Q4.1

> # Summary statistics

> ps\_balance <- bal.tab(match\_data, un = TRUE, vars = "prop\_score")

> print(ps\_balance)

Balance Measures

Type Diff.Un Diff.Adj

distance Distance 0.5413 0.0005

student\_communicate Binary 0.2485 -0.0000

student\_PubAff Binary -0.0026 -0.0012

student\_Newspaper Contin. -0.2209 -0.0047

parent\_Govt4All Contin. 0.0111 -0.0396

Sample sizes

Control Treated

All 451. 803

Matched (ESS) 133.25 803

Matched (Unweighted) 261. 803

Unmatched 190. 0

>

> ## All 4 covariates have standardized mean difference of p-score ≤ .1.

> matched\_data <- match.data(match\_data)

> att\_model <- lm(student\_ppnscal ~ college + student\_communicate + student\_PubAff + student\_Newspaper + parent\_Govt4All, data = matched\_data)

> att\_summary <- summary(att\_model)

> print(att\_summary)

Call:

lm(formula = student\_ppnscal ~ college + student\_communicate +

student\_PubAff + student\_Newspaper + parent\_Govt4All, data = matched\_data)

Residuals:

Min 1Q Median 3Q Max

-3.2704 -0.9768 -0.2022 0.9314 5.0737

Coefficients:

Estimate Std. Error t value Pr(>|t|)

(Intercept) 0.84273 0.28290 2.979 0.00296 \*\*

college 0.72413 0.10934 6.623 0.0000000000559 \*\*\*

student\_communicate 2.29364 0.09819 23.360 < 0.0000000000000002 \*\*\*

student\_PubAff 0.08846 0.20807 0.425 0.67081

student\_Newspaper -0.05044 0.03567 -1.414 0.15762

parent\_Govt4All 0.12396 0.05699 2.175 0.02984 \*

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Signif. codes: 0 ‘\*\*\*’ 0.001 ‘\*\*’ 0.01 ‘\*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 1.511 on 1058 degrees of freedom

Multiple R-squared: 0.3899, Adjusted R-squared: 0.387

F-statistic: 135.2 on 5 and 1058 DF, p-value: < 0.00000000000000022

> att\_estimate <- coef(att\_summary)["college", "Estimate"]

> print(paste("Estimated att for college:", att\_estimate))

[1] "Estimated att for college: 0.724134700683421"

Q4.2

> nrow(above\_average\_balance)

[1] 5725