



# Exploring the Keys to Transformation in Postsecondary Access and Retention

**HEQCO Access and Retention Consortium**

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**See where  
experience  
takes you.**

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# Since our previous presentation:

- New model selection
- Key Findings
- Sensitivity testing
- Discussion
- Recommendations



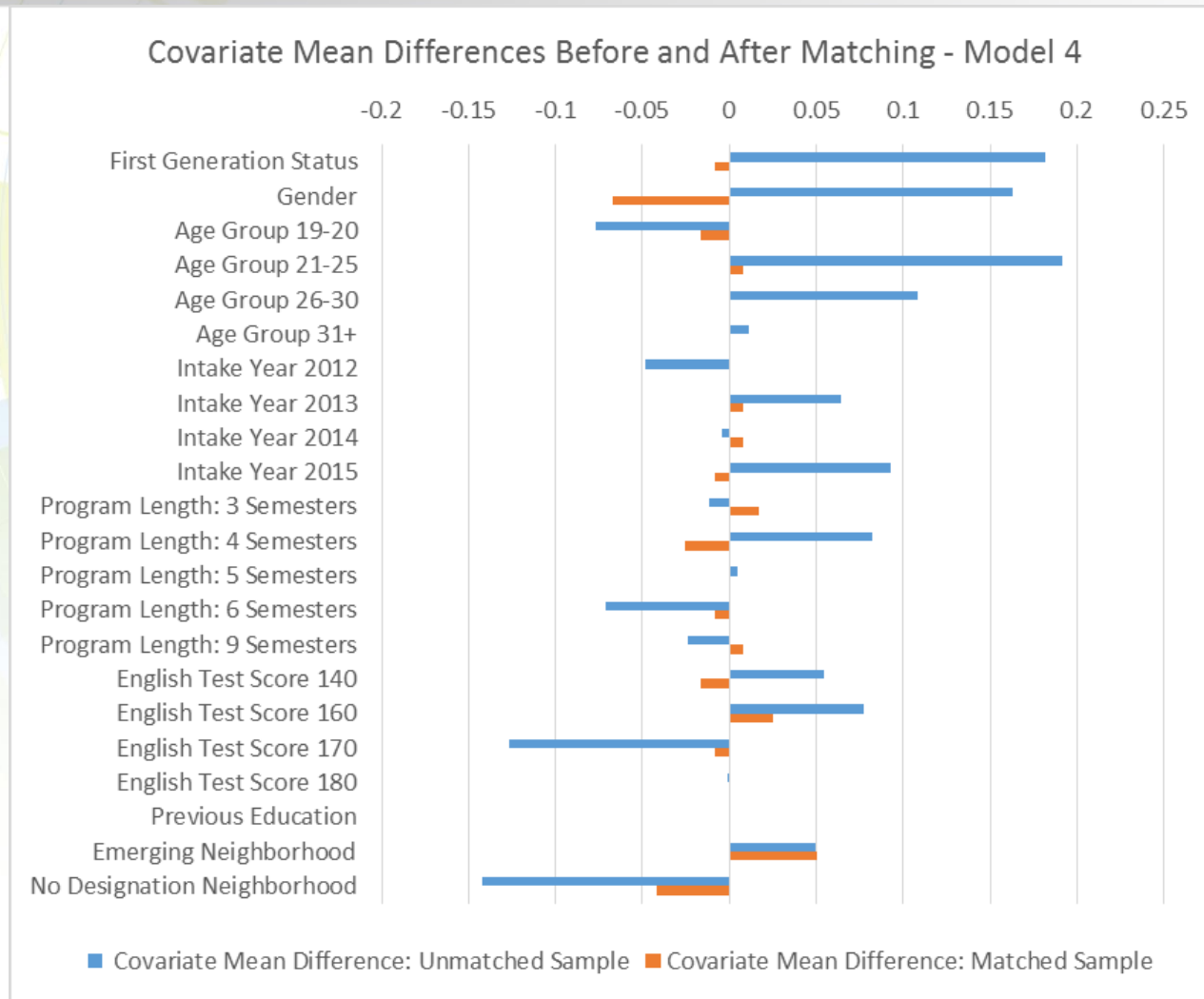
# Four Models

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 Length	YES	YES	YES	-
High School Average	YES	-	-	-
No. of Non-HYPE/No. of HYPE	5288/46	5714/119	257/62	568/119

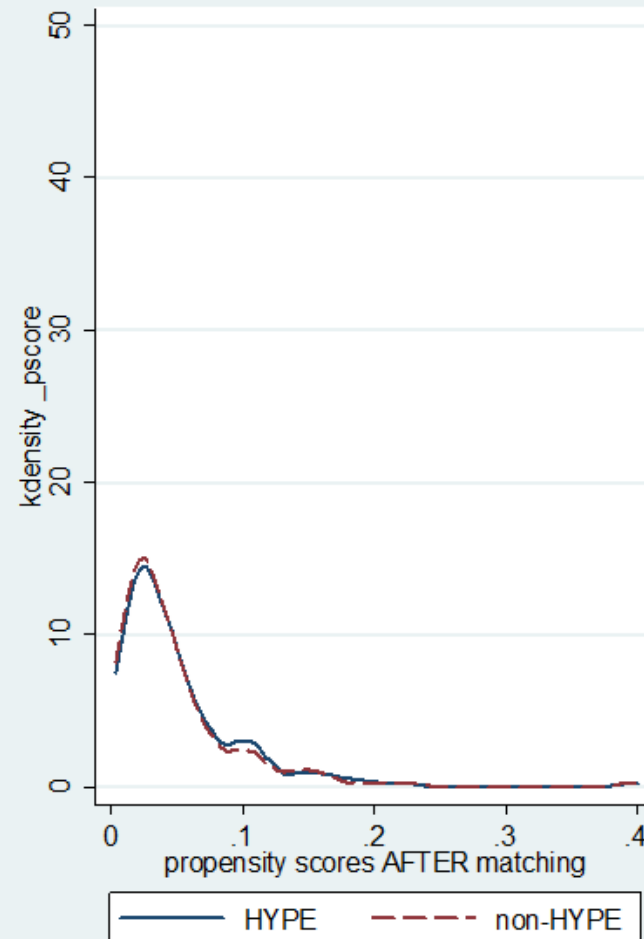
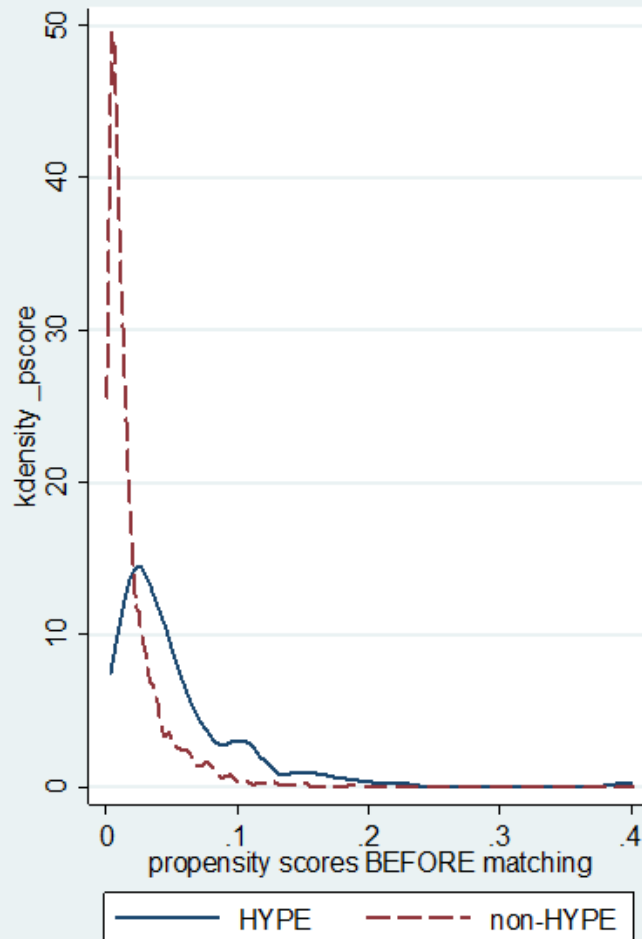
# Mean and median bias in each model

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

- 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, con't

- 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.





# Recommendations, con't

- 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.





# Research Question 1

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



## 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?



# Who participates in HYPE?

- Female students were about two times more likely than male subnets to participation in HYPE program.
- HYPE students were more likely to be mature students compared to non-HYPE students.
- First generation educational status was highly predictive of participation in HYPE as these students were two times more likely to be in the HYPE program compared to other Centennial students.
- Previous education was highly predictive of HYPE participation as having previous education was associated with lower odds of participating in HYPE.



# Impacts of participation in the HYPE program on the key indicators



Success Level

Program  
Completion



Persistence

1<sup>st</sup> year  
Persistence



Academic  
Performance

Intake GPA