tess_code

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Effect of Headstart participation on the chances of repetition of grade

We try to see if the childen who attend Head Start have a higher or lower probability of repeating their grade as compared to the non Head Start participants who would be eligible for HeadStart otherwise. We first take into consideration only children whose family income is below the federal poverty level. We ensure that none of the observations have *"NA"* values for the variables we are regressing on as we don't want missing values to affect our analysis. Hence, we choose observations that have non missing values for **LogInc0to3, Father_HH_0to3, MothEd, FirstBorn, Age_Moth_Birth.**

We run a logit model to see the effect of participation in Head Start on repetition of a grade. We run multiple regressions, controlling for various dependent variables and get the following results. It is important to note that the values in the table below are the odds ratio and not just the coefficients of the variables.

```
##
## Odds ratio of Head Start participants repeating a grade compared to non Head Start participants
## =================================================
##                          Dependent variable:
##                     -----------------------------
##                              repeatgrade
##                        (1)      (2)       (3)
## -------------------------------------------------
## headstart            0.997*** 1.006***  0.924**
##                      (0.182)  (0.186)   (0.425)
##
## Hispanic                      0.992***  1.036***
##                               (0.270)   (0.318)
##
## Black                         1.229***  1.096***
##                               (0.232)   (0.293)
##
## Male                                    1.627***
##                                         (0.184)
##
## MothED                        0.869***  0.873***
##                               (0.040)   (0.040)
##
## learndisability              1.278***  1.196***
##                               (0.451)   (0.456)
##
## headstart:Hispanic                       0.748
##                                         (0.600)
##
## headstart:Black                         1.265***
##                                         (0.491)
##
## Constant              0.115    0.510     0.386
```

```
##                       (0.114)    (0.502)    (0.527)
##
## -------------------------------------------------
## Observations          1,367      1,367      1,367
## Log Likelihood      -453.762   -447.080   -442.902
## Akaike Inf. Crit.    911.524    906.159    903.804
## =================================================
## Note:                   *p<0.1; **p<0.05; ***p<0.01
```

As we can see from the table above, the odds of a Head Start participant ever repeating a grade as compared to a non Head Start participant is 0.924 while controlling for other variables, and significant at 5%. This odds ratio is even lower for Hispanics who attend Headstart program, however, Black students who attend Head Start still have an odds ratio of 1.265 as compared to their non Head Start counterparts. This shows that Head Start participants in general have lower probabilities of repeating a grade as compared to non Head Start participants.

Effect of Headstart participation on the chances of reporting poor health conditions

NLSY collects data from various participants where they are asked to self report their health condition. If they report it as either Fair or Poor as opposed to good, very good and excellent, we count them as self reported Poor Health conditions. We run logit regression on the chances of a Head start participant self reporting poor health as compared to non head start participants. The table below summarizes our odds ratios.

```
##
## Odds ratio of Head Start participants reporting poor health compared to non Head Start participants
## =================================================
##                       Dependent variable:
##               -------------------------------
##                          PoorHealth
##                    (1)        (2)        (3)
## -------------------------------------------------
## headstart          0.750***   0.762***   1.116***
##                    (0.194)    (0.197)    (0.396)
##
## Hispanic                      1.003***   1.214***
##                               (0.262)    (0.309)
##
## Black                         0.889***   1.016***
##                               (0.231)    (0.285)
##
## Male                          0.551***   0.543***
##                               (0.189)    (0.189)
##
## logBW                         0.483      0.482
##                               (0.355)    (0.355)
##
## headstart:Hispanic                       0.500
##                                          (0.597)
##
## headstart:Black                          0.653
##                                          (0.478)
##
```

```
## Constant                0.137    5.711***  5.202***
##                         (0.112)   (1.686)   (1.688)
##
## -----------------------------------------------------
## Observations             1,219     1,219     1,219
## Log Likelihood         -421.094  -413.803  -413.088
## Akaike Inf. Crit.       846.189   839.607   842.175
## =====================================================
## Note:                    *p<0.1; **p<0.05; ***p<0.01
```

As we can see from above, the Head Start participants are less likely in general to report Poor health conditions as compared to non Head Start participants. However, when controlled for interactions with race, we get a white Head Start participant is 1.12 times more likely to report poor health conditions as compared to a white non Head start participant. Black and Hispanic kids however, are still less likely to report poor health conditions if they attend Head Start, although these results aren't statistically significant.

Effect of Headstart participation on being out of both school and labor force

We now look at students who graduated from high school but neither enrolled into college nor went into labor force. We measure it using an indicator variable, **Idle** which is 1 if the student doesn't enroll into college or enters labor market. By running a logit regression of this on Head start participation, we get the following results.

```
##
## Odds ratio of Head Start participants being both out of school and labor force compared to non Head S
## ================================================
##                         Dependent variable:
##                       ----------------------------
##                                  Idle
##                         (1)       (2)       (3)
## ------------------------------------------------
## headstart              0.886***  0.845***  1.095***
##                        (0.153)   (0.161)   (0.369)
##
## Hispanic                         1.995***  2.049***
##                                  (0.228)   (0.270)
##
## Black                            1.464***  1.523***
##                                  (0.211)   (0.256)
##
## Male                             0.660***  0.618***
##                                  (0.154)   (0.153)
##
## logBW                            1.036***
##                                  (0.333)
##
## hsgrad                                     0.701***
##                                            (0.162)
##
## headstart:Hispanic                         0.644
##                                            (0.484)
##
## headstart:Black                            0.822*
```

```
##                                     (0.423)
##
## Constant               0.214**    0.156     0.202
##                        (0.094)   (1.586)   (0.233)
##
## -------------------------------------------------
## Observations            1,285     1,219     1,285
## Log Likelihood        -584.788  -551.419  -574.564
## Akaike Inf. Crit.     1,173.575 1,114.837 1,165.129
## =================================================
## Note:                 *p<0.1; **p<0.05; ***p<0.01
```

The odds ratio of Head start participants being *Idle* as compared to non Head start participants, seems to follow a similar pattern as the self reported health scores. Head start participants in general are less likely than non Head Start particpants to be idle. However, when controlled for interactions with race, Hispanic and Black Head Start participants are less likely to be idle as compared to their non Head Start counterparts. White Headstart participants however, are just as likely to be idle as compared to their non Head Start counterparts.