

*Diagnosing the Learning Environment for Diverse Students in Introductory  
Economics: An Analysis of Relevance, Belonging, and Growth Mindsets*  
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Online Appendix

Appendix Table 1:  
Means for Student Body, Intro Econ Students, Survey Respondents, and Non-Respondents

	(1) All Students	(2) Had Not Yet Taken Intro	(3) Took Intro 17-18 or 18-19	(4) Survey Non- Respondents	(5) Survey Respondents	(6) p-value (4) vs (5)
Woman	0.506	0.547	0.379	0.277	0.452	0.000
URM student	0.199	0.212	0.158	0.175	0.145	0.403
First-gen. college student	0.189	0.202	0.186	0.164	0.202	0.324
Observations	2128	1578	425	177	248	425

The sample in column 5 contains eight respondents with missing self-reports of gender or URM status. These respondents are not included in our analysis or in subsequent tables.

Appendix Table 2: Predictors of High RBG

	(1) High RBG	(2) High RBG	(3) High RBG
Female or URM (self-report)	-0.098* (0.055)	-0.100* (0.056)	-0.106* (0.057)
First-gen college student	0.069 (0.067)	0.073 (0.068)	0.094 (0.070)
Varsity athlete	-0.021 (0.057)	-0.021 (0.057)	-0.024 (0.060)
International student	-0.086 (0.075)	-0.089 (0.076)	-0.080 (0.077)
Took Ec1 CR/NC	-0.167* (0.101)	-0.188* (0.108)	-0.166 (0.110)
Business career motivation	0.032 (0.061)	0.032 (0.063)	0.003 (0.066)
Policy career motivation	0.092 (0.063)	0.091 (0.064)	0.093 (0.066)
Likely to choose Econ as major before taking Intro	0.093 (0.070)	0.094 (0.071)	0.104 (0.073)
Cohort FE	Yes	Yes	Yes
Semester-of-college FE	No	Yes	Yes
Instructor FE	No	No	Yes
Observations	240	240	240
$R^2$	0.072	0.076	0.110

Appendix Table 3: Exposure to the VHE Program (2018-19 Cohort)

	Non-URM Men	Women and URM Students
Was aware of VHE study hall	0.86	0.94
Ever attended VHE study hall	0.37	0.57
Attended a few times or more	0.33	0.45
Attended weekly or almost weekly	0.14	0.12
N. of obs.	51	67

Appendix Table 4: Comparison of 2017-18 and 2018-19 Cohorts

	(1)	(2)	(3)
	2017-18	2018-19	p-value
Female or URM (self-reported)	0.582	0.568	0.824
First-generation college student	0.230	0.169	0.245
Varsity athlete	0.328	0.347	0.748
International student	0.139	0.161	0.638
Took course for Credit/No-Credit	0.475	0.466	0.885
Took course as first-semester first-year	0.385	0.407	0.733
Instructor 1	0.115	0.207	
Instructor 2	0.205	–	
Instructor 3	0.098	0.267	
Instructor 4	–	0.059	
Instructor 5	0.066	0.059	
Instructor 6	0.107	0.185	
Instructor 7	0.139	–	
Instructor 8	–	0.141	
Instructor 9	0.107	–	
Instructor 10	0.164	–	
Instructor 11	–	0.082	
Observations	122	118	240

Appendix Table 5: Estimated Impacts of the VHE Program  
(Treatment Effects Estimated by Matching on Observables)

	(1) Intent-to-Treat Cohort 2 vs. Cohort 1	(2) Intent-to-Treat Cohort 2 vs. Cohort 1 (Same Profs)	(3) Compliers vs. Defiers	(4) Compliers vs. Cohort 1	(5) Compliers vs. Cohort 1 (Same Profs)
High RBG	-0.000 (0.051)	0.000 (0.088)	0.174* (0.097)	0.096 (0.089)	0.043 (0.102)
Relevance index above median	-0.103 (0.092)	-0.096 (0.184)	0.324** (0.152)	0.089 (0.141)	0.095 (0.209)
Belonging index above median	0.079 (0.085)	0.103 (0.151)	0.259** (0.120)	0.282** (0.118)	0.265 (0.163)
Growth Mindset index above median	-0.109* (0.063)	0.013 (0.098)	0.179* (0.105)	-0.002 (0.096)	0.070 (0.120)
People like me can become economists.	0.049 (0.056)	-0.029 (0.087)	0.398*** (0.091)	0.168* (0.097)	0.130 (0.104)
I felt comfortable asking questions in class.	0.063 (0.064)	0.118 (0.095)	0.167** (0.081)	0.168** (0.078)	0.215** (0.108)
N. of obs.	240	134	118	179	93

Notes: Results from propensity score matching; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.001$ . Students matched on indicators for female or URM status, first-generation college student, varsity athlete, international student, taking the course in first semester of college, and taking the course as Credit/No-credit (i.e., no letter grade). See text for further detail regarding differences in sample across columns. Column 1 uses the entire sample of students from both cohorts (academic years 2017-18 and 2018-19). Column 2 uses only the sample of students who took the course from an instructor who taught it in 2017-18 and 2018-19. Column 3 compares students who attended the VHE Study Hall at least once in 2018-19 (“Compliers”) to those in 2018-19 who did not attend (“Defiers”). Column 4 compares compliers to similar students in Cohort 1. Column 5 compares compliers to similar students in the first cohort, but restricts the sample to those with an instructor who taught the course in both years.