

# Appendix

```
library(haven)
library(sandwich)
library(stargazer)
library(ggplot2)
library(car)
library(knitr)
library(plyr)
library(lfe)
library(plm)
library(gtools)
library(pander)

afghan <- read_dta("~/Documents/Stats2/pivotproject/afghandata.dta")

#rename variables

afghan <- rename(afghan, c("f07_hh_id"= "hh_id",
  "f07_heads_child_cnt" = "heads_child",
  "f07_girl_cnt" = "girl",
  "f07_age_head_cnt" = "age_head",
  "f07_yrs_ed_head_cnt" = "yrs_ed_head",
  "f07_jeribs_cnt" = "jeribs",
  "f07_num_sheep_cnt" = "num_sheep",
  "f07_duration_village_cnt" = "duration_village",
  "f07_farsi_cnt" = "farsi",
  "f07_tajik_cnt" = "tajik",
  "f07_farmer_cnt" = "farmer",
  "f07_num_ppl_hh_cnt" = "num_ppl_hh",
  "f07_test_observed" = "test_observed",
  "f07_formal_school" = "formal_school",
  "f07_nearest_scl" = "nearest_scl",

  # non-matching new names#
  "f07_age_cnt" = "age_child",
  "f07_both_norma_total" = "test_score_normalized"))

#age by gender

afghan$age_girl <- afghan$age_child*afghan$girl
afghan$age_girl[afghan$age_girl == 0] <- NA
afghan$age_boy <- afghan$age_child* !afghan$girl
afghan$age_boy[afghan$age_boy == 0] <- NA

attach(afghan)

# Create Balance Table create data frame of only the variables of interest
remove <- c("hh_id", "observation_id")
varlist <- colnames(afghan[, !names(afghan) %in% remove])
balance_variables <- afghan[, !colnames(afghan) %in% remove]

# generate counts
```

```

n_ctrl <- apply(balance_variables[balance_variables$treatment == 0, ], 2, function(x) length(which(!is.na(x))))
n_trt <- apply(balance_variables[balance_variables$treatment == 1, ], 2, function(x) length(which(!is.na(x))))

# generate table
balancetable <- cbind(n_ctrl, n_trt)
# drop treatment, test score, cluster rows
balancetable <- balancetable[!rownames(balancetable) == "treatment", ]
balancetable <- balancetable[!rownames(balancetable) == "test_score_normalized", ]
balancetable <- balancetable[!rownames(balancetable) == "clustercode", ]

# run t.tests, skipping treatment[14]
balance_tests <- lapply(varlist[c(1:13, 16:18, 20:21)], function(x) {
  t.test(as.formula(paste(x, "treatment", sep = "~")), data = balance_variables,
    alternative = "two.sided", mu = 0, paired = FALSE, var.equal = FALSE,
    conf.level = 0.95)
})

# extract and adjust p vals
balance_test_pvals <- t(sapply(balance_tests, function(x) {
  c(mean_ctrl = unname(x$estimate[1]), mean_trt = unname(x$estimate[2]), diff_means = unname(x$estimate[3]),
    unname(x$estimate[1]), p.value = p.adjust(x$p.value, method = "bonferroni",
    n = length(x)))
}))

balance_test_pvals <- data.frame(balance_test_pvals, stringsAsFactors = FALSE)
balance_test_pvals[] <- lapply(balance_test_pvals[], function(x) as.numeric(as.character(x)))
balancetable <- cbind(balancetable, balance_test_pvals)
balancetable <- round(balancetable, 3)
# Show table

```

```
kable(balancetable, caption = "Balance Table")
```

Table 1: Balance Table

	n_ctrl	n_trt	mean_ctrl	mean_trt	diff_means	p.value
heads_child	730	830	0.911	0.927	0.016	1.000
girl	730	830	0.456	0.478	0.022	1.000
age_child	730	830	8.321	8.322	0.001	1.000
age_head	730	830	40.219	40.090	-0.129	1.000
yrs_ed_head	730	830	3.101	3.531	0.431	0.165
jeribs	730	830	1.510	1.498	-0.011	1.000
num_sheep	730	830	6.404	9.586	3.181	0.000
duration_village	730	830	27.662	30.172	2.509	0.014
farsi	730	830	0.205	0.210	0.004	1.000
tajik	730	830	0.204	0.239	0.034	0.914
farmer	730	830	0.729	0.707	-0.022	1.000
num_ppl_hh	730	830	7.905	8.741	0.835	0.000
test_observed	730	830	0.925	0.925	0.001	1.000
chagcharan	730	830	0.429	0.663	0.234	0.000
formal_school	730	830	0.264	0.731	0.467	0.000
nearest_scl	730	830	3.149	2.881	-0.268	0.000
age_girl	333	397	8.327	8.332	0.005	1.000
age_boy	397	433	8.315	8.312	-0.003	1.000

```
# Attrition summary stats
sum_list <- list(afghan$test_observed, afghan$test_observed[treatment == 1],
  afghan$test_observed[treatment == 0])
n <- sapply(sum_list, function(x) length(which(!is.na(x))))
mean <- sapply(sum_list, mean, na.rm = T)
sd <- sapply(sum_list, sd, na.rm = T)
sum_table <- cbind(n, mean, sd)
sum_table <- round(sum_table, digits = 3)
rownames(sum_table) <- c("% Test Taken - All", "% Test Taken - Treatment", "% Test Taken - Control")
kable(sum_table, caption = "Summary Table")
```

Table 2: Summary Table

	n	mean	sd
% Test Taken - All	1560	0.925	0.263
% Test Taken - Treatment	830	0.925	0.263
% Test Taken - Control	730	0.925	0.264

```
# creating a dataset of only the attritted
afghanattrition <- afghan[!complete.cases(afghan), ]

# comparisons of treatment and control for attritted only

# omits test_observed[13], treatment[14], clustercode[15], and
# test_score[19]
attrition_by_treatment <- lapply(varlist[c(1:12, 16:18, 20:21)], function(x) {
  t.test(as.formula(paste(x, "treatment", sep = "~")), data = afghanattrition,
```

```

    alternative = "two.sided", mu = 0, paired = FALSE, var.equal = FALSE,
    conf.level = 0.95)
})

# create table
attrition_table <- t(sapply(attrition_by_treatment, function(x) {
  c(x$data.name, mean_crtl = unname(x$estimate[1]), mean_trt = unname(x$estimate[2]),
    diff_means = unname(x$estimate[2]) - unname(x$estimate[1]), p.value = p.adjust(x$p.value,
    method = "bonferroni", n = length(x)))
}))
rownames(attrition_table) <- attrition_table[, 1]
attrition_table <- attrition_table[, -c(1)]
attrition_table <- data.frame(attrition_table, stringsAsFactors = FALSE)
attrition_table[] <- lapply(attrition_table, function(x) as.numeric(as.character(x)))
rownames(attrition_table) <- varlist[c(1:12, 16:18, 20:21)]
kable(attrition_table, caption = "Attrition Table")

```

Table 3: Attrition Table

	mean_crtl	mean_trt	diff_means	p.value
heads_child	0.9109589	0.9265060	0.0155471	1.0000000
girl	0.4561644	0.4783133	0.0221489	1.0000000
age_child	8.3205479	8.3216867	0.0011388	1.0000000
age_head	40.2191781	40.0903614	-0.1288166	1.0000000
yrs_ed_head	3.1006849	3.5313253	0.4306404	0.1648415
jeribs	1.5095890	1.4981928	-0.0113963	1.0000000
num_sheep	6.4041096	9.5855422	3.1814326	0.0000010
duration_village	27.6623288	30.1716867	2.5093580	0.0137177
farsi	0.2054795	0.2096386	0.0041591	1.0000000
tajik	0.2041096	0.2385542	0.0344446	0.9137745
farmer	0.7287671	0.7072289	-0.0215382	1.0000000
num_ppl_hh	7.9054795	8.7409639	0.8354844	0.0000056
chagcharan	0.4287671	0.6626506	0.2338835	0.0000000
formal_school	0.2643836	0.7313253	0.4669417	0.0000000
nearest_scl	3.1492138	2.8811876	-0.2680262	0.0000229
age_girl	8.3273273	8.3324937	0.0051664	1.0000000
age_boy	8.3148615	8.3117783	-0.0030832	1.0000000

```

kable(round(cor(afghan[, c("formal_school", "nearest_scl", "heads_child", "girl",
  "age_child", "age_head", "yrs_ed_head", "jeribs", "num_sheep", "duration_village",
  "farsi", "tajik", "farmer", "num_ppl_hh")]), digits = 2))

```

No two independent variables have correlation greater than 0.35.

```

# Modelling enrollment

r1 <- lm(formal_school ~ nearest_scl, data = afghan)
r2 <- lm(formal_school ~ nearest_scl + girl * age_child + age_head + num_sheep +
  jeribs + yrs_ed_head + heads_child + duration_village + num_ppl_hh + tajik +
  farsi + farmer + chagcharan, data = afghan)
r3 <- lm(formal_school ~ nearest_scl + girl * age_child + age_head + num_sheep +
  jeribs + yrs_ed_head + heads_child + duration_village + num_ppl_hh + tajik +
  farsi + farmer + as.factor(clustercode), data = afghan)

```

```

robust_se1 <- sqrt(diag(vcovHC(r1, type = "HC1")))
Trobust_se1 <- summary(r1, robust = T)$coefficients[, 2]

robust_se2 <- sqrt(diag(vcovHC(r2, type = "HC1")))
robust_se3 <- sqrt(diag(vcovHC(r3, type = "HC1")))

p1 <- glm(formal_school ~ nearest_scl, data = afghan, family = binomial(link = "probit"))
p2 <- glm(formal_school ~ nearest_scl + girl * age_child + age_head + num_sheep +
  jeribs + yrs_ed_head + heads_child + duration_village + num_ppl_hh + tajik +
  farsi + farmer + chagcharan, data = afghan, family = binomial(link = "probit"))
p3 <- glm(formal_school ~ nearest_scl + girl * age_child + age_head + num_sheep +
  jeribs + yrs_ed_head + heads_child + duration_village + num_ppl_hh + tajik +
  farsi + farmer + as.factor(clustercode), data = afghan, family = binomial(link = "probit"))

# display models
stargazer(r2, r3, omit.stat = c("f", "ser", "aic", "ll"), omit = "clustercode",
  omit.labels = "clustercode fixed effects?", se = list(robust_se2, robust_se3),
  title = "Linear OLS model", intercept.bottom = FALSE, header = FALSE, summary = FALSE)

stargazer(p2, p3, omit.stat = c("f", "ser", "aic", "ll"), omit = "clustercode",
  omit.labels = "clustercode fixed effects?", title = "Probit model", intercept.bottom = FALSE,
  header = FALSE, summary = FALSE)

# compare predictions
plot(predict(r2, type = "response"), predict(p2, type = "response"), xlab = "linear model",
  ylab = "probit model", main = "Chart 1: Comparing probit and linear models")
abline(a = 0, b = 1, col = "red")

```

**Chart 1: Comparing probit and linear models**

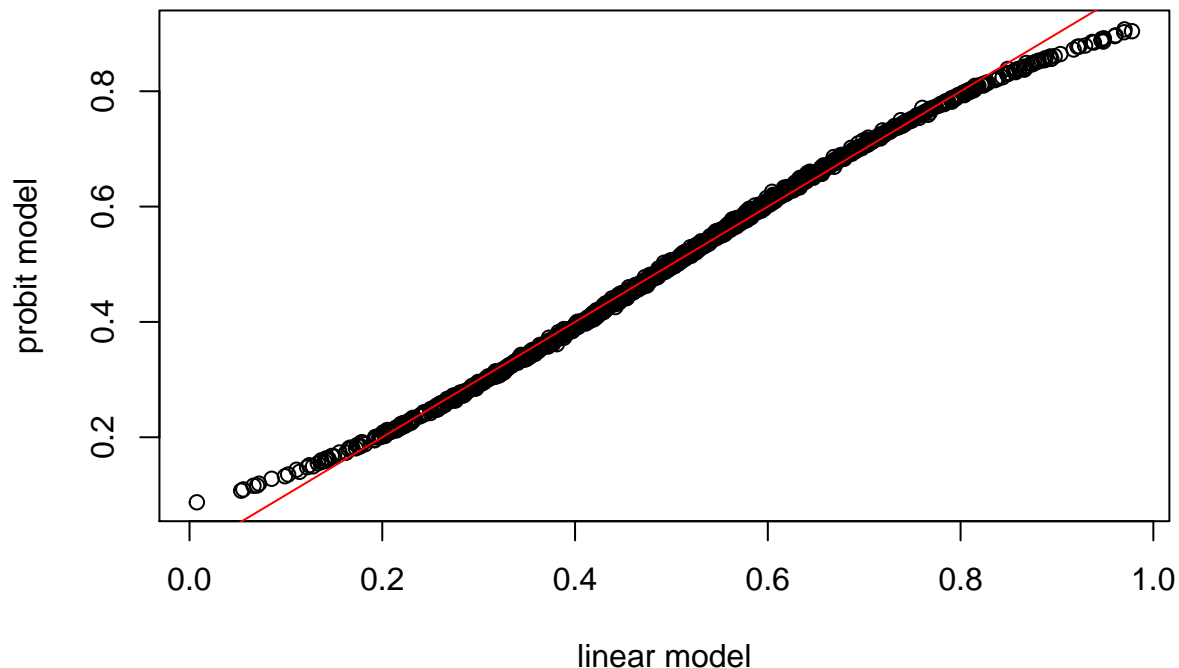


Table 4: Linear OLS model

	<i>Dependent variable:</i>	
	formal_school	
	(1)	(2)
Constant	0.135 (0.114)	0.365*** (0.122)
nearest_scl	−0.051*** (0.010)	−0.018* (0.011)
girl	0.067 (0.123)	0.031 (0.111)
age_child	0.061*** (0.010)	0.059*** (0.009)
age_head	−0.003*** (0.001)	−0.002 (0.001)
num_sheep	0.003*** (0.001)	0.001 (0.001)
jeribs	−0.008 (0.006)	0.009* (0.005)
yrs_ed_head	0.005 (0.004)	0.002 (0.003)
heads_child	0.041 (0.047)	−0.007 (0.039)
duration_village	0.0005 (0.001)	−0.001 (0.001)
num_ppl_hh	0.004 (0.004)	−0.001 (0.003)
tajik	0.059* (0.030)	0.042 (0.027)
farsi	−0.011 (0.031)	0.001 (0.027)
farmer	−0.055* (0.028)	−0.042* (0.025)
chagcharan	0.213*** (0.025)	
girl:age_child	−0.022 (0.015)	−0.018 (0.013)
clustercode fixed effects?	No	Yes
Observations	6 1,560	1,560
R <sup>2</sup>	0.121	0.340
Adjusted R <sup>2</sup>	0.113	0.329

Notes:

\*p &lt; 0.1; \*\*p &lt; 0.05; \*\*\*p &lt; 0.01

Table 5: Probit model

	<i>Dependent variable:</i>	
	formal_school	
	(1)	(2)
Constant	−1.004*** (0.315)	−0.589 (0.397)
nearest_scl	−0.146*** (0.030)	−0.072* (0.038)
girl	0.205 (0.344)	0.195 (0.384)
age_child	0.168*** (0.028)	0.209*** (0.032)
age_head	−0.008*** (0.003)	−0.006 (0.004)
num_sheep	0.009*** (0.003)	0.002 (0.004)
jeribs	−0.021 (0.016)	0.039** (0.019)
yrs_ed_head	0.013 (0.010)	0.008 (0.011)
heads_child	0.124 (0.128)	−0.039 (0.144)
duration_village	0.001 (0.002)	−0.003 (0.003)
num_ppl_hh	0.010 (0.011)	−0.004 (0.012)
tajik	0.162* (0.084)	0.163* (0.095)
farsi	−0.029 (0.086)	0.006 (0.098)
farmer	−0.151* (0.078)	−0.153* (0.088)
chagcharan	0.576*** (0.070)	
girl:age_child	−0.062 (0.041)	−0.073 (0.046)
clustercode fixed effects?	No	Yes
Observations	7 1,560	1,560
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01	

```

# F test for language, wealth
linearHypothesis(p2, c("tajik = 0", "farsi = 0"), test = "F")

## Linear hypothesis test
##
## Hypothesis:
## tajik = 0
## farsi = 0
##
## Model 1: restricted model
## Model 2: formal_school ~ nearest_scl + girl * age_child + age_head + num_sheep +
##          jeribs + yrs_ed_head + heads_child + duration_village + num_ppl_hh +
##          tajik + farsi + farmer + chagcharan
##
##   Res.Df Df       F Pr(>F)
## 1    1546
## 2    1544  2 2.2928 0.1013

linearHypothesis(p2, c("num_sheep = 0", "jeribs = 0"), test = "F")

## Linear hypothesis test
##
## Hypothesis:
## num_sheep = 0
## jeribs = 0
##
## Model 1: restricted model
## Model 2: formal_school ~ nearest_scl + girl * age_child + age_head + num_sheep +
##          jeribs + yrs_ed_head + heads_child + duration_village + num_ppl_hh +
##          tajik + farsi + farmer + chagcharan
##
##   Res.Df Df       F Pr(>F)
## 1    1546
## 2    1544  2 3.8298 0.02192 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

# modelling test scores

regschoolontest <- lm(test_score_normalized ~ formal_school + nearest_scl +
  girl * age_child + age_head + num_sheep + jeribs + yrs_ed_head + heads_child +
  duration_village + num_ppl_hh + tajik + farsi + farmer, data = afghan)

regschoolontestFE <- lm(test_score_normalized ~ formal_school + heads_child +
  age_child * girl + as.factor(hh_id))

robust_se.sumregschoolontest <- sqrt(diag(vcovHC(regschoolontest, type = "HC1")))
robust_se.sumregschoolontestFE <- sqrt(diag(vcovHC(regschoolontestFE, type = "HC1")))

stargazer(regschoolontest, regschoolontestFE, se = list(robust_se.sumregschoolontest,
  robust_se.sumregschoolontestFE), omit.stat = c("f", "ser", "aic", "ll"),
  omit = "hh_id", omit.labels = "HH ID Fixed Effects?", title = "Test Scores",
  intercept.bottom = FALSE, header = FALSE, summary = FALSE)

```



Table 6: Test Scores

	<i>Dependent variable:</i>	
	test_score_normalized	
	(1)	(2)
Constant	−2.825*** (0.190)	−1.113 (0.926)
formal_school	0.878*** (0.045)	0.838*** (0.095)
nearest_scl	−0.010 (0.017)	
girl	0.364* (0.197)	0.174 (0.302)
age_child:girl		−0.076** (0.035)
age_child	0.315*** (0.017)	0.341*** (0.025)
age_head	0.003* (0.002)	
num_sheep	0.006*** (0.002)	
jeribs	0.004 (0.010)	
yrs_ed_head	0.033*** (0.006)	
heads_child	0.014 (0.084)	0.080 (0.243)
duration_village	−0.002 (0.001)	
num_ppl_hh	0.005 (0.006)	
tajik	0.069 (0.050)	
farsi	0.034 (0.054)	
farmer	0.001 (0.049)	
girl:age_child	−0.099*** (0.023)	
HH ID Fixed Effects?	No	Yes
Observations	1,443	1,443

```

# treatment effects by gender enroll~ treatment test score ~ treatment
treat_enrollment <- (lm(test_score_normalized ~ treatment, data = afghan))
treat_enrollment_girl <- (lm(test_score_normalized ~ treatment + treatment *
  girl, data = afghan))
treat_enrollment.adv <- (lm(test_score_normalized ~ treatment + nearest_scl +
  girl * age_child + age_head + num_sheep + jeribs + yrs_ed_head + heads_child +
  duration_village + num_ppl_hh + tajik + farsi + farmer + chagcharan, data = afghan))
treat_enrollment_girl.adv <- (lm(test_score_normalized ~ treatment + treatment *
  girl + nearest_scl + girl * age_child + age_head + num_sheep + jeribs +
  yrs_ed_head + heads_child + duration_village + num_ppl_hh + tajik + farsi +
  farmer + chagcharan, data = afghan))
treat_enrollment.adv_clus <- (lm(test_score_normalized ~ treatment + nearest_scl +
  girl * age_child + age_head + num_sheep + jeribs + yrs_ed_head + heads_child +
  duration_village + num_ppl_hh + tajik + farsi + farmer + as.factor(clustercode),
  data = afghan))
treat_enrollment_girl.adv_clus <- (lm(test_score_normalized ~ treatment + treatment *
  girl + nearest_scl + girl * age_child + age_head + num_sheep + jeribs +
  yrs_ed_head + heads_child + duration_village + num_ppl_hh + tajik + farsi +
  farmer + as.factor(clustercode), data = afghan))
robust_se.treat_enrollment <- sqrt(diag(vcovHC(treat_enrollment, type = "HC1")))
robust_se.treat_enrollment_girl <- sqrt(diag(vcovHC(treat_enrollment_girl, type = "HC1")))
robust_se.treat_enrollment.adv <- sqrt(diag(vcovHC(treat_enrollment.adv, type = "HC1")))
robust_se.treat_enrollment_girl.adv <- sqrt(diag(vcovHC(treat_enrollment_girl.adv,
  type = "HC1")))
robust_se.treat_enrollment.adv_clus <- sqrt(diag(vcovHC(treat_enrollment.adv_clus,
  type = "HC1")))
robust_se.treat_enrollment_girl.adv_clus <- sqrt(diag(vcovHC(treat_enrollment_girl.adv_clus,
  type = "HC1")))

stargazer(treat_enrollment, treat_enrollment_girl, treat_enrollment.adv, treat_enrollment_girl.adv,
  treat_enrollment.adv_clus, treat_enrollment_girl.adv_clus, se = list(robust_se.treat_enrollment,
  robust_se.treat_enrollment_girl, robust_se.treat_enrollment.adv, robust_se.treat_enrollment_girl,
  robust_se.treat_enrollment.adv_clus, robust_se.treat_enrollment_girl.adv_clus),
  omit = "clustercode", add.lines = list(c("Cluster Fixed Effects?", "No",
  "No", "No", "No", "Yes", "Yes")), omit.stat = c("f", "ser", "aic", "ll"),
  intercept.bottom = FALSE, header = FALSE, summary = FALSE, title = "Treatment effects by gender")

# test score ~ treatment
treat_test <- (lm(test_score_normalized ~ treatment, data = afghan))
treat_test_girl <- (lm(test_score_normalized ~ treatment + treatment * girl,
  data = afghan))
treat_test.adv <- (lm(test_score_normalized ~ treatment + nearest_scl + girl *
  age_child + age_head + num_sheep + jeribs + yrs_ed_head + heads_child +
  duration_village + num_ppl_hh + tajik + farsi + farmer + chagcharan, data = afghan))
treat_test_girl.adv <- (lm(test_score_normalized ~ treatment + treatment * girl +
  nearest_scl + girl * age_child + age_head + num_sheep + jeribs + yrs_ed_head +
  heads_child + duration_village + num_ppl_hh + tajik + farsi + farmer + chagcharan,
  data = afghan))
treat_test.adv_clus <- (lm(test_score_normalized ~ treatment + nearest_scl +
  girl * age_child + age_head + num_sheep + jeribs + yrs_ed_head + heads_child +
  duration_village + num_ppl_hh + tajik + farsi + farmer + as.factor(clustercode),
  data = afghan))
treat_test_girl.adv_clus <- (lm(test_score_normalized ~ treatment + treatment *
  girl + nearest_scl + girl * age_child + age_head + num_sheep + jeribs +

```

Table 7: Treatment effects by gender

	<i>Dependent variable:</i>					
	test_score_normalized					
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	0.006 (0.039)	0.331*** (0.057)	−2.933*** (0.209)	−2.871*** (0.208)	−2.816*** (0.227)	−2.763*** (0.227)
treatment	0.580*** (0.055)	0.462*** (0.080)	0.504*** (0.047)	0.391*** (0.066)	0.539*** (0.167)	0.440** (0.173)
nearest_scl			−0.031* (0.019)	−0.032* (0.019)	0.009 (0.022)	0.008 (0.022)
girl		−0.683*** (0.072)	0.434** (0.218)	0.313 (0.216)	0.492** (0.216)	0.375* (0.213)
treatment:girl		0.267** (0.104)		0.232*** (0.087)		0.225*** (0.085)
age_child			0.368*** (0.018)	0.368*** (0.018)	0.376*** (0.018)	0.376*** (0.018)
age_head			0.002 (0.002)	0.002 (0.002)	0.001 (0.002)	0.001 (0.002)
num_sheep			0.006*** (0.002)	0.006*** (0.002)	0.004* (0.002)	0.004* (0.002)
jeribs			0.003 (0.010)	0.003 (0.010)	0.012 (0.010)	0.013 (0.010)
yrs_ed_head			0.037*** (0.007)	0.036*** (0.007)	0.033*** (0.007)	0.033*** (0.007)
heads_child			−0.012 (0.089)	−0.013 (0.089)	0.018 (0.088)	0.017 (0.088)
duration_village			−0.003* (0.002)	−0.003* (0.001)	−0.002 (0.002)	−0.002 (0.002)
num_ppl_hh			0.001 (0.007)	0.001 (0.007)	0.005 (0.007)	0.005 (0.007)
tajik			0.098* (0.055)	0.092* (0.054)	0.099* (0.055)	0.093* (0.055)
farsi			0.012 (0.057)	0.010 (0.057)	0.013 (0.057)	0.012 (0.057)
farmer			−0.040 (0.054)	−0.038 (0.054)	−0.045 (0.053)	−0.043 (0.052)
chagcharan			0.200*** 11(0.047)	0.206*** (0.047)		
girl:age_child			−0.120*** (0.026)	−0.121*** (0.026)	−0.127*** (0.025)	−0.127*** (0.025)

```

    yrs_ed_head + heads_child + duration_village + num_ppl_hh + tajik + farsi +
    farmer + as.factor(clustercode), data = afghan))
robust_se.treat_test <- sqrt(diag(vcovHC(treat_test, type = "HC1")))
robust_se.treat_test_girl <- sqrt(diag(vcovHC(treat_test_girl, type = "HC1")))
robust_se.treat_test_adv <- sqrt(diag(vcovHC(treat_test_adv, type = "HC1")))
robust_se.treat_test_girl_adv <- sqrt(diag(vcovHC(treat_test_girl_adv, type = "HC1")))
robust_se.treat_test_adv_clus <- sqrt(diag(vcovHC(treat_test_adv_clus, type = "HC1")))
robust_se.treat_test_girl_adv_clus <- sqrt(diag(vcovHC(treat_test_girl_adv_clus,
  type = "HC1")))

stargazer(treat_test, treat_test_girl, treat_test_adv, treat_test_girl_adv,
  treat_test_adv_clus, treat_test_girl_adv_clus, se = list(robust_se.treat_test,
  robust_se.treat_test_girl, robust_se.treat_test_adv, robust_se.treat_test_girl_adv,
  robust_se.treat_test_adv_clus, robust_se.treat_test_girl_adv_clus),
  omit = "clustercode", title = "Effect of treatment on test score by gender",
  omit.stat = c("f", "ser", "aic", "ll"), intercept.bottom = FALSE, header = FALSE,
  summary = FALSE, add.lines = list(c("Cluster Fixed Effects?", "No", "No",
  "No", "No", "Yes", "Yes")))

# Local average treatment effect

q6.full <- lm(test_score_normalized ~ formal_school * treatment, data = afghan)
q6.boys <- lm(test_score_normalized ~ formal_school * treatment, data = afghan,
  subset = (afghan$girl == 0))
q6.girls <- lm(test_score_normalized ~ formal_school * treatment, data = afghan,
  subset = (afghan$girl == 1))

q6.full_se <- sqrt(diag(vcovHC(q6.full, type = "HC1")))
q6.boys_se <- sqrt(diag(vcovHC(q6.boys, type = "HC1")))
q6.girls_se <- sqrt(diag(vcovHC(q6.girls, type = "HC1")))

stargazer(q6.full, q6.boys, q6.girls, title = "Local average treatment effects",
  omit.stat = c("f", "ser", "aic", "ll"), intercept.bottom = FALSE, header = FALSE,
  summary = FALSE, se = list(q6.full_se, q6.boys_se, q6.girls_se))

```

Table 8: Effect of treatment on test score by gender

	<i>Dependent variable:</i>					
	test_score_normalized					
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	0.006 (0.039)	0.331*** (0.057)	−2.933*** (0.209)	−2.871*** (0.208)	−2.816*** (0.227)	−2.763*** (0.227)
treatment	0.580*** (0.055)	0.462*** (0.080)	0.504*** (0.047)	0.391*** (0.066)	0.539*** (0.167)	0.440** (0.173)
nearest_scl			−0.031* (0.019)	−0.032* (0.019)	0.009 (0.022)	0.008 (0.022)
girl		−0.683*** (0.072)	0.434** (0.218)	0.313 (0.216)	0.492** (0.216)	0.375* (0.213)
treatment:girl		0.267** (0.104)		0.232*** (0.087)		0.225*** (0.085)
age_child			0.368*** (0.018)	0.368*** (0.018)	0.376*** (0.018)	0.376*** (0.018)
age_head			0.002 (0.002)	0.002 (0.002)	0.001 (0.002)	0.001 (0.002)
num_sheep			0.006*** (0.002)	0.006*** (0.002)	0.004* (0.002)	0.004* (0.002)
jeribs			0.003 (0.010)	0.003 (0.010)	0.012 (0.010)	0.013 (0.010)
yrs_ed_head			0.037*** (0.007)	0.036*** (0.007)	0.033*** (0.007)	0.033*** (0.007)
heads_child			−0.012 (0.089)	−0.013 (0.089)	0.018 (0.088)	0.017 (0.088)
duration_village			−0.003* (0.002)	−0.003* (0.001)	−0.002 (0.002)	−0.002 (0.002)
num_ppl_hh			0.001 (0.007)	0.001 (0.007)	0.005 (0.007)	0.005 (0.007)
tajik			0.098* (0.055)	0.092* (0.054)	0.099* (0.055)	0.093* (0.055)
farsi			0.012 (0.057)	0.010 (0.057)	0.013 (0.057)	0.012 (0.057)
farmer			−0.040 (0.054)	−0.038 (0.054)	−0.045 (0.053)	−0.043 (0.052)
chagcharan			0.200*** 13(0.047)	0.206*** (0.047)		
girl:age_child			−0.120*** (0.026)	−0.121*** (0.026)	−0.127*** (0.025)	−0.127*** (0.025)

Table 9: Local average treatment effects

	<i>Dependent variable:</i>		
	test_score_normalized		
	(1)	(2)	(3)
Constant	−0.233*** (0.040)	−0.022 (0.067)	−0.414*** (0.044)
formal_school	0.902*** (0.085)	0.999*** (0.104)	0.370*** (0.127)
treatment	−0.080 (0.077)	−0.074 (0.131)	−0.076 (0.085)
formal_school:treatment	0.320*** (0.114)	0.165 (0.163)	0.857*** (0.155)
Observations	1,443	739	704
R <sup>2</sup>	0.268	0.235	0.326
Adjusted R <sup>2</sup>	0.267	0.232	0.323
<i>Note:</i> *p<0.1; **p<0.05; ***p<0.01			