

# Assignment 3

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## 1 Balance Table

Table 1: **Balance Table**

	Control	Treatment	Difference
Academic Quality	0.515	0.466	0.049
Athletic Quality	0.424	0.551	-0.127**
Near Big Market	0.360	0.700	-0.340***

**Notes:** This table shows whether or not there is a balance between control and treatment groups.

The balance table shows that the control and treatment groups are not, in fact, balanced. There are significant differences between the groups in athletic quality and being near a big market. Here, we see that treatment schools may systematically have higher athletic quality and are closer to a big market than control schools.

Furthermore, given the collinearity between being a top ranked basketball program and having a high athletic quality, using athletic quality in an OLS regression would have selection bias.

## 2 Propensity Scores

Table 2: **Effect on Being a Top Ranked Basketball Program**

	(1)
	Propensity Score Model
Ranked 2017	
Academic Quality	-0.884 (-1.13)
Athletic Quality	1.964* (2.44)
Near Big Market	1.615*** (3.52)
Constant	-1.378* (-2.14)
Observations	100

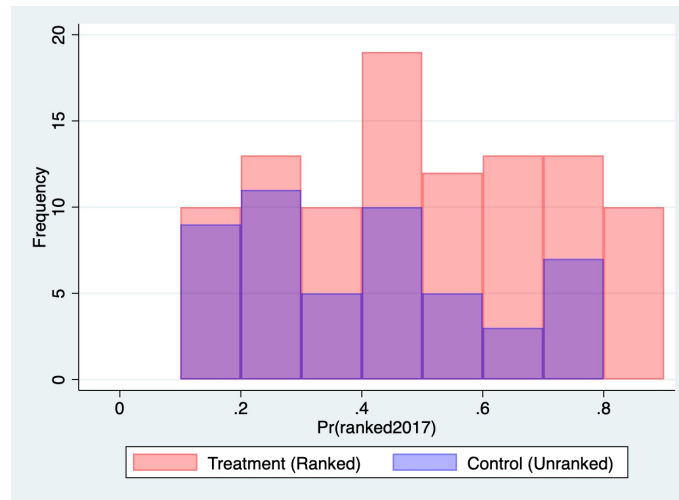
*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

**Notes:** This table shows how each of the covariates affect the probability of being a top ranked basketball program. Whereas academic quality is not significant, having a higher athletic quality and being closer to a big market are associated with having a higher probability of being a top ranked basketball program.

### 3 Stacked Histogram

Figure 1: **Overlap between Ranked/Unranked Schools**



**Notes:** There is overlap between propensity scores of around 0.1 to 0.8. There are no treatment schools with propensity scores below 0.1 or above 0.9, and there are no control schools with propensity scores below 0.1 or above 0.8.

## 4 Propensity Score Model

	(1)
	Effect of Being Ranked on Alumni Donations
Ranked 2017	500.6*** (1806.97)
Academic Quality	99.05*** (57.37)
Athletic Quality	52.45*** (13.77)
Near Big Market	1001.7*** (320.09)
block=1	0 (.)
block=2	0.445 (0.56)
block=3	-0.623 (-0.66)
block=4	0.223 (0.20)
block=5	-0.313 (-0.25)
block=6	-0.478 (-0.31)
block=7	-1.364 (-0.67)
block=8	-1.523 (-0.68)
block=9	-2.258 (-0.87)
block=10	-2.049 (-0.75)
block=11	-1.782

	(-0.62)
block=12	-1.330 (-0.43)
block=13	-1.667 (-0.51)
block=14	-2.084 (-0.58)
block=15	-2.329 (-0.62)
block=16	-3.192 (-0.81)
block=17	-2.762 (-0.66)
block=18	-2.837 (-0.64)
block=19	-2.391 (-0.51)
block=20	-2.522 (-0.50)
block=21	-2.920 (-0.56)
block=22	-3.671 (-0.65)
block=23	-3.586 (-0.61)
block=24	-4.066 (-0.65)
block=25	-4.597 (-0.67)
Constant	0.118 (0.15)
Observations	100

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*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

**Notes:** This table contains a regression showing the effect of the predicted probability of being a top ranked basketball program on alumni donations. Here, we see that being ranked in 2017 is associated with a \$500,000 increase in alumni donations in 2018 relative to being unranked.