```
      name:  <unnamed>
       log:  /Users/miguelhenry/Library/Mobile Documents/com~apple~CloudDocs/
> Personal/CONSULTING/Log Files//ffcws_ol_impdata.smcl
  log type:  smcl
 opened on:  27 Sep 2024, 22:52:02

1 .
2 . import delimited "/Users/miguelhenry/Library/Mobile Documents/com~apple~Clo
  > udDocs/Personal/CONSULTING/DLH_YA_IMPUTED.csv", clear
  (encoding automatically selected: ISO-8859-2)
  (18 vars, 4,898 obs)

3 .
4 . rename *, lower
    (all newnames==oldnames)

5 . desc                              // 4,898 and 18 vars

  Contains data
   Observations:         4,898
      Variables:            18
  ------------------------------------------------------------------------------
  Variable      Storage   Display    Value
      name         type    format    label      Variable label
  ------------------------------------------------------------------------------
  idnum           int     %8.0g                 IDNUM
  ck7edu          byte    %8.0g                 CK7EDU
  k7b3            byte    %8.0g                 K7B3
  k7b11           byte    %8.0g                 K7B11
  k7b13           byte    %8.0g                 K7B13
  k7b25a          byte    %8.0g                 K7B25A
  k7b25b          int     %8.0g                 K7B25B
  k7b34a          byte    %8.0g                 K7B34A
  k7b34b          byte    %8.0g                 K7B34B
  k7b34e          byte    %8.0g                 K7B34E
  k7b89a_1        byte    %8.0g                 K7B89A_1
  k7b94           byte    %8.0g                 K7B94
  k7c57_6         byte    %8.0g                 K7C57_6
  k7c60_2         byte    %8.0g                 K7C60_2
  k7c63_2         byte    %8.0g                 K7C63_2
  k7d37_1         byte    %8.0g                 K7D37_1
  k7d37_102       byte    %8.0g                 K7D37_102
  k7g12b          byte    %8.0g                 K7G12B
  ------------------------------------------------------------------------------
  Sorted by:
```

Note: **Dataset has changed since last saved.**

```
6 . unique idnum            // 4,898
  Number of unique values of idnum is  4898
  Number of records is  4898

7 . drop idnum

8 . missings report         // 16 variables with missing data (-9)

  Checking missings in all variables:
  1908 observations with missing values
```

	# missing
k7b3	1908
k7b11	1908
k7b13	1908
k7b25a	1908
k7b25b	1908
k7b34a	1908
k7b34b	1908
k7b34e	1908
k7b89a_1	1908
k7b94	1908
k7c57_6	1908
k7c60_2	1908
k7c63_2	1908
k7d37_1	1908
k7d37_102	1908
k7g12b	1908

```
9 . misstable summarize
```

Variable	Obs=.	Obs>.	Obs<.	Unique values	Min	Max
k7b3	**1,908**		**2,990**	8	1	8
k7b11	**1,908**		**2,990**	21	1	91
k7b13	**1,908**		**2,990**	9	1	9
k7b25a	**1,908**		**2,990**	12	1	12
k7b25b	**1,908**		**2,990**	12	2010	2022
k7b34a	**1,908**		**2,990**	2	1	2
k7b34b	**1,908**		**2,990**	2	1	2
k7b34e	**1,908**		**2,990**	2	1	2
k7b89a_1	**1,908**		**2,990**	2	0	1
k7b94	**1,908**		**2,990**	2	1	2
k7c57_6	**1,908**		**2,990**	2	0	1
k7c60_2	**1,908**		**2,990**	2	0	1
k7c63_2	**1,908**		**2,990**	2	0	1
k7d37_1	**1,908**		**2,990**	2	0	1
k7d37_102	**1,908**		**2,990**	2	0	1
k7g12b	**1,908**		**2,990**	2	1	2

```
10 .
11 . ** Dependent variable
12 . tab ck7edu              // ~39% are -6, 0.06% are -3, and 0.04% are -1
```

CK7EDU	Freq.	Percent	Cum.
-9	**1,908**	**38.95**	**38.95**
-3	**3**	**0.06**	**39.02**
-1	**2**	**0.04**	**39.06**
1	**326**	**6.66**	**45.71**
2	**1,155**	**23.58**	**69.29**
3	**1,181**	**24.11**	**93.41**
4	**323**	**6.59**	**100.00**
Total	**4,898**	**100.00**	

```
13 . // 1: Less than HS; 2: HS or equiv; 3: Some coll, tech; 4: Coll or grad
14 .
15 . drop if ck7edu==-9|ck7edu==-3|ck7edu==-1
   (1,913 observations deleted)

16 . count                          // 2,985
     2,985

17 . missings report         // no missing data

   Checking missings in all variables:
   0 observations with missing values

18 .
19 . foreach var of varlist _all {
     2. rename `var' `var'imp
     3. }
```

```
20 .
21 . ** 16 regressors
22 . global impvars "k7b3imp k7b11imp k7b13imp k7b25aimp k7b25bimp k7b34aimp k7b
   > 34bimp k7b34eimp k7b89a_1imp k7b94imp k7c57_6imp k7c60_2imp k7c63_2imp k7d3
   > 7_1imp k7d37_102imp k7g12bimp"

23 . foreach var of varlist $impvars {
     2. tab `var'
     3. }
```

K7B3	Freq.	Percent	Cum.
1	**28**	**0.94**	**0.94**
2	**120**	**4.02**	**4.96**
3	**445**	**14.91**	**19.87**
4	**738**	**24.72**	**44.59**
5	**224**	**7.50**	**52.09**
6	**715**	**23.95**	**76.05**
7	**455**	**15.24**	**91.29**
8	**260**	**8.71**	**100.00**
Total	**2,985**	**100.00**	

K7B11	Freq.	Percent	Cum.
1	**2,374**	**79.53**	**79.53**
2	**20**	**0.67**	**80.20**
3	**32**	**1.07**	**81.27**
4	**2**	**0.07**	**81.34**
5	**30**	**1.01**	**82.35**
6	**10**	**0.34**	**82.68**
7	**19**	**0.64**	**83.32**
8	**70**	**2.35**	**85.66**
9	**36**	**1.21**	**86.87**
10	**21**	**0.70**	**87.57**
11	**11**	**0.37**	**87.94**
12	**20**	**0.67**	**88.61**
13	**18**	**0.60**	**89.21**
14	**21**	**0.70**	**89.92**
15	**29**	**0.97**	**90.89**
16	**7**	**0.23**	**91.12**
17	**1**	**0.03**	**91.16**
18	**3**	**0.10**	**91.26**
19	**9**	**0.30**	**91.56**
20	**18**	**0.60**	**92.16**
91	**234**	**7.84**	**100.00**

Total	**2,985**	**100.00**

K7B13	Freq.	Percent	Cum.
1	**18**	**0.60**	**0.60**
2	**39**	**1.31**	**1.91**
3	**146**	**4.89**	**6.80**
4	**273**	**9.15**	**15.95**
5	**795**	**26.63**	**42.58**
6	**475**	**15.91**	**58.49**
7	**844**	**28.27**	**86.77**
8	**380**	**12.73**	**99.50**
9	**15**	**0.50**	**100.00**
Total	**2,985**	**100.00**	

K7B25A	Freq.	Percent	Cum.
1	**17**	**0.57**	**0.57**
2	**8**	**0.27**	**0.84**
3	**14**	**0.47**	**1.31**
4	**26**	**0.87**	**2.18**
5	**759**	**25.43**	**27.60**
6	**1,990**	**66.67**	**94.27**
7	**78**	**2.61**	**96.88**
8	**50**	**1.68**	**98.56**
9	**13**	**0.44**	**98.99**
10	**10**	**0.34**	**99.33**
11	**5**	**0.17**	**99.50**
12	**15**	**0.50**	**100.00**
Total	**2,985**	**100.00**	

K7B25B	Freq.	Percent	Cum.
2010	**1**	**0.03**	**0.03**
2012	**2**	**0.07**	**0.10**
2013	**1**	**0.03**	**0.13**
2014	**3**	**0.10**	**0.23**
2015	**12**	**0.40**	**0.64**
2016	**283**	**9.48**	**10.12**
2017	**762**	**25.53**	**35.64**
2018	**1,581**	**52.96**	**88.61**
2019	**264**	**8.84**	**97.45**
2020	**47**	**1.57**	**99.03**

2021	**24**	**0.80**	**99.83**
2022	**5**	**0.17**	**100.00**
Total	**2,985**	**100.00**	

K7B34A	Freq.	Percent	Cum.
1	**1,833**	**61.41**	**61.41**
2	**1,152**	**38.59**	**100.00**
Total	**2,985**	**100.00**	

K7B34B	Freq.	Percent	Cum.
1	**1,874**	**62.78**	**62.78**
2	**1,111**	**37.22**	**100.00**
Total	**2,985**	**100.00**	

K7B34E	Freq.	Percent	Cum.
1	**910**	**30.49**	**30.49**
2	**2,075**	**69.51**	**100.00**
Total	**2,985**	**100.00**	

K7B89A_1	Freq.	Percent	Cum.
0	**2,187**	**73.27**	**73.27**
1	**798**	**26.73**	**100.00**
Total	**2,985**	**100.00**	

K7B94	Freq.	Percent	Cum.
1	**394**	**13.20**	**13.20**
2	**2,591**	**86.80**	**100.00**
Total	**2,985**	**100.00**	

K7C57_6	Freq.	Percent	Cum.
0	**2,903**	**97.25**	**97.25**
1	**82**	**2.75**	**100.00**
Total	**2,985**	**100.00**	

K7C60_2	Freq.	Percent	Cum.
0	**1,598**	**53.53**	**53.53**
1	**1,387**	**46.47**	**100.00**
Total	**2,985**	**100.00**	

K7C63_2	Freq.	Percent	Cum.
0	**1,846**	**61.84**	**61.84**
1	**1,139**	**38.16**	**100.00**
Total	**2,985**	**100.00**	

K7D37_1	Freq.	Percent	Cum.
0	**2,611**	**87.47**	**87.47**
1	**374**	**12.53**	**100.00**
Total	**2,985**	**100.00**	

K7D37_102	Freq.	Percent	Cum.
0	**2,868**	**96.08**	**96.08**
1	**117**	**3.92**	**100.00**
Total	**2,985**	**100.00**	

K7G12B	Freq.	Percent	Cum.
1	**1,624**	**54.41**	**54.41**
2	**1,361**	**45.59**	**100.00**
Total	**2,985**	**100.00**	

```
24 . //ssc install r2o
25 . ologit ck7eduimp $impvars

   Iteration 0:  Log likelihood = -3631.9093
   Iteration 1:  Log likelihood = -2428.0962
   Iteration 2:  Log likelihood = -2259.1718
   Iteration 3:  Log likelihood = -2253.8749
   Iteration 4:  Log likelihood = -2253.8684
   Iteration 5:  Log likelihood = -2253.8684

   Ordered logistic regression                             Number of obs =   2,98
   > 5
                                                           LR chi2(16)   = 2756.0
   > 8
                                                           Prob > chi2   =  0.000
   > 0
   Log likelihood = -2253.8684                             Pseudo R2     =  0.379
   > 4

   ------------------------------------------------------------------------------
   > -
      ck7eduimp | Coefficient  Std. err.      z    P>|z|     [95% conf. interval
   > ]
   -------------+----------------------------------------------------------------
   > -
        k7b3imp |   .5206353   .0319879    16.28   0.000     .4579402    .583330
   > 3
       k7b11imp |   -.014163   .0017525    -8.08   0.000    -.0175978   -.010728
   > 2
       k7b13imp |   .3128271    .031719     9.86   0.000      .250659    .374995
   > 2
      k7b25aimp |  -.0926127   .0417581    -2.22   0.027    -.1744571   -.010768
   > 3
      k7b25bimp |  -.3498785   .0445126    -7.86   0.000    -.4371215   -.262635
   > 4
      k7b34aimp |  -.0571778   .1275142    -0.45   0.654     -.307101    .192745
   > 3
      k7b34bimp |  -.2706475    .128666    -2.10   0.035    -.5228282   -.018466
   > 8
      k7b34eimp |   .0156159   .0977383     0.16   0.873    -.1759476    .207179
   > 4
    k7b89a_1imp |   .8276006   .1011952     8.18   0.000     .6292616     1.0259
   > 4
       k7b94imp |  -.3081801   .1247724    -2.47   0.014    -.5527294   -.063630
   > 8
     k7c57_6imp |  -1.534685   .2507995    -6.12   0.000    -2.026243   -1.04312
```

```
> 7
  k7c60_2imp │   1.552661   .1232422    12.60   0.000      1.31111    1.79421
> 1
  k7c63_2imp │   1.385489   .1347073    10.29   0.000     1.121467     1.6495
> 1
  k7d37_1imp │   .4791346   .1218968     3.93   0.000     .2402213     .71804
> 8
k7d37_102imp │  -.1695622   .2045481    -0.83   0.407    -.5704692    .231344
> 7
   k7g12bimp │   .0443462    .081515     0.54   0.586    -.1154203    .204112
> 7
─────────────┼────────────────────────────────────────────────────────────────
> —
       /cut1 │  -705.5544    89.8182                     -881.5948   -529.513
> 9
       /cut2 │  -701.8323   89.80598                     -877.8488   -525.815
> 8
       /cut3 │  -697.3317   89.78742                     -873.3118   -521.351
> 6
─────────────┼────────────────────────────────────────────────────────────────
> —
```

```
26 . r2o

   Marginal distribution for cases in the estimation sample.

     CK7EDU │      Freq.     Percent        Cum.
────────────┼──────────────────────────────────
          1 │         326       10.92       10.92
          2 │       1,155       38.69       49.61
          3 │       1,181       39.56       89.18
          4 │         323       10.82      100.00
────────────┼──────────────────────────────────
      Total │       2,985      100.00

   Total       Model       Error       Lacy        Bias Adj.
   Variation   Variation   Variation   r2o         r2o

   0.443769    0.203107    0.240662    0.45769     0.45476
```

```
27 .
28 . foreach var of varlist k7b34aimp k7b34bimp k7b34eimp k7b94imp k7g12bimp {
  2. recode `var' 1=0 2=1
  3. tab `var'
  4. }
(2,985 changes made to k7b34aimp)
```

K7B34A	Freq.	Percent	Cum.
0	1,833	61.41	61.41
1	1,152	38.59	100.00
Total	2,985	100.00	

```
(2,985 changes made to k7b34bimp)
```

K7B34B	Freq.	Percent	Cum.
0	1,874	62.78	62.78
1	1,111	37.22	100.00
Total	2,985	100.00	

```
(2,985 changes made to k7b34eimp)
```

K7B34E	Freq.	Percent	Cum.
0	910	30.49	30.49
1	2,075	69.51	100.00
Total	2,985	100.00	

```
(2,985 changes made to k7b94imp)
```

K7B94	Freq.	Percent	Cum.
0	394	13.20	13.20
1	2,591	86.80	100.00
Total	2,985	100.00	

```
(2,985 changes made to k7g12bimp)
```

K7G12B	Freq.	Percent	Cum.
0	1,624	54.41	54.41
1	1,361	45.59	100.00
Total	2,985	100.00	

```
29 .
30 . ologit ck7eduimp $impvars

   Iteration 0:  Log likelihood = -3631.9093
   Iteration 1:  Log likelihood = -2428.0962
   Iteration 2:  Log likelihood = -2259.1718
   Iteration 3:  Log likelihood = -2253.8749
   Iteration 4:  Log likelihood = -2253.8684
   Iteration 5:  Log likelihood = -2253.8684

   Ordered logistic regression                             Number of obs =   2,98
   > 5
                                                           LR chi2(16)   = 2756.0
   > 8
                                                           Prob > chi2   =  0.000
   > 0
   Log likelihood = -2253.8684                             Pseudo R2     =  0.379
   > 4

   ─────────────┬────────────────────────────────────────────────────────────────
   > ─
      ck7eduimp │ Coefficient  Std. err.      z    P>|z|     [95% conf. interval
   > ]
   ─────────────┼────────────────────────────────────────────────────────────────
   > ─
        k7b3imp │   .5206353   .0319879    16.28   0.000     .4579402    .583330
   > 3
       k7b11imp │   -.014163   .0017525    -8.08   0.000    -.0175978   -.010728
   > 2
       k7b13imp │   .3128271    .031719     9.86   0.000      .250659    .374995
   > 2
      k7b25aimp │  -.0926127   .0417581    -2.22   0.027    -.1744571   -.010768
   > 3
      k7b25bimp │  -.3498785   .0445126    -7.86   0.000    -.4371215   -.262635
   > 4
      k7b34aimp │  -.0571778   .1275142    -0.45   0.654     -.307101    .192745
   > 3
      k7b34bimp │  -.2706475    .128666    -2.10   0.035    -.5228282   -.018466
   > 8
      k7b34eimp │   .0156159   .0977383     0.16   0.873    -.1759476    .207179
   > 4
    k7b89a_1imp │   .8276006   .1011952     8.18   0.000     .6292616     1.0259
   > 4
       k7b94imp │  -.3081801   .1247724    -2.47   0.014    -.5527294   -.063630
   > 8
     k7c57_6imp │  -1.534685   .2507995    -6.12   0.000    -2.026243   -1.04312
```

```
> 7
  k7c60_2imp │   1.552661   .1232422    12.60   0.000      1.31111    1.79421
> 1
  k7c63_2imp │   1.385489   .1347073    10.29   0.000     1.121467     1.6495
> 1
  k7d37_1imp │   .4791346   .1218968     3.93   0.000     .2402213     .71804
> 8
k7d37_102imp │  -.1695622   .2045481    -0.83   0.407    -.5704692    .231344
> 7
   k7g12bimp │   .0443462    .081515     0.54   0.586    -.1154203    .204112
> 7
─────────────┼────────────────────────────────────────────────────────────────
> —
       /cut1 │  -704.9783   89.84381                     -881.0689   -528.887
> 7
       /cut2 │  -701.2563   89.83161                      -877.323   -525.189
> 5
       /cut3 │  -696.7556   89.81306                      -872.786   -520.725
> 3
─────────────┼────────────────────────────────────────────────────────────────
> —
```

31 . r2o

Marginal distribution for cases in the estimation sample.

CK7EDU	Freq.	Percent	Cum.
1	326	10.92	10.92
2	1,155	38.69	49.61
3	1,181	39.56	89.18
4	323	10.82	100.00
Total	2,985	100.00	

Total Variation	Model Variation	Error Variation	Lacy r2o	Bias Adj. r2o
0.443769	0.203107	0.240662	0.45769	0.45476

```
32 .
33 . ologit ck7eduimp k7b3imp k7b11imp k7b13imp k7b25aimp k7b25bimp i.k7b34aimp
   > i.k7b34bimp i.k7b34eimp k7b89a_1imp i.k7b94imp k7c57_6imp k7c60_2imp k7c63_
   > 2imp k7d37_1imp k7d37_102imp i.k7g12bimp

   Iteration 0:  Log likelihood = -3631.9093
   Iteration 1:  Log likelihood = -2428.0962
   Iteration 2:  Log likelihood = -2259.1718
   Iteration 3:  Log likelihood = -2253.8749
   Iteration 4:  Log likelihood = -2253.8684
   Iteration 5:  Log likelihood = -2253.8684

   Ordered logistic regression                             Number of obs =   2,98
   > 5
                                                           LR chi2(16)   = 2756.0
   > 8
                                                           Prob > chi2   =  0.000
   > 0
   Log likelihood = -2253.8684                             Pseudo R2     =  0.379
   > 4

   ──────────────┬──────────────────────────────────────────────────────────────
   > ─
      ck7eduimp │ Coefficient  Std. err.      z    P>|z|     [95% conf. interval
   > ]
   ──────────────┼──────────────────────────────────────────────────────────────
   > ─
        k7b3imp │   .5206353   .0319879    16.28   0.000     .4579402    .583330
   > 3
       k7b11imp │   -.014163   .0017525    -8.08   0.000    -.0175978   -.010728
   > 2
       k7b13imp │   .3128271    .031719     9.86   0.000      .250659    .374995
   > 2
      k7b25aimp │  -.0926127   .0417581    -2.22   0.027    -.1744571   -.010768
   > 3
      k7b25bimp │  -.3498785   .0445126    -7.86   0.000    -.4371215   -.262635
   > 4
    1.k7b34aimp │  -.0571778   .1275142    -0.45   0.654     -.307101    .192745
   > 3
    1.k7b34bimp │  -.2706475    .128666    -2.10   0.035    -.5228282   -.018466
   > 8
    1.k7b34eimp │   .0156159   .0977383     0.16   0.873    -.1759476    .207179
   > 4
    k7b89a_1imp │   .8276006   .1011952     8.18   0.000     .6292616     1.0259
   > 4
     1.k7b94imp │  -.3081801   .1247724    -2.47   0.014    -.5527294   -.063630
```

```
> 8
  k7c57_6imp │  -1.534685   .2507995    -6.12   0.000    -2.026243   -1.04312
> 7
  k7c60_2imp │   1.552661   .1232422    12.60   0.000      1.31111    1.79421
> 1
  k7c63_2imp │   1.385489   .1347073    10.29   0.000     1.121467     1.6495
> 1
  k7d37_1imp │   .4791346   .1218968     3.93   0.000     .2402213     .71804
> 8
k7d37_102imp │  -.1695622   .2045481    -0.83   0.407    -.5704692    .231344
> 7
 1.k7g12bimp │   .0443462    .081515     0.54   0.586    -.1154203    .204112
> 7
─────────────┼────────────────────────────────────────────────────────────────
> —
       /cut1 │  -704.9783   89.84381                     -881.0689   -528.887
> 7
       /cut2 │  -701.2563   89.83161                      -877.323   -525.189
> 5
       /cut3 │  -696.7556   89.81306                      -872.786   -520.725
> 3
─────────────┼────────────────────────────────────────────────────────────────
> —
```

```
34 . estat ic

   Akaike's information criterion and Bayesian information criterion

──────────────┬─────────────────────────────────────────────────────────────────
       Model  │          N   ll(null)  ll(model)      df        AIC        BIC
──────────────┼─────────────────────────────────────────────────────────────────
           .  │      2,985  -3631.909  -2253.868      19   4545.737   4659.763
──────────────┴─────────────────────────────────────────────────────────────────
   Note: BIC uses N = number of observations. See [R] IC note.
```

```
35 . margins, dydx(*)

Average marginal effects                                  Number of obs = 2,98
> 5
Model VCE: OIM

dy/dx wrt: k7b3imp k7b11imp k7b13imp k7b25aimp k7b25bimp 1.k7b34aimp
           1.k7b34bimp 1.k7b34eimp k7b89a_1imp 1.k7b94imp k7c57_6imp
           k7c60_2imp k7c63_2imp k7d37_1imp k7d37_102imp 1.k7g12bimp

1._predict: Pr(ck7eduimp==1), predict(pr outcome(1))
2._predict: Pr(ck7eduimp==2), predict(pr outcome(2))
3._predict: Pr(ck7eduimp==3), predict(pr outcome(3))
4._predict: Pr(ck7eduimp==4), predict(pr outcome(4))

─────────────┬──────────────────────────────────────────────────────────────
> ─
             │            Delta-method
             │      dy/dx   std. err.      z    P>|z|     [95% conf. interval
> ]
─────────────┼──────────────────────────────────────────────────────────────
> ─
k7b3imp      │
    _predict │
           1 │  -.0356912   .0023273   -15.34   0.000    -.0402527   -.031129
> 7
           2 │  -.0196727   .0017931   -10.97   0.000    -.0231871   -.016158
> 3
           3 │   .0211216   .0016149    13.08   0.000     .0179565    .024286
> 8
           4 │   .0342423   .0021767    15.73   0.000     .0299761    .038508
> 4
─────────────┼──────────────────────────────────────────────────────────────
> ─
k7b11imp     │
    _predict │
           1 │   .0009709   .0001168     8.31   0.000     .0007419    .001199
> 9
           2 │   .0005352   .0000829     6.45   0.000     .0003726    .000697
> 7
           3 │  -.0005746   .0000784    -7.33   0.000    -.0007282   -.000420
> 9
           4 │  -.0009315   .0001173    -7.94   0.000    -.0011613   -.000701
> 7
─────────────┼──────────────────────────────────────────────────────────────
> ─
```

```
k7b13imp     |
    _predict |
           1 |  -.0214453    .002162    -9.92   0.000    -.0256827   -.017207
> 9
           2 |  -.0118205   .0015522    -7.62   0.000    -.0148627   -.008778
> 3
           3 |   .0126911    .001494     8.49   0.000     .0097628    .015619
> 3
           4 |   .0205747   .0020975     9.81   0.000     .0164637    .024685
> 7
-------------+----------------------------------------------------------------
> —
k7b25aimp    |
    _predict |
           1 |   .0063489   .0028644     2.22   0.027     .0007348     .01196
> 3
           2 |   .0034995   .0015945     2.19   0.028     .0003743    .006624
> 6
           3 |  -.0037572   .0016965    -2.21   0.027    -.0070823   -.000432
> 1
           4 |  -.0060912   .0027519    -2.21   0.027    -.0114849   -.000697
> 4
-------------+----------------------------------------------------------------
> —
k7b25bimp    |
    _predict |
           1 |   .0239853   .0030903     7.76   0.000     .0179285    .030042
> 1
           2 |   .0132205   .0019209     6.88   0.000     .0094556    .016985
> 3
           3 |  -.0141942   .0019369    -7.33   0.000    -.0179905   -.010397
> 9
           4 |  -.0230116   .0029457    -7.81   0.000     -.028785   -.017238
> 1
-------------+----------------------------------------------------------------
> —
0.k7b34aimp  |  (base outcome)
-------------+----------------------------------------------------------------
> —
1.k7b34aimp  |
    _predict |
           1 |   .0039188   .0087356     0.45   0.654    -.0132027    .021040
> 4
           2 |   .0021829   .0049203     0.44   0.657    -.0074608    .011826
> 5
           3 |  -.0023618   .0053592    -0.44   0.659    -.0128657    .008142
```

> 1						
	4	-.0037399	.0082954	-0.45	0.652	-.0199986	.012518
> 9						
> —						
0.k7b34bimp	(base outcome)					
> —						
1.k7b34bimp						
_predict						
	1	.0185424	.0087941	2.11	0.035	.0013062	.035778
> 6						
	2	.0106668	.0053943	1.98	0.048	.0000942	.021239
> 3						
	3	-.0119245	.0061906	-1.93	0.054	-.0240578	.000208
> 9						
	4	-.0172848	.0079675	-2.17	0.030	-.0329008	-.001668
> 7						
> —						
0.k7b34eimp	(base outcome)					
> —						
1.k7b34eimp						
_predict						
	1	-.0010726	.0067262	-0.16	0.873	-.0142557	.012110
> 5						
	2	-.000586	.0036451	-0.16	0.872	-.0077303	.006558
> 3						
	3	.0006318	.0039477	0.16	0.873	-.0071056	.008369
> 1						
	4	.0010268	.0064235	0.16	0.873	-.011563	.013616
> 6						
> —						
k7b89a_1imp						
_predict						
	1	-.0567347	.0071547	-7.93	0.000	-.0707577	-.042711
> 7						
	2	-.0312716	.0043576	-7.18	0.000	-.0398124	-.022730
> 9						
	3	.0335749	.0046918	7.16	0.000	.0243791	.042770
> 8						
	4	.0544314	.0064698	8.41	0.000	.0417508	.06711
> 2						

```
> —
0.k7b94imp    │  (base outcome)
──────────────┼──────────────────────────────────────────────────────────────
> —
1.k7b94imp    │
    _predict  │
           1  │   .0198503   .0075507     2.63   0.009     .0050511    .034649
> 4
           2  │    .013654   .0063815     2.14   0.032     .0011466    .026161
> 4
           3  │  -.0125676      .0052    -2.42   0.016    -.0227594   -.002375
> 8
           4  │  -.0209367   .0087105    -2.40   0.016     -.038009   -.003864
> 5
──────────────┼──────────────────────────────────────────────────────────────
> —
k7c57_6imp    │
    _predict  │
           1  │   .1052076   .0169648     6.20   0.000     .0719572     .13845
> 8
           2  │   .0579894   .0108736     5.33   0.000     .0366776    .079301
> 3
           3  │  -.0622606   .0108052    -5.76   0.000    -.0834384   -.041082
> 8
           4  │  -.1009364   .0166363    -6.07   0.000    -.1335429   -.068329
> 9
──────────────┼──────────────────────────────────────────────────────────────
> —
k7c60_2imp    │
    _predict  │
           1  │  -.1064399   .0089708   -11.87   0.000    -.1240224   -.088857
> 3
           2  │  -.0586687   .0055707   -10.53   0.000    -.0695871   -.047750
> 3
           3  │   .0629899   .0050722    12.42   0.000     .0530485    .072931
> 2
           4  │   .1021187   .0085595    11.93   0.000     .0853424     .11889
> 5
──────────────┼──────────────────────────────────────────────────────────────
> —
k7c63_2imp    │
    _predict  │
           1  │  -.0949797    .009872    -9.62   0.000    -.1143284    -.07563
> 1
           2  │  -.0523519   .0055908    -9.36   0.000    -.0633097   -.041394
> 1
```

```
          3 |   .0562079   .0058173     9.66   0.000     .0448061    .067609
> 6
          4 |   .0911238     .00895    10.18   0.000     .0735821    .108665
> 4
------------+------------------------------------------------------------------
> -
k7d37_1imp  |
    _predict |
          1 |  -.0328462    .008396    -3.91   0.000    -.0493021   -.016390
> 3
          2 |  -.0181045   .0048461    -3.74   0.000    -.0276027   -.008606
> 3
          3 |    .019438   .0052253     3.72   0.000     .0091965    .029679
> 5
          4 |   .0315127   .0079181     3.98   0.000     .0159936    .047031
> 9
------------+------------------------------------------------------------------
> -
k7d37_102imp|
    _predict |
          1 |    .011624   .0140168     0.83   0.407    -.0158485    .039096
> 5
          2 |   .0064071    .007755     0.83   0.409    -.0087925    .021606
> 6
          3 |  -.006879   .0083108    -0.83   0.408    -.0231679      .0094
> 1
          4 |  -.0111521   .0134539    -0.83   0.407    -.0375212    .015216
> 9
------------+------------------------------------------------------------------
> -
0.k7g12bimp |  (base outcome)
------------+------------------------------------------------------------------
> -
1.k7g12bimp |
    _predict |
          1 |  -.0030375   .0055776    -0.54   0.586    -.0139693    .007894
> 3
          2 |  -.0016792   .0030973    -0.54   0.588    -.0077498    .004391
> 5
          3 |   .0017989   .0033068     0.54   0.586    -.0046824    .008280
> 1
          4 |   .0029178   .0053668     0.54   0.587     -.007601    .013436
> 6
------------+------------------------------------------------------------------
> -
Note: dy/dx for factor levels is the discrete change from the base level.
```

```
36 . ologit ck7eduimp k7b3imp k7b11imp k7b13imp k7b25aimp k7b25bimp i.k7b34aimp
   > i.k7b34bimp i.k7b34eimp k7b89a_1imp i.k7b94imp k7c57_6imp k7c60_2imp k7c63_
   > 2imp k7d37_1imp k7d37_102imp i.k7g12bimp, or

   Iteration 0:  Log likelihood = -3631.9093
   Iteration 1:  Log likelihood = -2428.0962
   Iteration 2:  Log likelihood = -2259.1718
   Iteration 3:  Log likelihood = -2253.8749
   Iteration 4:  Log likelihood = -2253.8684
   Iteration 5:  Log likelihood = -2253.8684

   Ordered logistic regression                             Number of obs =   2,98
   > 5
                                                           LR chi2(16)   = 2756.0
   > 8
                                                           Prob > chi2   =  0.000
   > 0
   Log likelihood = -2253.8684                             Pseudo R2     =  0.379
   > 4

   ──────────────┬──────────────────────────────────────────────────────────────
   > ─
      ck7eduimp │ Odds ratio   Std. err.      z    P>|z|     [95% conf. interval
   > ]
   ──────────────┼──────────────────────────────────────────────────────────────
   > ─
        k7b3imp │   1.683097   .0538387    16.28   0.000     1.580814    1.79199
   > 6
       k7b11imp │   .9859368   .0017279    -8.08   0.000     .9825561    .989329
   > 2
       k7b13imp │   1.367285   .0433689     9.86   0.000     1.284872    1.45498
   > 4
      k7b25aimp │   .9115464   .0380645    -2.22   0.027     .8399129    .989289
   > 4
      k7b25bimp │   .7047737   .0313713    -7.86   0.000     .6458929    .769022
   > 2
    1.k7b34aimp │   .9444261   .1204277    -0.45   0.654     .7355763    1.21257
   > 4
    1.k7b34bimp │   .7628854   .0981574    -2.10   0.035     .5928415    .981702
   > 6
    1.k7b34eimp │   1.015738   .0992765     0.16   0.873     .8386619    1.23020
   > 3
    k7b89a_1imp │   2.287823   .2315168     8.18   0.000     1.876225    2.78971
   > 6
     1.k7b94imp │    .734783   .0916806    -2.47   0.014     .5753772    .938351
```

```
> 4
  k7c57_6imp │   .2155236   .0540532    -6.12   0.000     .1318299    .352351
> 2
  k7c60_2imp │   4.724023   .5821991    12.60   0.000     3.710291    6.01472
> 7
  k7c63_2imp │   3.996778   .5383951    10.29   0.000     3.069354    5.20442
> 9
  k7d37_1imp │   1.614677   .1968239     3.93   0.000      1.27153    2.05042
> 7
k7d37_102imp │   .8440342   .1726456    -0.83   0.407     .5652602    1.26029
> 4
 1.k7g12bimp │   1.045344   .0852113     0.54   0.586     .8909916    1.22643
> 6
─────────────┼────────────────────────────────────────────────────────────────
> −
       /cut1 │  -704.9783   89.84381                     -881.0689   -528.887
> 7
       /cut2 │  -701.2563   89.83161                      -877.323   -525.189
> 5
       /cut3 │  -696.7556   89.81306                      -872.786   -520.725
> 3
─────────────┼────────────────────────────────────────────────────────────────
> −
Note: Estimates are transformed only in the first equation to odds ratios.

37 .
38 . ologit ck7eduimp k7b3imp k7b11imp k7b13imp k7b25aimp i.k7b25bimp i.k7b34aim
   > p i.k7b34bimp i.k7b34eimp k7b89a_1imp i.k7b94imp k7c57_6imp k7c60_2imp k7c6
   > 3_2imp k7d37_1imp k7d37_102imp i.k7g12bimp

Iteration 0:  Log likelihood = -3631.9093
Iteration 1:  Log likelihood = -2421.0461
Iteration 2:  Log likelihood = -2247.5008
Iteration 3:  Log likelihood = -2241.7128
Iteration 4:  Log likelihood = -2241.7045
Iteration 5:  Log likelihood = -2241.7045

Ordered logistic regression                     Number of obs =   2,98
> 5
                                                LR chi2(26)   = 2780.4
> 1
                                                Prob > chi2   =  0.000
> 0
Log likelihood = -2241.7045                     Pseudo R2     =  0.382
> 8
```

```
-------------+------------------------------------------------------------
> -
   ck7eduimp | Coefficient  Std. err.      z    P>|z|     [95% conf. interval
> ]
-------------+------------------------------------------------------------
> -
     k7b3imp |   .5183947   .0320967    16.15   0.000     .4554863    .581303
> 1
    k7b11imp |  -.0139154   .0017567    -7.92   0.000    -.0173584   -.010472
> 3
    k7b13imp |    .313205   .0318261     9.84   0.000      .250827    .375582
> 9
   k7b25aimp |  -.0967504   .0420887    -2.30   0.022    -.1792427    -.01425
> 8
             |
   k7b25bimp |
        2012 |   .7089544   2.499511     0.28   0.777    -4.189997    5.60790
> 6
        2013 |  -2.806604   2.950397    -0.95   0.341    -8.589276    2.97606
> 7
        2014 |   1.054869   2.397046     0.44   0.660    -3.643255    5.75299
> 3
        2015 |   2.018629   2.173028     0.93   0.353    -2.240428    6.27768
> 5
        2016 |    1.60678   2.089119     0.77   0.442    -2.487818    5.70137
> 8
        2017 |   1.414955    2.08723     0.68   0.498     -2.67594     5.5058
> 5
        2018 |   .7780474   2.086634     0.37   0.709    -3.311681    4.86777
> 6
        2019 |   .6083664   2.090385     0.29   0.771    -3.488714    4.70544
> 6
        2020 |    .036845   2.108916     0.02   0.986    -4.096555    4.17024
> 4
        2021 |   .1563496   2.132802     0.07   0.942    -4.023865    4.33656
> 4
        2022 |   .2380887     2.2705     0.10   0.916     -4.21201    4.68818
> 7
             |
 1.k7b34aimp |  -.0590415   .1278105    -0.46   0.644    -.3095454    .191462
> 5
 1.k7b34bimp |  -.2693466   .1290289    -2.09   0.037    -.5222387   -.016454
> 5
 1.k7b34eimp |   .0009117   .0981155     0.01   0.993    -.1913911    .193214
> 4
 k7b89a_1imp |   .8204173   .1022945     8.02   0.000     .6199238    1.02091
```

```
> 1
  1.k7b94imp │  -.3076637    .125359    -2.45   0.014    -.5533629   -.061964
> 5
  k7c57_6imp │   -1.53794   .2520628    -6.10   0.000    -2.031974   -1.04390
> 6
  k7c60_2imp │   1.564543   .1250377    12.51   0.000     1.319473    1.80961
> 2
  k7c63_2imp │   1.390391   .1358051    10.24   0.000     1.124218    1.65656
> 4
  k7d37_1imp │   .4868627   .1223429     3.98   0.000      .247075    .726650
> 4
k7d37_102imp │  -.1493548   .2051643    -0.73   0.467    -.5514693    .252759
> 8
 1.k7g12bimp │   .0473653   .0822735     0.58   0.565    -.1138878    .208618
> 4
─────────────┼────────────────────────────────────────────────────────────────
> —
       /cut1 │   1.898687   2.116138                     -2.248867    6.04624
> 1
       /cut2 │   5.649937   2.119239                      1.496304    9.80356
> 9
       /cut3 │   10.16602   2.128121                      5.994982    14.3370
> 6
─────────────┴────────────────────────────────────────────────────────────────
> —
```

```
39 . estat ic

Akaike's information criterion and Bayesian information criterion

─────────────┬─────────────────────────────────────────────────────────────────
       Model │          N   ll(null)  ll(model)      df        AIC         BIC
─────────────┼─────────────────────────────────────────────────────────────────
           . │      2,985  -3631.909  -2241.705      29   4541.409    4715.448
─────────────┴─────────────────────────────────────────────────────────────────
Note: BIC uses N = number of observations. See [R] IC note.
```

```
40 . margins, dydx(*)

  Average marginal effects                                  Number of obs = 2,98
  > 5
  Model VCE: OIM

  dy/dx wrt: k7b3imp k7b11imp k7b13imp k7b25aimp 2012.k7b25bimp
             2013.k7b25bimp 2014.k7b25bimp 2015.k7b25bimp 2016.k7b25bimp
             2017.k7b25bimp 2018.k7b25bimp 2019.k7b25bimp 2020.k7b25bimp
             2021.k7b25bimp 2022.k7b25bimp 1.k7b34aimp 1.k7b34bimp
             1.k7b34eimp k7b89a_1imp 1.k7b94imp k7c57_6imp k7c60_2imp
             k7c63_2imp k7d37_1imp k7d37_102imp 1.k7g12bimp

  1._predict: Pr(ck7eduimp==1), predict(pr outcome(1))
  2._predict: Pr(ck7eduimp==2), predict(pr outcome(2))
  3._predict: Pr(ck7eduimp==3), predict(pr outcome(3))
  4._predict: Pr(ck7eduimp==4), predict(pr outcome(4))

  ─────────────┬──────────────────────────────────────────────────────────────
  > ─────
               │             Delta-method
               │      dy/dx   std. err.      z    P>|z|     [95% conf. inter
  > val]
  ─────────────┼──────────────────────────────────────────────────────────────
  > ─────
  k7b3imp      │
         _predict
               1 │  -.0352111   .0023034   -15.29   0.000    -.0397256   -.030
  > 6966
               2 │  -.0197703   .0017904   -11.04   0.000    -.0232794   -.016
  > 2611
               3 │   .0211998    .001612    13.15   0.000     .0180404    .024
  > 3593
               4 │   .0337815   .0021671    15.59   0.000     .0295341    .038
  > 0289
  ─────────────┼──────────────────────────────────────────────────────────────
  > ─────
  k7b11imp     │
         _predict
               1 │   .0009452    .000116     8.15   0.000     .0007177    .001
  > 1726
               2 │   .0005307   .0000829     6.40   0.000     .0003682    .000
  > 6932
               3 │  -.0005691   .0000786    -7.24   0.000    -.0007232    -.00
  > 0415
               4 │  -.0009068   .0001165    -7.79   0.000    -.0011351   -.000
```

```
> 6785
─────────────────┼──────────────────────────────────────────────────────────────
> ─────
k7b13imp         │
       _predict  │
             1   │  -.0212739   .0021464    -9.91   0.000    -.0254807   -.017
> 0671
             2   │  -.0119448   .0015579    -7.67   0.000    -.0149983   -.008
> 8914
             3   │   .0128086   .0014969     8.56   0.000     .0098746    .015
> 7425
             4   │   .0204102   .0020892     9.77   0.000     .0163155    .024
> 5049
─────────────────┼──────────────────────────────────────────────────────────────
> ─────
k7b25aimp        │
       _predict  │
             1   │   .0065716   .0028588     2.30   0.022     .0009684    .012
> 1748
             2   │   .0036898   .0016257     2.27   0.023     .0005034    .006
> 8762
             3   │  -.0039566   .0017253    -2.29   0.022    -.0073381   -.000
> 5752
             4   │  -.0063048   .0027484    -2.29   0.022    -.0116916    -.00
> 0918
─────────────────┼──────────────────────────────────────────────────────────────
> ─────
2010.k7b25bimp   │  (base outcome)
─────────────────┼──────────────────────────────────────────────────────────────
> ─────
2012.k7b25bimp   │
       _predict  │
             1   │  -.0610835   .2256221    -0.27   0.787    -.5032946    .381
> 1276
             2   │  -.0105504   .0399515    -0.26   0.792    -.0888539     .06
> 7753
             3   │   .0372425   .1376888     0.27   0.787    -.2326225    .307
> 1075
             4   │   .0343914    .114484     0.30   0.764    -.1899931    .258
> 7758
─────────────────┼──────────────────────────────────────────────────────────────
> ─────
2013.k7b25bimp   │
       _predict  │
             1   │   .3108131   .2999283     1.04   0.300    -.2770355    .898
> 6618
```

```
             2 |  -.0565347   .0576731    -0.98   0.327     -.169572    .056
> 5025
             3 |  -.2078041   .1993866    -1.04   0.297    -.5985947    .182
> 9865
             4 |  -.0464743   .0829414    -0.56   0.575    -.2090364    .116
> 0878
---------------+--------------------------------------------------------------
> -----
2014.k7b25bimp |
       _predict |
             1 |  -.0854592   .2142902    -0.40   0.690    -.5054602    .334
> 5418
             2 |  -.0230029    .051317    -0.45   0.654    -.1235824    .077
> 5766
             3 |   .0526344   .1313129     0.40   0.689    -.2047343     .31
> 0003
             4 |   .0558277   .1137506     0.49   0.624    -.1671194    .278
> 7748
---------------+--------------------------------------------------------------
> -----
2015.k7b25bimp |
       _predict |
             1 |  -.1347348   .2013466    -0.67   0.503    -.5293669    .259
> 8974
             2 |  -.0822076   .0478261    -1.72   0.086     -.175945    .011
> 5298
             3 |    .087806   .1231256     0.71   0.476    -.1535157    .329
> 1277
             4 |   .1291364   .0971366     1.33   0.184    -.0612479    .319
> 5206
---------------+--------------------------------------------------------------
> -----
2016.k7b25bimp |
       _predict |
             1 |  -.1168638   .2000785    -0.58   0.559    -.5090104    .275
> 2828
             2 |  -.0528643   .0104588    -5.05   0.000    -.0733633   -.032
> 3654
             3 |   .0740051   .1216711     0.61   0.543    -.1644658    .312
> 4759
             4 |    .095723   .0830613     1.15   0.249    -.0670742    .258
> 5203
---------------+--------------------------------------------------------------
> -----
2017.k7b25bimp |
       _predict |
```

```
             1 |  -.1069633   .2000585    -0.53   0.593    -.4990707    .285
> 1441
             2 |  -.0411551   .0072909    -5.64   0.000     -.055445   -.026
> 8652
             3 |   .0669795   .1216237     0.55   0.582    -.1713985    .305
> 3576
             4 |   .0811389   .0827121     0.98   0.327    -.0809738    .243
> 2516
---------------+--------------------------------------------------------------
> ------
2018.k7b25bimp |
       _predict |
             1 |  -.0662458   .2000797    -0.33   0.741    -.4583948    .325
> 9032
             2 |  -.0126413   .0048643    -2.60   0.009    -.0221752   -.003
> 1075
             3 |   .0404534   .1215734     0.33   0.739    -.1978261    .278
> 7329
             4 |   .0384338   .0825818     0.47   0.642    -.1234236    .200
> 2912
---------------+--------------------------------------------------------------
> ------
2019.k7b25bimp |
       _predict |
             1 |  -.0533079   .2003384    -0.27   0.790    -.4459639    .339
> 3481
             2 |  -.0078577   .0054478    -1.44   0.149    -.0185351    .002
> 8198
             3 |   .0324405   .1217178     0.27   0.790     -.206122     .27
> 1003
             4 |   .0287251   .0828584     0.35   0.729    -.1336744    .191
> 1245
---------------+--------------------------------------------------------------
> ------
2020.k7b25bimp |
       _predict |
             1 |  -.0035167   .2022271    -0.02   0.986    -.3998745     .39
> 2841
             2 |  -.0000926   .0040823    -0.02   0.982    -.0080938    .007
> 9086
             3 |   .0021352   .1228237     0.02   0.986    -.2385948    .242
> 8652
             4 |   .0014741   .0834674     0.02   0.986     -.162119    .165
> 0672
---------------+--------------------------------------------------------------
> ------
```

```
2021.k7b25bimp  |
       _predict |
             1 |  -.0146809   .2041901    -0.07   0.943    -.4148861    .385
> 5242
             2 |  -.0007123    .005131    -0.14   0.890    -.0107689    .009
> 3443
             3 |   .0089079    .124018     0.07   0.943    -.2341629    .251
> 9787
             4 |   .0064853   .0847415     0.08   0.939     -.159605    .172
> 5757
----------------+-------------------------------------------------------------
> -----
2022.k7b25bimp  |
       _predict |
             1 |  -.0220968   .2155934    -0.10   0.918    -.4446521    .400
> 4585
             2 |  -.0014281    .010027    -0.14   0.887    -.0210807    .018
> 2245
             3 |    .013406   .1309335     0.10   0.918     -.243219     .27
> 0031
             4 |   .0101189   .0920467     0.11   0.912    -.1702893     .19
> 0527
----------------+-------------------------------------------------------------
> -----
0.k7b34aimp     |  (base outcome)
----------------+-------------------------------------------------------------
> -----
1.k7b34aimp     |
       _predict |
             1 |   .0040096   .0086769     0.46   0.644    -.0129968     .02
> 1016
             2 |   .0022751   .0049774     0.46   0.648    -.0074804    .012
> 0306
             3 |  -.0024589   .0054167    -0.45   0.650    -.0130756    .008
> 1577
             4 |  -.0038258   .0082361    -0.46   0.642    -.0199683    .012
> 3168
----------------+-------------------------------------------------------------
> -----
0.k7b34bimp     |  (base outcome)
----------------+-------------------------------------------------------------
> -----
1.k7b34bimp     |
       _predict |
             1 |   .0182901   .0087425     2.09   0.036     .0011552     .03
> 5425
```

```
             2 |   .0106944   .0054392     1.97   0.049     .0000338    .021
> 3549
             3 |  -.0119325   .0062273    -1.92   0.055    -.0241377    .000
> 2727
             4 |   -.017052   .0079254    -2.15   0.031    -.0325856   -.001
> 5185
---------------+------------------------------------------------------------
> -----
0.k7b34eimp    |  (base outcome)
---------------+------------------------------------------------------------
> -----
1.k7b34eimp    |
       _predict |
             1 |  -.0000619   .0066658    -0.01   0.993    -.0131267    .013
> 0028
             2 |  -.0000348   .0037391    -0.01   0.993    -.0073633    .007
> 2938
             3 |   .0000373   .0040115     0.01   0.993    -.0078251    .007
> 8996
             4 |   .0000594   .0063935     0.01   0.993    -.0124716    .012
> 5904
---------------+------------------------------------------------------------
> -----
k7b89a_1imp    |
       _predict |
             1 |  -.0557255   .0071569    -7.79   0.000    -.0697528   -.041
> 6982
             2 |  -.0312887   .0044027    -7.11   0.000    -.0399179   -.022
> 6594
             3 |   .0335511   .0047439     7.07   0.000     .0242531    .042
> 8491
             4 |    .053463    .006486     8.24   0.000     .0407507    .066
> 1753
---------------+------------------------------------------------------------
> -----
0.k7b94imp     |  (base outcome)
---------------+------------------------------------------------------------
> -----
1.k7b94imp     |
       _predict |
             1 |   .0196539   .0075291     2.61   0.009     .0048972    .034
> 4106
             2 |   .0136879   .0064151     2.13   0.033     .0011146    .026
> 2611
             3 |  -.0126365   .0052541    -2.41   0.016    -.0229344   -.002
> 3386
```

```
             4 |  -.0207053   .0086691    -2.39   0.017    -.0376965   -.003
> 7141
---------------+------------------------------------------------------------
> -----
k7c57_6imp     |
       _predict |
             1 |   .104462   .0168943     6.18   0.000     .0713498    .137
> 5743
             2 |   .0586532   .0109729     5.35   0.000     .0371467    .080
> 1596
             3 |  -.0628943   .0109171    -5.76   0.000    -.0842914   -.041
> 4973
             4 |  -.1002209   .0165656    -6.05   0.000    -.1326888   -.067
> 7529
---------------+------------------------------------------------------------
> -----
k7c60_2imp     |
       _predict |
             1 |  -.106269   .0090294   -11.77   0.000    -.1239663   -.088
> 5716
             2 |  -.0596677   .0056127   -10.63   0.000    -.0706684   -.048
> 6671
             3 |   .0639822   .0051646    12.39   0.000     .0538597    .074
> 1047
             4 |   .1019544   .0085897    11.87   0.000      .085119    .118
> 7899
---------------+------------------------------------------------------------
> -----
k7c63_2imp     |
       _predict |
             1 |   -.09444   .0098495    -9.59   0.000    -.1137446   -.075
> 1354
             2 |   -.053026    .005639    -9.40   0.000    -.0640783   -.041
> 9737
             3 |   .0568603   .0058791     9.67   0.000     .0453375     .06
> 8383
             4 |   .0906057   .0089377    10.14   0.000     .0730882    .108
> 1233
---------------+------------------------------------------------------------
> -----
k7d37_1imp     |
       _predict |
             1 |  -.0330693   .0083523    -3.96   0.000    -.0494395   -.016
> 6992
             2 |  -.0185677   .0049012    -3.79   0.000    -.0281739   -.008
> 9615
```

```
             3 |   .0199103   .0052851     3.77   0.000     .0095517     .03
> 0269
             4 |   .0317267   .0078701     4.03   0.000     .0163016    .047
> 1518
---------------+--------------------------------------------------------------
> -----
k7d37_102imp   |
       _predict |
             1 |   .0101447   .0139285     0.73   0.466    -.0171546     .03
> 7444
             2 |    .005696   .0078484     0.73   0.468    -.0096866    .021
> 0787
             3 |  -.0061079   .0084014    -0.73   0.467    -.0225742    .010
> 3585
             4 |  -.0097328   .0133702    -0.73   0.467     -.035938    .016
> 4724
---------------+--------------------------------------------------------------
> -----
0.k7g12bimp    |  (base outcome)
---------------+--------------------------------------------------------------
> -----
1.k7g12bimp    |
       _predict |
             1 |  -.0032144   .0055775    -0.58   0.564    -.0141461    .007
> 7174
             2 |  -.0018104   .0031561    -0.57   0.566    -.0079962    .004
> 3755
             3 |    .001937   .0033661     0.58   0.565    -.0046603    .008
> 5344
             4 |   .0030877   .0053662     0.58   0.565    -.0074299    .013
> 6053
---------------+--------------------------------------------------------------
> -----
Note: dy/dx for factor levels is the discrete change from the base level.
```

```
41 . ologit ck7eduimp k7b3imp k7b11imp k7b13imp k7b25aimp i.k7b25bimp i.k7b34aim
   > p i.k7b34bimp i.k7b34eimp k7b89a_1imp i.k7b94imp k7c57_6imp k7c60_2imp k7c6
   > 3_2imp k7d37_1imp k7d37_102imp i.k7g12bimp, or

   Iteration 0:  Log likelihood = -3631.9093
   Iteration 1:  Log likelihood = -2421.0461
   Iteration 2:  Log likelihood = -2247.5008
   Iteration 3:  Log likelihood = -2241.7128
   Iteration 4:  Log likelihood = -2241.7045
   Iteration 5:  Log likelihood = -2241.7045

   Ordered logistic regression                             Number of obs =   2,98
   > 5
                                                           LR chi2(26)   = 2780.4
   > 1
                                                           Prob > chi2   =  0.000
   > 0
   Log likelihood = -2241.7045                             Pseudo R2     =  0.382
   > 8

   ------------------------------------------------------------------------------
   > -
      ck7eduimp | Odds ratio   Std. err.      z    P>|z|     [95% conf. interval
   > ]
   -------------+----------------------------------------------------------------
   > -
        k7b3imp |    1.67933    .053901    16.15   0.000      1.57694    1.78836
   > 7
       k7b11imp |    .986181   .0017324    -7.92   0.000     .9827914    .989582
   > 3
       k7b13imp |   1.367802   .0435317     9.84   0.000     1.285088     1.4558
   > 4
      k7b25aimp |   .9077826   .0382074    -2.30   0.022      .835903    .985843
   > 1
                |
      k7b25bimp |
           2012 |   2.031866   5.078671     0.28   0.777     .0151463    272.572
   > 9
           2013 |   .0604098   .1782328    -0.95   0.341     .0001861    19.6105
   > 4
           2014 |   2.871598   6.883353     0.44   0.660      .026167    315.132
   > 4
           2015 |   7.527994   16.35854     0.93   0.353      .106413    532.554
   > 4
           2016 |    4.98673   10.41787     0.77   0.442     .0830911    299.279
   > 7
```

```
       2017 |   4.116303   8.591669     0.68   0.498     .0688421    246.127
> 7
       2018 |   2.177217   4.543056     0.37   0.709     .0364548    130.031
> 4
       2019 |   1.837427   3.840931     0.29   0.771     .0305401    110.547
> 6
       2020 |   1.037532   2.188068     0.02   0.986     .0166299    64.7312
> 8
       2021 |   1.169235   2.493746     0.07   0.942     .0178837    76.4444
> 4
       2022 |   1.268822    2.88086     0.10   0.916     .0148166     108.65
> 6
            |
 1.k7b34aimp |   .9426677   .1204828    -0.46   0.644     .7337804    1.21101
> 9
 1.k7b34bimp |   .7638785   .0985624    -2.09   0.037     .5931911    .983680
> 1
 1.k7b34eimp |   1.000912   .0982049     0.01   0.993     .8258095    1.21314
> 3
 k7b89a_1imp |   2.271448   .2323566     8.02   0.000     1.858786    2.77572
> 2
  1.k7b94imp |   .7351625   .0921593    -2.45   0.014     .5750128    .939916
> 3
  k7c57_6imp |   .2148232   .0541489    -6.10   0.000     .1310765    .352076
> 7
  k7c60_2imp |   4.780488   .5977412    12.51   0.000      3.74145    6.10807
> 8
  k7c63_2imp |   4.016419   .5454501    10.24   0.000     3.077808     5.2412
> 7
  k7d37_1imp |   1.627203   .1990768     3.98   0.000     1.280275    2.06814
> 2
k7d37_102imp |   .8612635   .1767005    -0.73   0.467     .5761027    1.28757
> 4
 1.k7g12bimp |   1.048505   .0862642     0.58   0.565     .8923581    1.23197
> 5
-------------+------------------------------------------------------------------
> —
       /cut1 |   1.898687   2.116138                   -2.248867    6.04624
> 1
       /cut2 |   5.649937   2.119239                    1.496304    9.80356
> 9
       /cut3 |   10.16602   2.128121                    5.994982    14.3370
> 6
-------------+------------------------------------------------------------------
> —
Note: Estimates are transformed only in the first equation to odds ratios.
```

```
42 .
43 .
44 . ** Predicted probabilities for each outcome of ck7edu (1 to 4) over each ob
   > served level of k7b3 (from 2 to 8).
45 . ** This means we're examining how the probability of being in each educatio
   > nal attainment category (ck7edu) varies across different levels of educatio
   > nal aspirations (k7b3), using the actual data distribution within each leve
   > l of k7b3.
46 . //margins, over(k7b3imp)
47 .
48 . log close
       name:  <unnamed>
        log:  /Users/miguelhenry/Library/Mobile Documents/com~apple~CloudDocs/
   > Personal/CONSULTING/Log Files//ffcws_ol_impdata.smcl
     log type:  smcl
    closed on:  27 Sep 2024, 22:52:13
   ──────────────────────────────────────────────────────────────────────────────
```