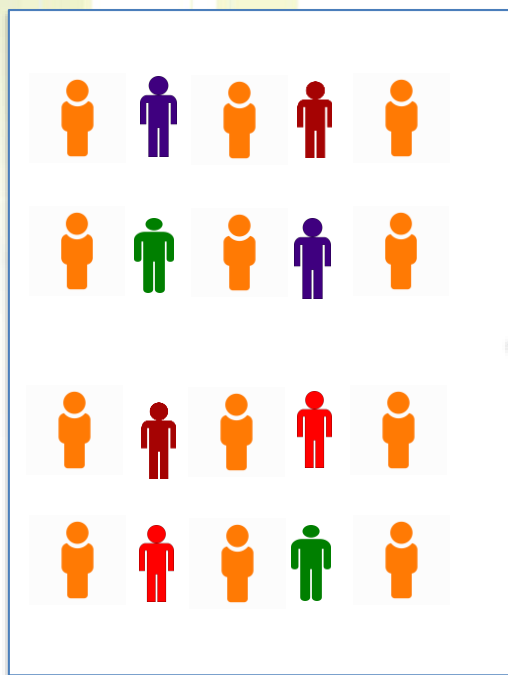
Academic
Performance

Intake GPA

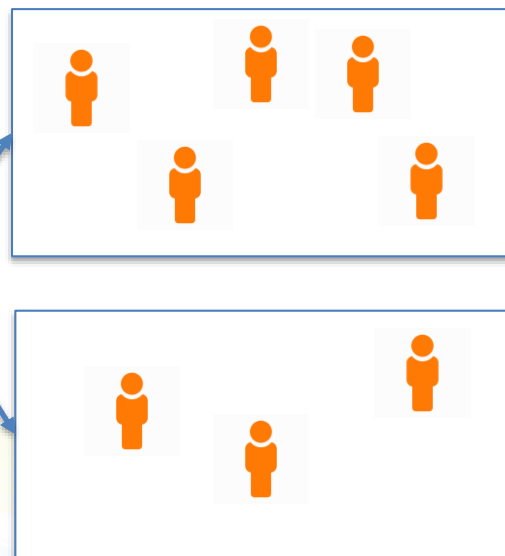
Methodology: Propensity Score Matching

Create a matched group of non-HYPE students to be used as a control group, with each group having **nearly identical characteristics**

Control Group
Non-HYPE



Centennial Students



Treatment Group
HYPE

Estimate the Average
effect of Treatment
on the Treated (ATT)

Four Models

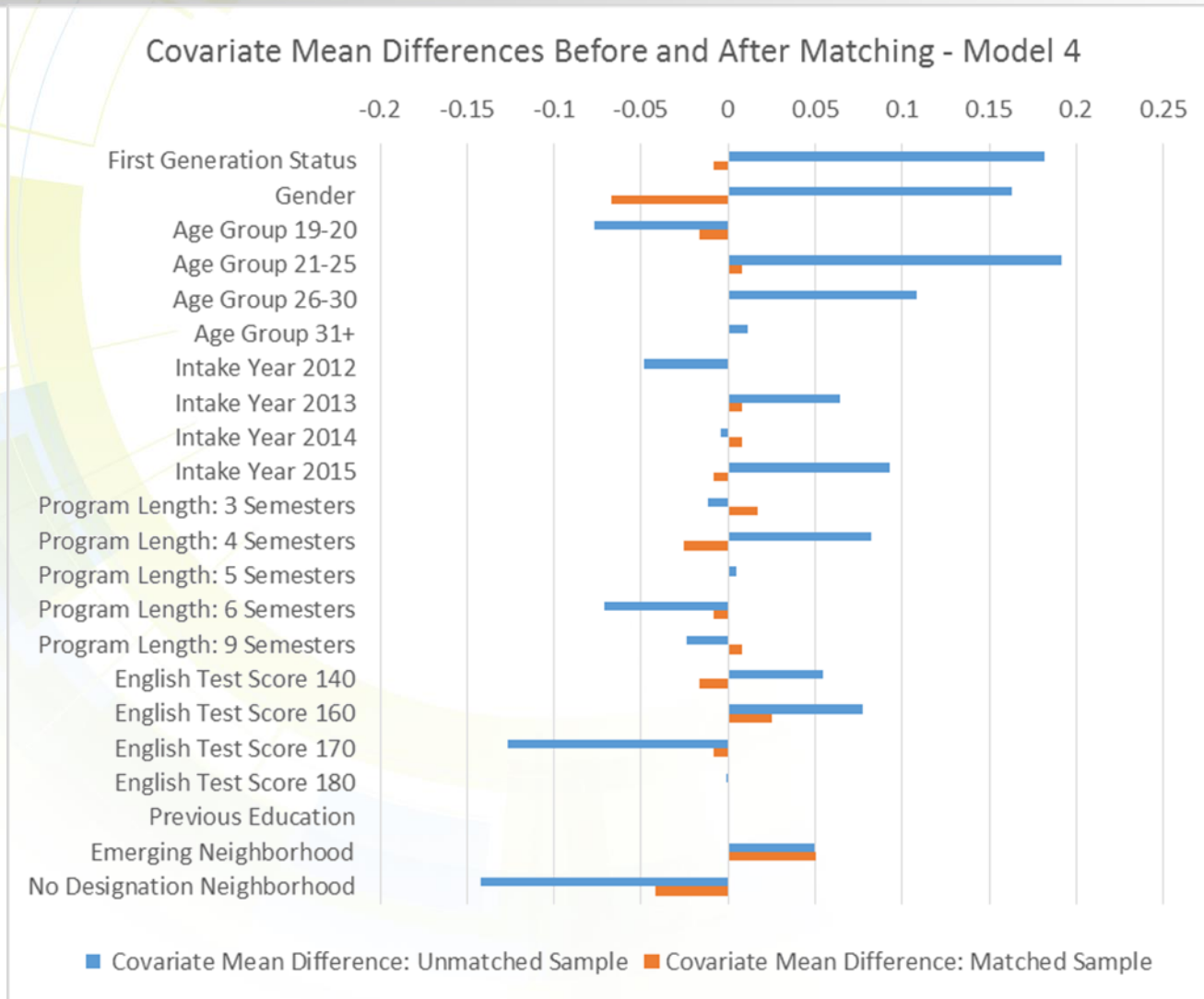
Student Predictors	Model 1	Model 2	Model 3	Model 4
Gender	YES	YES	YES	YES
Age	YES	YES	YES	YES
First Generation Status	YES	YES	YES	YES
Previous Education	YES	YES	-	-
TSNS designation	YES	YES	YES	YES
% of Neighborhood born in Canada	YES	YES	YES	-
% of Neighborhood with PSE	YES	YES	YES	-
Neighborhood Unemployment Rate	YES	YES	YES	-
% of Neighborhood that are lone parent families	YES	YES	YES	-
Intake year	YES	YES	YES	YES
English test score	YES	YES	YES	YES
Program semesters	YES	YES	YES	-
High school average	YES	-	-	-
No. of Non-HYPE/No. of HYPE	5288/46	5714/119	257/62	568/119



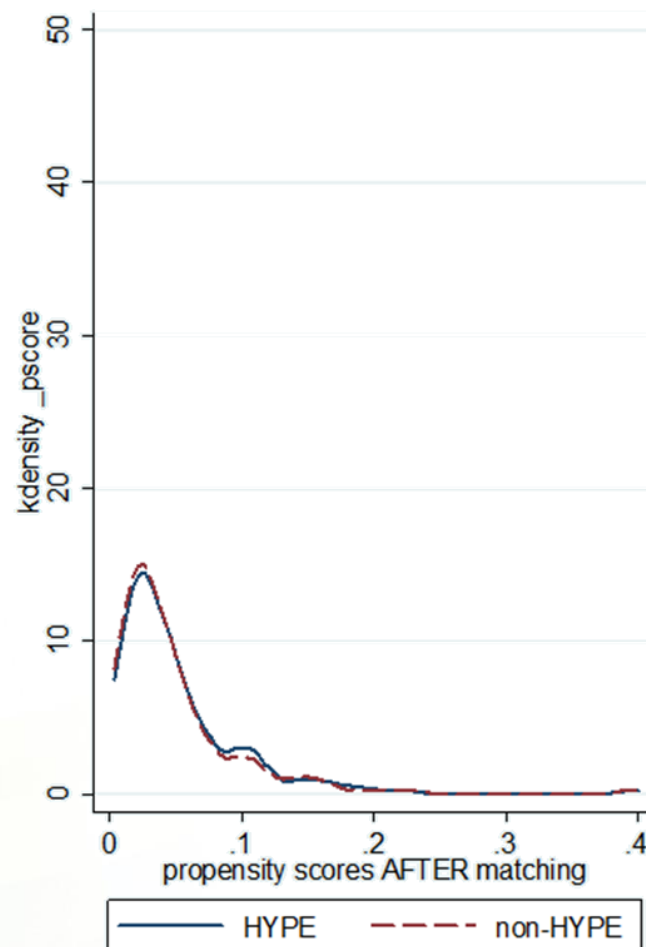
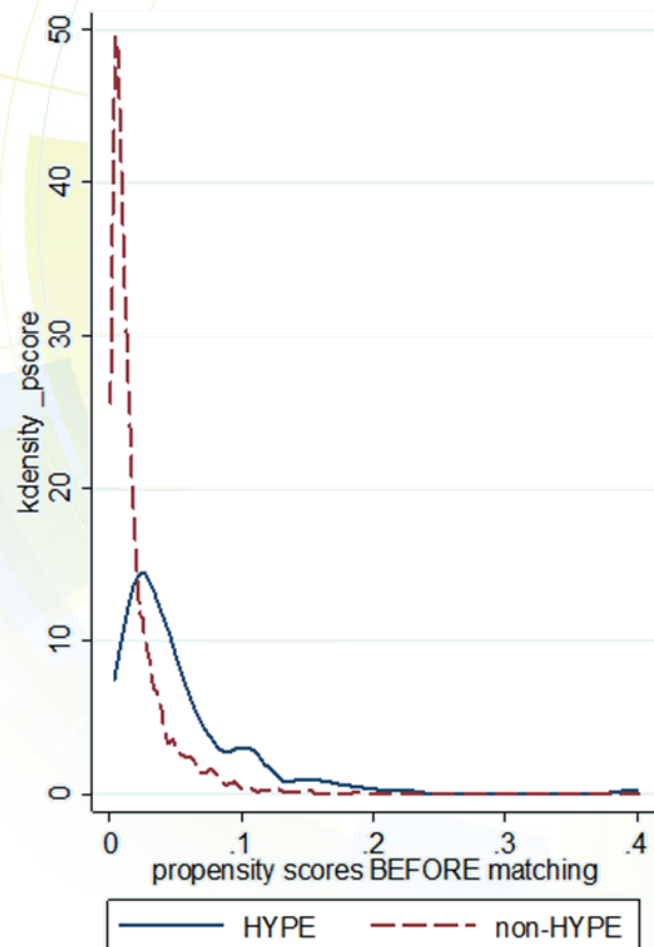
Mean and median bias in each model

Model	Sample	Ps R2	LR chi2	p>chi2	MeanBias	MedBias	B	R
1	Unmatched	0.144	76.23	0	21.4	16.7	135.1*	0.81
	Matched	0.137	16.36	0.839	8.6	9	89.7*	1.25
2	Unmatched	0.198	230.61	0	20.8	16.7	147.3*	1.28
	Matched	0.066	21.69	0.598	7.9	6.5	61.3*	1.23
3	Unmatched	0.123	142.52	0	18.1	16.7	114.8*	0.84
	Matched	0.046	14.96	0.896	7.2	7.8	50.7*	0.88
4	Unmatched	0.11	128.28	0	18.5	16.7	108.9*	0.87
	Matched	0.01	3.17	1	3.9	2.1	23.1	1.17

Model 4: Covariate mean differences



Model 4: Propensity score distribution



Results: Average Treatment Effect on the Treated (ATT)

Outcome	Model	n. treated	n. control	ATT	Std. Error	t
Success (program completion)	1	46	46	0.022	0.091	0.24
	2	119	141	-0.015	0.068	-0.213
	3	119	165	-0.129	0.063	-2.069
	4	119	568	-0.095	0.048	-1.988
Persistence	1	46	46	0.022	0.116	0.188
	2	119	131	-0.034	0.077	-0.437
	3	119	165	-0.088	0.075	-1.18
	4	119	568	-0.121	0.055	-2.213
Academic performance	1	46	46	0.043	0.108	0.404
	2	112	162	-0.217	0.069	-3.16
	3	112	202	-0.221	0.064	-3.479
	4	112	1151	-0.188	0.051	-3.661

Interpret results with caution



- “To the degree that participation variables are incomplete, the PSM results can be suspect” (Khandker, Koolwal, & Samad, 2009, p. 63).
 - HYPE students face many challenges that we cannot capture in data.
 - They tend to be single mothers, have been out of school for several years, or have an history of legal problems and incarceration.



Sensitivity test: Complete/in progress

Gamma	Q_mh+	Q_mh-	p_mh+	p_mh-
1	0.30892	0.30892	0.378691	0.378691
1.05	0.479423	0.139872	0.315819	0.444381
1.1	0.64142	-0.02195	0.260625	0.508754
1.15	0.796327	-0.11124	0.212921	0.544285
1.2	0.944766	0.036519	0.172389	0.485434
1.25	1.08728	0.178248	0.138456	0.429264
1.3	1.22435	0.314441	0.110409	0.376593
1.35	1.3564	0.445535	0.087485	0.327967
1.4	1.48381	0.571914	0.06893	0.28369
1.45	1.6069	0.693923	0.054039	0.243865
1.5	1.72597	0.811869	0.042176	0.208433
1.55	1.8413	0.926028	0.032788	0.177216
1.6	1.95314	1.03665	0.025402	0.149949
1.65	2.06169	1.14396	0.019619	0.12632
1.7	2.16716	1.24816	0.015112	0.105986
1.75	2.26972	1.34945	0.011612	0.088597
1.8	2.36956	1.44798	0.008905	0.073812
1.85	2.46682	1.54391	0.006816	0.061305
1.9	2.56163	1.6374	0.005209	0.050774
1.95	2.65413	1.72856	0.003976	0.041944
2	2.74444	1.81752	0.003031	0.034568

Sensitivity test: Persistence

Gamma	Q_mh+	Q_mh-	p_mh+	p_mh-
1	1.71919	1.71919	0.04279	0.04279
1.05	1.90224	1.54415	0.02857	0.061276
1.1	2.07337	1.3738	0.019069	0.084751
1.15	2.23718	1.21122	0.012637	0.112905
1.2	2.39429	1.05571	0.008326	0.14555
1.25	2.54526	0.906676	0.00546	0.182289
1.3	2.69058	0.763585	0.003566	0.222557
1.35	2.83068	0.625971	0.002322	0.265667
1.4	2.96593	0.493421	0.001509	0.310858
1.45	3.09669	0.365566	0.000978	0.357344
1.5	3.22326	0.242077	0.000634	0.40436
1.55	3.34591	0.122655	0.00041	0.45119
1.6	3.46489	0.007034	0.000265	0.497194
1.65	3.58044	-0.10503	0.000172	0.541823
1.7	3.69275	-0.06149	0.000111	0.524513
1.75	3.80202	0.043759	0.000072	0.482548
1.8	3.90841	0.14604	0.000046	0.441945
1.85	4.01208	0.245527	0.00003	0.403024
1.9	4.11318	0.342372	0.00002	0.366035
1.95	4.21184	0.436719	0.000013	0.331158
2	4.30819	0.528697	8.20E-06	0.298508

Sensitivity test: Academic performance

Gamma	Q_mh+	Q_mh-	p_mh+	p_mh-
1	1.58757	1.58757	0.056191	0.056191
1.05	1.76236	1.42075	0.039004	0.077695
1.1	1.92563	1.25824	0.027075	0.104152
1.15	2.08191	1.10314	0.018675	0.134982
1.2	2.23181	0.954795	0.012814	0.169841
1.25	2.37585	0.81262	0.008754	0.208218
1.3	2.51451	0.676115	0.00596	0.249484
1.35	2.64818	0.544834	0.004046	0.292934
1.4	2.77725	0.418381	0.002741	0.337834
1.45	2.90202	0.296405	0.001854	0.38346
1.5	3.0228	0.178591	0.001252	0.42913
1.55	3.13985	0.064654	0.000845	0.474225
1.6	3.25341	-0.04566	0.00057	0.518209
1.65	3.36368	-0.13576	0.000385	0.553995
1.7	3.47088	-0.03241	0.000259	0.512928
1.75	3.57517	0.06794	0.000175	0.472917
1.8	3.67672	0.165468	0.000118	0.434288
1.85	3.77568	0.260334	0.00008	0.397303
1.9	3.87219	0.352684	0.000054	0.362163
1.95	3.96637	0.442653	0.000036	0.329008
2	4.05835	0.530367	0.000025	0.297929

Key Findings

- Important aspects of the differences between HYPE and other students were not captured in the administrative or the neighborhood data.
- Our results may lack face validity in terms of program evaluation
 - Our conceptualization of success is at odds with the goals that would constitute success for the HYPE program.
 - HYPE is committed to individual learning plans
 - Not the ‘model route’ through post-secondary education to which our dependent variables, and their measurement, correspond.



Recommendations

- Additional data collection and tracking of students' progress is the key for program and service assessment and improvement
- Quantitative methods alone are not sufficient for measuring the impact of a program such as HYPE due to the diversity of the student population and data limitations, regardless of our best effort in matching the HYPE group to a comparable control group.
- The Ontario Government and Ontario's Colleges should continue to invest in programs and services such as HYPE to improve accessibility for, and success of, students from groups typically under-represented in PSE.



Recommendations, cont.

- Consider expanding program selection and curriculum streaming options.
 - providing exposure to a greater variety of programs should enhance students' motivation to enroll in a PSE program that interests them.
 - Program staff and mentors specifically mention the interest in trades-related programs.
- Consider establishing better-defined standards and enforcing them more stringently.
 - clarifying program expectations in conjunction with changing the intake process could serve to select students who are keener to succeed and enhance the academic component of the program.



Recommendations, cont.

- Revisit program design.
 - Fall college programs are often full when HYPE participants complete their program.
 - This often results in participants settling for admission into programs that aren't their first choice and they thus lack full motivation to participate and to succeed.
 - To the extent resources permit, it might also be possible to consider more individualized assessment at the front end of the summer experience, which could facilitate earlier intervention and referral for those experiencing greater barriers.



Quote from a HYPE Graduate

“I think when a person leaves the HYPE program they want more, they see the doors open and they see what’s possible. I think it gives people hope and a tool to work within real life. You leave as a new person with a lot you’ve learned and a lot you can teach. Because they teach you in HYPE that one person can change someone else’s life and it’s a chain”.



Q&A





Thank You

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