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```
. *** Smoking mlogits
.
.
. * males

. mlogit smokedif10_ord b1.colrace##i.arr1821 arpre18 smokepre18 family_cat usborn if
(female == 0 & colrace != 4), rrr

Iteration 0:   log likelihood = -2298.9745
Iteration 1:   log likelihood = -2180.9396
Iteration 2:   log likelihood = -2177.7362
Iteration 3:   log likelihood = -2177.7321
Iteration 4:   log likelihood = -2177.7321

Multinomial logistic regression                 Number of obs     =      2,937
                                                LR chi2(18)       =     242.48
                                                Prob > chi2       =     0.0000
Log likelihood = -2177.7321                     Pseudo R2         =     0.0527

------------------------------------------------------------------------------
 smokedif10_ord |        RRR   Std. Err.      z    P>|z|     [95% Conf. Interval]
----------------+-------------------------------------------------------------
0               |
        colrace |
             2  |   .9807017   .1835845    -0.10   0.917     .6795079    1.415401
             3  |   1.144618   .2031826     0.76   0.447     .8082817    1.620908
                |
      1.arr1821 |   1.388533   .2391688     1.91   0.057     .9906963    1.946131
                |
colrace#arr1821 |
           2 1  |    1.80501   .5104723     2.09   0.037     1.036937    3.142004
           3 1  |   1.091044   .3458625     0.27   0.783     .5861521    2.030834
                |
        arpre18 |   1.235313   .1678561     1.56   0.120     .9464869    1.612276
     smokepre18 |   3.323691   .4039173     9.88   0.000      2.61925     4.21759
     family_cat |   1.026911   .1233184     0.22   0.825     .8115488    1.299424
         usborn |   1.194771   .3663349     0.58   0.562     .6550786    2.179094
          _cons |    .071083   .0236251    -7.95   0.000     .0370563    .1363547
----------------+-------------------------------------------------------------
1               |  (base outcome)
----------------+-------------------------------------------------------------
2               |
        colrace |
             2  |   .8951349    .153639    -0.65   0.519     .6394257    1.253103
             3  |   1.021275   .1716861     0.13   0.900     .7345943    1.419835
                |
      1.arr1821 |   1.187511   .2023107     1.01   0.313     .8503983    1.658261
                |
colrace#arr1821 |
           2 1  |   1.490677   .4183728     1.42   0.155     .8599743    2.583934
           3 1  |   1.053539   .3350326     0.16   0.870     .5648888    1.964891
                |
        arpre18 |   1.053459   .1443747     0.38   0.704     .8053081    1.378077
     smokepre18 |    2.64003   .3066072     8.36   0.000     2.102579    3.314863
```

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     family_cat |   .7703348   .0886977    -2.27   0.023     .6147105     .965358
         usborn |   .8517593   .2225867    -0.61   0.539     .5103592    1.421536
          _cons |   .1630841   .0464437    -6.37   0.000      .093326    .2849838
------------------------------------------------------------------------------

. margins colrace##arr1821

Predictive margins                              Number of obs     =      2,937
Model VCE    : OIM

1._predict   : Pr(smokedif10_ord==0), predict(pr outcome(0))
2._predict   : Pr(smokedif10_ord==1), predict(pr outcome(1))
3._predict   : Pr(smokedif10_ord==2), predict(pr outcome(2))

------------------------------------------------------------------------------
                             |            Delta-method
                             |     Margin   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-----------------------------+------------------------------------------------------------
        _predict#colrace |
                      1 1  |   .1248756   .0081372    15.35   0.000      .108927
.1408242
                      1 2  |   .1451263   .0134334    10.80   0.000     .1187974
.1714553
                      1 3  |   .1421522   .0142958     9.94   0.000     .1141329
.1701715
                           |
        _predict#arr1821 |
                      1 0  |   .1182521   .0071488    16.54   0.000     .1042407
.1322634
                      1 1  |   .1700623   .0132772    12.81   0.000     .1440394
.1960852
                           |
_predict#colrace#arr1821 |
                   1 1 0  |   .1154205   .0094073    12.27   0.000     .0969826
.1338585
                   1 1 1  |   .1476767   .0166452     8.87   0.000     .1150528
.1803006
                   1 2 0  |   .1154945   .0155871     7.41   0.000     .0849442
.1460447
                   1 2 1  |    .219261   .0270574     8.10   0.000     .1662295
.2722926
                   1 3 0  |   .1290078   .0159177     8.10   0.000     .0978096
.160206
                   1 3 1  |   .1744109   .0305989     5.70   0.000     .1144383
.2343836
                           |
        _predict#colrace |
                      2 1  |   .7314325   .0109332    66.90   0.000     .7100038
.7528613
                      2 2  |   .7154406   .0166649    42.93   0.000     .6827779
.7481032
                      2 3  |   .7136191   .0180489    39.54   0.000     .6782438
.7489943
                           |
        _predict#arr1821 |
                      2 0  |   .7445912   .0093897    79.30   0.000     .7261879
.7629946
                      2 1  |   .6699925   .0169397    39.55   0.000     .6367913
.7031936
                           |
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_predict#colrace#arr1821 |
                  2 1 0  |   .7443894   .0127067    58.58   0.000     .7194847
.769294
                  2 1 1  |    .698351   .0223873    31.19   0.000     .6544726
.7422294
                  2 2 0  |   .7565367   .0199212    37.98   0.000     .7174919
.7955816
                  2 2 1  |    .607076   .0317791    19.10   0.000     .5447901
.6693619
                  2 3 0  |   .7310044   .0204614    35.73   0.000     .6909007
.7711081
                  2 3 1  |   .6684929   .0381411    17.53   0.000     .5937377
.7432481
                         |
        _predict#colrace |
                  3 1    |   .1436919   .0089135    16.12   0.000     .1262217
.1611621
                  3 2    |   .1394331   .0131787    10.58   0.000     .1136032
.1652629
                  3 3    |   .1442288   .0144377     9.99   0.000     .1159313
.1725262
                         |
        _predict#arr1821 |
                  3 0    |   .1371567   .0075845    18.08   0.000     .1222914
.152022
                  3 1    |   .1599452   .0133164    12.01   0.000     .1338455
.186045
                         |
_predict#colrace#arr1821 |
                  3 1 0  |   .1401901   .0104069    13.47   0.000     .1197929
.1605873
                  3 1 1  |   .1539723   .0178114     8.64   0.000     .1190626
.188882
                  3 2 0  |   .1279688   .0156977     8.15   0.000     .0972019
.1587357
                  3 2 1  |    .173663   .0245941     7.06   0.000     .1254594
.2218667
                  3 3 0  |   .1399878   .0164044     8.53   0.000     .1078358
.1721398
                  3 3 1  |   .1570962   .0297431     5.28   0.000     .0988009
.2153916
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```
. mlogit smokedif11_ord b1.colrace##i.arr1821 arpre18 smokepre18 family_cat usborn if
(female == 0 & colrace != 4), rrr

Iteration 0:   log likelihood = -2166.5767
Iteration 1:   log likelihood =  -2062.059
Iteration 2:   log likelihood = -2059.1901
Iteration 3:   log likelihood = -2059.1875
Iteration 4:   log likelihood = -2059.1875

Multinomial logistic regression                 Number of obs     =      2,858
                                                LR chi2(18)       =     214.78
                                                Prob > chi2       =     0.0000
Log likelihood = -2059.1875                     Pseudo R2         =     0.0496

------------------------------------------------------------------------------
 smokedif11_ord |        RRR   Std. Err.      z    P>|z|     [95% Conf. Interval]
----------------+-------------------------------------------------------------
0               |
        colrace |
             2  |   1.204698   .2171933     1.03   0.302     .8460896      1.7153
             3  |   1.038218   .1900355     0.20   0.838     .7252443    1.486252
                |
      1.arr1821 |   1.613476   .2784138     2.77   0.006     1.150491    2.262777
                |
colrace#arr1821 |
           2 1  |   .9968007   .2939709    -0.01   0.991     .5592123    1.776806
           3 1  |   1.174116   .3820332     0.49   0.622     .6205078    2.221644
                |
        arpre18 |   1.128761   .1612858     0.85   0.397     .8530525    1.493578
     smokepre18 |    3.07128   .3787649     9.10   0.000     2.411822    3.911053
     family_cat |   1.136055   .1382134     1.05   0.294     .8950378    1.441973
         usborn |    .727151   .2015675    -1.15   0.250     .4223477    1.251927
          _cons |   .1090377   .0333212    -7.25   0.000      .059904    .1984714
----------------+-------------------------------------------------------------
1               |  (base outcome)
----------------+-------------------------------------------------------------
2               |
        colrace |
             2  |   .9016563   .1747339    -0.53   0.593     .6167154    1.318248
             3  |   1.298556    .226623     1.50   0.134     .9223793    1.828149
                |
      1.arr1821 |   1.705952   .2989082     3.05   0.002     1.210107    2.404972
                |
colrace#arr1821 |
           2 1  |   1.538612   .4529226     1.46   0.143     .8640924    2.739669
           3 1  |   1.251854   .3819233     0.74   0.462     .6884363    2.276373
                |
        arpre18 |   1.444612   .2000066     2.66   0.008     1.101292     1.89496
     smokepre18 |   2.003038   .2452107     5.67   0.000     1.575744    2.546201
     family_cat |   1.020852   .1236942     0.17   0.865     .8050531    1.294496
         usborn |   .9925722   .2837046    -0.03   0.979     .5668461    1.738037
          _cons |   .0965702   .0302324    -7.47   0.000     .0522835    .1783697
------------------------------------------------------------------------------

. margins colrace##arr1821

Predictive margins                              Number of obs     =      2,858
Model VCE    : OIM

1._predict   : Pr(smokedif11_ord==0), predict(pr outcome(0))
2._predict   : Pr(smokedif11_ord==1), predict(pr outcome(1))
3._predict   : Pr(smokedif11_ord==2), predict(pr outcome(2))
```

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------------------------------------------------------------------------------
                             |            Delta-method
                             |     Margin   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-----------------------------+------------------------------------------------
        _predict#colrace |
                      1 1  |   .1268229   .0083125    15.26   0.000     .1105308
.143115
                      1 2  |   .1453585   .0143632    10.12   0.000     .1172072
.1735099
                      1 3  |   .1287333   .0137694     9.35   0.000     .1017458
.1557208
                           |
        _predict#arr1821 |
                      1 0  |   .1195537   .0072137    16.57   0.000     .1054151
.1336923
                      1 1  |   .1639502   .0136894    11.98   0.000     .1371195
.1907808
                           |
_predict#colrace#arr1821 |
                   1 1 0  |   .1149729   .0094673    12.14   0.000     .0964173
.1335284
                   1 1 1  |    .158588   .0178226     8.90   0.000     .1236563
.1935198
                   1 2 0  |   .1362664   .0170253     8.00   0.000     .1028973
.1696354
                   1 2 1  |   .1724486   .0265662     6.49   0.000     .1203798
.2245173
                   1 3 0  |   .1145687   .0150515     7.61   0.000     .0850684
.1440691
                   1 3 1  |   .1682868   .0308044     5.46   0.000     .1079112
.2286623
                           |
        _predict#colrace |
                      2 1  |   .7505633   .0107457    69.85   0.000     .7295022
.7716245
                      2 2  |   .7295897   .0172352    42.33   0.000     .6958092
.7633701
                      2 3  |   .7112984   .0181953    39.09   0.000     .6756363
.7469605
                           |
        _predict#arr1821 |
                      2 0  |   .7685535   .0092215    83.34   0.000     .7504796
.7866274
                      2 1  |   .6515953    .017959    36.28   0.000     .6163962
.6867943
                           |
_predict#colrace#arr1821 |
                   2 1 0  |   .7760961   .0122784    63.21   0.000     .7520309
.8001613
                   2 1 1  |   .6813484   .0235119    28.98   0.000     .6352659
.7274309
                   2 2 0  |    .766942   .0202402    37.89   0.000     .7272719
.806612
                   2 2 1  |   .6257095   .0338463    18.49   0.000      .559372
.6920469
                   2 3 0  |   .7494764   .0203093    36.90   0.000     .7096709
.7892819
                   2 3 1  |   .6041299    .041033    14.72   0.000     .5237066
.6845531
```

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                           |
        _predict#colrace |
                  3 1  |   .1226138   .0083272    14.72   0.000     .1062927
.1389348
                  3 2  |   .1250518   .0128297     9.75   0.000     .0999061
.1501975
                  3 3  |   .1599684   .0152325    10.50   0.000     .1301133
.1898235
                           |
        _predict#arr1821 |
                  3 0  |   .1118928   .0070092    15.96   0.000     .0981549
.1256306
                  3 1  |   .1844546   .0147112    12.54   0.000     .1556211
.2132881
                           |
_predict#colrace#arr1821 |
                3 1 0  |   .1089311   .0093535    11.65   0.000     .0905984
.1272637
                3 1 1  |   .1600636   .0185517     8.63   0.000     .1237029
.1964243
                3 2 0  |   .0967917    .014217     6.81   0.000     .0689269
.1246564
                3 2 1  |    .201842   .0282015     7.16   0.000      .146568
.2571159
                3 3 0  |   .1359549   .0164253     8.28   0.000     .1037619
.1681479
                3 3 1  |   .2275834   .0354299     6.42   0.000     .1581421
.2970247
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.
. mlogit smokedif12_ord b1.colrace##i.arr1821 arpre18 smokepre18 family_cat usborn if
(female == 0 & colrace != 4), rrr

Iteration 0:   log likelihood = -2165.9788
Iteration 1:   log likelihood = -2074.8725
Iteration 2:   log likelihood = -2073.0102
Iteration 3:   log likelihood = -2073.0093
Iteration 4:   log likelihood = -2073.0093

Multinomial logistic regression                 Number of obs     =      2,857
                                                LR chi2(18)       =     185.94
                                                Prob > chi2       =     0.0000
Log likelihood = -2073.0093                     Pseudo R2         =     0.0429

------------------------------------------------------------------------------
 smokedif12_ord |        RRR   Std. Err.      z    P>|z|     [95% Conf. Interval]
----------------+-------------------------------------------------------------
0               |
        colrace |
              2 |    1.10123   .1942666     0.55   0.585     .7793251      1.5561
              3 |   .9609614   .1773053    -0.22   0.829     .6693484     1.37962
                |
      1.arr1821 |   2.133169   .3553307     4.55   0.000     1.538995    2.956742
                |
colrace#arr1821 |
            2 1 |   .7551387    .215003    -0.99   0.324      .432188    1.319413
            3 1 |     .81767   .2661015    -0.62   0.536       .43208    1.547362
                |
        arpre18 |   1.013683     .14233     0.10   0.923     .7698147    1.334807
     smokepre18 |   2.290266   .2773902     6.84   0.000     1.806305    2.903895
     family_cat |   .8241421   .0984036    -1.62   0.105     .6521801    1.041446
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         usborn |   .8689364    .248603    -0.49   0.623     .4959741    1.522359
          _cons |   .1314493   .0407396    -6.55   0.000     .0716059    .2413059
----------------+----------------------------------------------------------------
1               |  (base outcome)
----------------+----------------------------------------------------------------
2               |
        colrace |
              2 |   1.412227     .24395     2.00   0.046     1.006623    1.981263
              3 |    1.01082   .1926816     0.06   0.955     .6956948    1.468687
                |
      1.arr1821 |   1.913572   .3374741     3.68   0.000     1.354342    2.703717
                |
colrace#arr1821 |
            2 1 |   .7090146   .2032359    -1.20   0.230     .4042612    1.243507
            3 1 |   .9936985   .3284591    -0.02   0.985     .5198725    1.899383
                |
        arpre18 |   1.105339   .1561761     0.71   0.478     .8379675    1.458021
     smokepre18 |   2.361166   .2928628     6.93   0.000     1.851609    3.010951
     family_cat |   .8201731   .1006171    -1.62   0.106     .6448845    1.043108
         usborn |   1.024132   .3155639     0.08   0.938     .5598568     1.87342
          _cons |   .0979975   .0325659    -6.99   0.000     .0510915    .1879667
------------------------------------------------------------------------------

. margins colrace##arr1821

Predictive margins                                Number of obs     =      2,857
Model VCE    : OIM

1._predict   : Pr(smokedif12_ord==0), predict(pr outcome(0))
2._predict   : Pr(smokedif12_ord==1), predict(pr outcome(1))
3._predict   : Pr(smokedif12_ord==2), predict(pr outcome(2))

------------------------------------------------------------------------------
                             |            Delta-method
                             |     Margin   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-----------------------------+------------------------------------------------------------
        _predict#colrace |
                      1 1  |   .1387359   .0088418    15.69   0.000     .1214062
.1560655
                      1 2  |   .1347934   .0132069    10.21   0.000     .1089084
.1606783
                      1 3  |   .1262535   .0140346     9.00   0.000     .0987461
.1537608
                           |
        _predict#arr1821 |
                      1 0  |   .1171485    .007135    16.42   0.000     .1031641
.1311328
                      1 1  |   .1852407   .0147261    12.58   0.000     .1563781
.2141034
                           |
_predict#colrace#arr1821 |
                    1 1 0  |   .1169199   .0097639    11.97   0.000      .097783
.1360568
                    1 1 1  |   .1995352   .0204849     9.74   0.000     .1593855
.2396848
                    1 2 0  |   .1212912   .0151739     7.99   0.000     .0915509
.1510314
                    1 2 1  |   .1720972   .0261023     6.59   0.000     .1209376
.2232568
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                  1 3 0  |   .1127828   .0152184     7.41   0.000     .0829553
.1426104
                  1 3 1  |   .1641944   .0316204     5.19   0.000     .1022195
.2261693
                         |
        _predict#colrace |
                  2 1    |   .7406178   .0109956    67.36   0.000     .7190669
.7621687
                  2 2    |   .7175386   .0171675    41.80   0.000     .6838908
.7511863
                  2 3    |   .7493997   .0179112    41.84   0.000     .7142943
.784505
                         |
        _predict#arr1821 |
                  2 0    |   .7681674   .0092341    83.19   0.000     .7500689
.786266
                  2 1    |   .6499463   .0180738    35.96   0.000     .6145223
.6853702
                         |
_predict#colrace#arr1821 |
                  2 1 0  |    .777349   .0124847    62.26   0.000     .7528794
.8018187
                  2 1 1  |   .6389139   .0246926    25.87   0.000     .5905174
.6873105
                  2 2 0  |    .738137   .0200781    36.76   0.000     .6987846
.7774893
                  2 2 1  |   .6600908   .0325913    20.25   0.000      .596213
.7239685
                  2 3 0  |   .7799327   .0197195    39.55   0.000     .7412832
.8185823
                  2 3 1  |    .665815   .0402774    16.53   0.000     .5868727
.7447573
                         |
        _predict#colrace |
                  3 1    |   .1206464   .0083125    14.51   0.000     .1043541
.1369386
                  3 2    |   .1476681   .0137856    10.71   0.000     .1206489
.1746873
                  3 3    |   .1243469   .0139683     8.90   0.000     .0969696
.1517242
                         |
        _predict#arr1821 |
                  3 0    |   .1146841   .0070967    16.16   0.000     .1007747
.1285935
                  3 1    |    .164813   .0138734    11.88   0.000     .1376217
.1920043
                         |
_predict#colrace#arr1821 |
                  3 1 0  |   .1057311    .009347    11.31   0.000     .0874114
.1240508
                  3 1 1  |   .1615509   .0184614     8.75   0.000     .1253673
.1977345
                  3 2 0  |   .1405719   .0161852     8.69   0.000     .1088496
.1722942
                  3 2 1  |    .167812   .0255684     6.56   0.000     .1176989
.2179252
                  3 3 0  |   .1072845   .0149883     7.16   0.000     .0779079
.136661
                  3 3 1  |   .1699906   .0319353     5.32   0.000     .1073985
.2325827
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.
. mlogit smokedif13_ord b1.colrace##i.arr1821 arpre18 smokepre18 family_cat usborn if
(female == 0 & colrace != 4), rrr

Iteration 0:   log likelihood = -2075.0441
Iteration 1:   log likelihood =  -1988.682
Iteration 2:   log likelihood = -1986.1424
Iteration 3:   log likelihood = -1986.1395
Iteration 4:   log likelihood = -1986.1395

Multinomial logistic regression                 Number of obs     =      2,861
                                                LR chi2(18)       =     177.81
                                                Prob > chi2       =     0.0000
Log likelihood = -1986.1395                     Pseudo R2         =     0.0428

------------------------------------------------------------------------------
 smokedif13_ord |        RRR   Std. Err.      z    P>|z|     [95% Conf. Interval]
----------------+-------------------------------------------------------------
0               |
        colrace |
             2  |   1.150902   .2092583     0.77   0.440     .8058831    1.643633
             3  |   1.199756   .2161665     1.01   0.312      .842805    1.707884
                |
      1.arr1821 |   1.344769   .2411374     1.65   0.099     .9462688     1.91109
                |
colrace#arr1821 |
           2 1  |   1.051504   .3158166     0.17   0.867     .5836527     1.89438
           3 1  |   1.059487   .3437722     0.18   0.859     .5609262    2.001176
                |
        arpre18 |   1.147519   .1611015     0.98   0.327     .8714831    1.510988
     smokepre18 |   3.143431   .3982188     9.04   0.000     2.452287    4.029365
     family_cat |   .8383682   .1034927    -1.43   0.153        .6582    1.067853
         usborn |   1.081897   .3236778     0.26   0.792     .6019037    1.944667
          _cons |   .0809299   .0263516    -7.72   0.000     .0427513    .1532035
----------------+-------------------------------------------------------------
1               |  (base outcome)
----------------+-------------------------------------------------------------
2               |
        colrace |
             2  |   1.147839     .20456     0.77   0.439     .8094418    1.627707
             3  |   1.033102   .1914554     0.18   0.861      .718452    1.485555
                |
      1.arr1821 |   1.222261   .2283274     1.07   0.283      .847526    1.762684
                |
colrace#arr1821 |
           2 1  |   1.346259   .4008672     1.00   0.318     .7510548    2.413157
           3 1  |   1.065275   .3764884     0.18   0.858     .5328815    2.129573
                |
        arpre18 |   .9351693   .1405098    -0.45   0.656     .6966211    1.255405
     smokepre18 |    2.44367   .3093575     7.06   0.000     1.906708    3.131848
     family_cat |   .8962314   .1120716    -0.88   0.381     .7014222    1.145146
         usborn |   1.393176    .468324     0.99   0.324     .7208913    2.692416
          _cons |   .0743392   .0266834    -7.24   0.000     .0367863    .1502274
------------------------------------------------------------------------------

. margins colrace##arr1821

Predictive margins                              Number of obs     =      2,861
Model VCE    : OIM

1._predict   : Pr(smokedif13_ord==0), predict(pr outcome(0))
2._predict   : Pr(smokedif13_ord==1), predict(pr outcome(1))
3._predict   : Pr(smokedif13_ord==2), predict(pr outcome(2))
```

```
------------------------------------------------------------------------------
                             |            Delta-method
                             |     Margin   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-----------------------------+------------------------------------------------
        _predict#colrace |
                      1 1  |   .1179683   .0081766    14.43   0.000     .1019424
.1339942
                      1 2  |   .1295499   .0130224     9.95   0.000     .1040264
.1550733
                      1 3  |   .1385045   .0142823     9.70   0.000     .1105118
.1664973
                           |
        _predict#arr1821 |
                      1 0  |   .1168347   .0071171    16.42   0.000     .1028853
.130784
                      1 1  |   .1467903   .0127968    11.47   0.000      .121709
.1718716
                           |
_predict#colrace#arr1821 |
                   1 1 0  |   .1101203   .0094724    11.63   0.000     .0915548
.1286858
                   1 1 1  |   .1378053   .0165915     8.31   0.000     .1052864
.1703241
                   1 2 0  |   .1219588   .0153471     7.95   0.000     .0918791
.1520385
                   1 2 1  |   .1500144   .0241491     6.21   0.000      .102683
.1973459
                   1 3 0  |   .1281022   .0158644     8.07   0.000     .0970087
.1591958
                   1 3 1  |   .1653623   .0304349     5.43   0.000      .105711
.2250135
                           |
        _predict#colrace |
                      2 1  |   .7687925   .0106157    72.42   0.000     .7479862
.7895988
                      2 2  |   .7357126   .0167323    43.97   0.000     .7029179
.7685074
                      2 3  |   .7466938   .0177347    42.10   0.000     .7119344
.7814531
                           |
        _predict#arr1821 |
                      2 0  |   .7708462   .0091102    84.61   0.000     .7529905
.7887019
                      2 1  |   .7150222   .0166743    42.88   0.000     .6823411
.7477032
                           |
_predict#colrace#arr1821 |
                   2 1 0  |   .7805334   .0122822    63.55   0.000     .7564608
.8046061
                   2 1 1  |   .7373389   .0218529    33.74   0.000     .6945081
.7801697
                   2 2 0  |   .7570207   .0195526    38.72   0.000     .7186983
.795343
                   2 2 1  |   .6756396    .032118    21.04   0.000     .6126894
.7385898
                   2 3 0  |   .7621583   .0198369    38.42   0.000     .7232787
.8010379
                   2 3 1  |    .704504   .0381185    18.48   0.000     .6297932
.7792149
```

```
                        |
       _predict#colrace |
                 3 1  |   .1132392   .0081075    13.97   0.000     .0973488
.1291297
                 3 2  |   .1347375   .0133013    10.13   0.000     .1086674
.1608076
                 3 3  |   .1148017   .0133832     8.58   0.000     .0885711
.1410323
                        |
       _predict#arr1821 |
                 3 0  |   .1123191   .0069601    16.14   0.000     .0986776
.1259607
                 3 1  |   .1381875   .0129442    10.68   0.000     .1128174
.1635576
                        |
_predict#colrace#arr1821 |
               3 1 0  |   .1093462   .0093595    11.68   0.000     .0910019
.1276906
               3 1 1  |   .1248559   .0166629     7.49   0.000     .0921973
.1575144
               3 2 0  |   .1210205   .0151908     7.97   0.000     .0912472
.1507939
               3 2 1  |    .174346   .0266483     6.54   0.000     .1221163
.2265757
               3 3 0  |   .1097394    .014906     7.36   0.000     .0805242
.1389547
               3 3 1  |   .1301337   .0288546     4.51   0.000     .0735798
.1866876
------------------------------------------------------------------------------
----

.
. mlogit smokedif14_ord b1.colrace##i.arr1821 arpre18 smokepre18 family_cat usborn if
(female == 0 & colrace != 4), rrr

Iteration 0:   log likelihood = -2073.9875
Iteration 1:   log likelihood = -1992.5939
Iteration 2:   log likelihood = -1990.7233
Iteration 3:   log likelihood = -1990.7222
Iteration 4:   log likelihood = -1990.7222

Multinomial logistic regression                 Number of obs     =      2,858
                                                LR chi2(18)       =     166.53
                                                Prob > chi2       =     0.0000
Log likelihood = -1990.7222                     Pseudo R2         =     0.0401

------------------------------------------------------------------------------
 smokedif14_ord |        RRR   Std. Err.      z    P>|z|     [95% Conf. Interval]
----------------+-------------------------------------------------------------
0               |
        colrace |
             2  |   1.178825   .2077237     0.93   0.350     .8345591    1.665105
             3  |   1.130571   .1994722     0.70   0.487     .8000486    1.597642
                |
      1.arr1821 |    1.55695   .2763801     2.49   0.013     1.099448    2.204828
                |
colrace#arr1821 |
           2 1  |   1.436242   .4095635     1.27   0.204     .8212893     2.51165
           3 1  |   1.026458    .329897     0.08   0.935     .5467271    1.927134
                |
        arpre18 |   .9801007   .1375709    -0.14   0.886     .7443764    1.290473
     smokepre18 |   2.415726   .2934981     7.26   0.000     1.903843    3.065238
     family_cat |   .9661964   .1159713    -0.29   0.774     .7636544    1.222458
```

```
         usborn |   1.395213   .4509385     1.03   0.303     .7405063    2.628768
          _cons |   .0710837   .0246455    -7.63   0.000     .0360288     .140246
----------------+------------------------------------------------------------------
1               |  (base outcome)
----------------+------------------------------------------------------------------
2               |
        colrace |
             2  |   1.277725   .2411448     1.30   0.194     .8826534    1.849628
             3  |   1.213123   .2283852     1.03   0.305     .8387948    1.754502
                |
      1.arr1821 |   1.846633   .3440712     3.29   0.001     1.281686    2.660599
                |
colrace#arr1821 |
           2 1  |   1.057137   .3242769     0.18   0.856     .5794625    1.928579
           3 1  |   .7763781   .2663846    -0.74   0.461     .3962925    1.521005
                |
        arpre18 |   .7979101   .1233776    -1.46   0.144     .5892996    1.080368
     smokepre18 |   2.645349   .3445433     7.47   0.000      2.04936    3.414662
     family_cat |   .8908688   .1142289    -0.90   0.367     .6929008    1.145398
         usborn |   .8059277   .2304041    -0.75   0.450     .4602023    1.411378
          _cons |   .1017186   .0320996    -7.24   0.000     .0548005    .1888061
------------------------------------------------------------------------------

. margins colrace##arr1821

Predictive margins                                Number of obs     =      2,858
Model VCE    : OIM

1._predict   : Pr(smokedif14_ord==0), predict(pr outcome(0))
2._predict   : Pr(smokedif14_ord==1), predict(pr outcome(1))
3._predict   : Pr(smokedif14_ord==2), predict(pr outcome(2))

------------------------------------------------------------------------------
                             |            Delta-method
                             |     Margin   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-----------------------------+------------------------------------------------
        _predict#colrace |
                  1 1  |   .1223699   .0083607    14.64   0.000     .1059833
.1387565
                  1 2  |   .1498022    .013922    10.76   0.000     .1225157
.1770888
                  1 3  |   .1353826   .0140709     9.62   0.000     .1078041
.162961
                       |
        _predict#arr1821 |
                  1 0  |   .1178068   .0070694    16.66   0.000      .103951
.1316627
                  1 1  |   .1725485   .0142486    12.11   0.000     .1446218
.2004752
                       |
_predict#colrace#arr1821 |
                1 1 0  |   .1123508   .0094098    11.94   0.000     .0939079
.1307936
                1 1 1  |   .1513708   .0183068     8.27   0.000     .1154902
.1872514
                1 2 0  |   .1260075    .015571     8.09   0.000     .0954889
.156526
                1 2 1  |   .2192167   .0294424     7.45   0.000     .1615107
.2769226
```

```
                  1 3 0  |   .1223236   .0153745     7.96   0.000     .0921901
.1524572
                  1 3 1  |   .1726764   .0317344     5.44   0.000     .1104781
.2348747
                         |
        _predict#colrace |
                  2 1    |   .7719325   .0106322    72.60   0.000     .7510938
.7927711
                  2 2    |   .7246245   .0170561    42.48   0.000     .6911952
.7580538
                  2 3    |   .7504674   .0174359    43.04   0.000     .7162938
.7846411
                         |
        _predict#arr1821 |
                  2 0    |   .7823625   .0089198    87.71   0.000     .7648799
.799845
                  2 1    |   .6779097   .0177233    38.25   0.000     .6431726
.7126468
                         |
_predict#colrace#arr1821 |
                  2 1 0  |    .795984    .011938    66.68   0.000     .7725859
.8193821
                  2 1 1  |   .7023569   .0237402    29.59   0.000     .6558271
.7488868
                  2 2 0  |   .7626172   .0195933    38.92   0.000     .7242149
.8010194
                  2 2 1  |   .6119021    .034377    17.80   0.000     .5445243
.6792798
                  2 3 0  |     .77063   .0193318    39.86   0.000     .7327404
.8085196
                  2 3 1  |   .6918742    .038526    17.96   0.000     .6163646
.7673839
                         |
        _predict#colrace |
                  3 1    |   .1056976   .0079085    13.37   0.000     .0901972
.1211981
                  3 2    |   .1255733   .0130922     9.59   0.000     .0999129
.1512336
                  3 3    |     .11415   .0129686     8.80   0.000     .0887319
.139568
                         |
        _predict#arr1821 |
                  3 0    |   .0998307   .0065543    15.23   0.000     .0869845
.1126768
                  3 1    |   .1495418   .0135515    11.04   0.000     .1229813
.1761022
                         |
_predict#colrace#arr1821 |
                  3 1 0  |   .0916653    .008654    10.59   0.000     .0747038
.1086268
                  3 1 1  |   .1462723   .0183131     7.99   0.000     .1103793
.1821652
                  3 2 0  |   .1113754   .0148107     7.52   0.000      .082347
.1404038
                  3 2 1  |   .1688812   .0268372     6.29   0.000     .1162814
.2214811
                  3 3 0  |   .1070464   .0143107     7.48   0.000     .0789979
.1350948
                  3 3 1  |   .1354494   .0284002     4.77   0.000     .0797859
.1911128
------------------------------------------------------------------------------
----
```

```
.
. mlogit smokedif15_ord b1.colrace##i.arr1821 arpre18 smokepre18 family_cat usborn if
(female == 0 & colrace != 4), rrr

Iteration 0:   log likelihood = -1983.3491
Iteration 1:   log likelihood = -1903.7746
Iteration 2:   log likelihood = -1901.5494
Iteration 3:   log likelihood = -1901.5474
Iteration 4:   log likelihood = -1901.5474

Multinomial logistic regression                 Number of obs     =      2,799
                                                LR chi2(18)       =     163.60
                                                Prob > chi2       =     0.0000
Log likelihood = -1901.5474                     Pseudo R2         =     0.0412

------------------------------------------------------------------------------
 smokedif15_ord |        RRR   Std. Err.      z    P>|z|     [95% Conf. Interval]
----------------+-------------------------------------------------------------
0               |
        colrace |
             2  |   1.075912   .1943266     0.41   0.685     .7551551    1.532911
             3  |   .9935737   .1804966    -0.04   0.972     .6959328    1.418511
                |
      1.arr1821 |   1.352263   .2494801     1.64   0.102     .9419381    1.941333
                |
colrace#arr1821 |
           2 1  |   1.190699   .3589049     0.58   0.563     .6595228    2.149682
           3 1  |   .8736657   .2966535    -0.40   0.691     .4490757    1.699695
                |
        arpre18 |    1.00109    .146821     0.01   0.994     .7509915    1.334478
     smokepre18 |   2.598793   .3261183     7.61   0.000      2.03215    3.323438
     family_cat |   .8944734   .1108525    -0.90   0.368     .7015806      1.1404
         usborn |   .6194787   .1653593    -1.79   0.073     .3671239    1.045298
          _cons |   .1599456   .0472712    -6.20   0.000     .0896197    .2854571
----------------+-------------------------------------------------------------
1               |  (base outcome)
----------------+-------------------------------------------------------------
2               |
        colrace |
             2  |    1.19255   .2300609     0.91   0.361     .8170848    1.740549
             3  |   1.042758   .2079213     0.21   0.834      .705436    1.541378
                |
      1.arr1821 |   1.771124   .3307855     3.06   0.002     1.228213     2.55402
                |
colrace#arr1821 |
           2 1  |   .9900656   .3033562    -0.03   0.974     .5430699    1.804979
           3 1  |    .916738   .3106724    -0.26   0.798     .4718265    1.781181
                |
        arpre18 |   1.225841   .1801753     1.39   0.166      .919017    1.635101
     smokepre18 |   2.522267   .3357666     6.95   0.000     1.943025    3.274189
     family_cat |   .8815091   .1153672    -0.96   0.335     .6820656    1.139272
         usborn |   .9799328   .3231006    -0.06   0.951     .5135001    1.870045
          _cons |   .0798047   .0285704    -7.06   0.000     .0395636    .1609763
------------------------------------------------------------------------------

. margins colrace##arr1821

Predictive margins                              Number of obs     =      2,799
Model VCE    : OIM

1._predict   : Pr(smokedif15_ord==0), predict(pr outcome(0))
2._predict   : Pr(smokedif15_ord==1), predict(pr outcome(1))
3._predict   : Pr(smokedif15_ord==2), predict(pr outcome(2))
```

```
------------------------------------------------------------------------------
                             |            Delta-method
                             |     Margin   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-----------------------------+------------------------------------------------
        _predict#colrace |
                      1 1  |   .1224688    .008643    14.17   0.000     .1055288
.1394088
                      1 2  |   .1334155    .013483     9.90   0.000     .1069894
.1598417
                      1 3  |   .1176338   .0130964     8.98   0.000     .0919654
.1433022
                           |
        _predict#arr1821 |
                      1 0  |   .1175678    .007174    16.39   0.000     .1035071
.1316285
                      1 1  |    .143012   .0131145    10.90   0.000     .1173081
.1687159
                           |
_predict#colrace#arr1821 |
                   1 1 0  |    .116577   .0098956    11.78   0.000      .097182
.1359719
                   1 1 1  |   .1398679   .0179705     7.78   0.000     .1046464
.1750895
                   1 2 0  |   .1217194   .0155487     7.83   0.000     .0912445
.1521943
                   1 2 1  |   .1670204   .0261869     6.38   0.000      .115695
.2183458
                   1 3 0  |    .115405   .0149236     7.73   0.000     .0861553
.1446547
                   1 3 1  |   .1248977   .0264878     4.72   0.000     .0729827
.1768128
                           |
        _predict#colrace |
                      2 1  |   .7704343   .0108786    70.82   0.000     .7491127
.7917559
                      2 2  |   .7452679   .0167671    44.45   0.000      .712405
.7781308
                      2 3  |   .7732612   .0168744    45.82   0.000     .7401881
.8063344
                           |
        _predict#arr1821 |
                      2 0  |   .7856211   .0090301    87.00   0.000     .7679225
.8033198
                      2 1  |   .7086407   .0170056    41.67   0.000     .6753103
.7419711
                           |
_predict#colrace#arr1821 |
                   2 1 0  |   .7909693   .0123648    63.97   0.000     .7667347
.8152039
                   2 1 1  |   .7149759   .0233909    30.57   0.000     .6691306
.7608213
                   2 2 0  |   .7713105   .0194957    39.56   0.000     .7330997
.8095213
                   2 2 1  |   .6732527   .0323942    20.78   0.000     .6097612
.7367442
                   2 3 0  |   .7885469   .0189825    41.54   0.000     .7513419
.8257519
                   2 3 1  |    .732361   .0356118    20.57   0.000     .6625631
.8021589
```

```
                          |
        _predict#colrace |
                  3 1  |   .1070969   .0080573    13.29   0.000      .091305
.1228888
                  3 2  |   .1213165   .0127809     9.49   0.000     .0962664
.1463667
                  3 3  |    .109105    .012799     8.52   0.000     .0840194
.1341905
                          |
        _predict#arr1821 |
                  3 0  |   .0968111   .0066419    14.58   0.000     .0837932
.109829
                  3 1  |   .1483473   .0132102    11.23   0.000     .1224558
.1742388
                          |
_predict#colrace#arr1821 |
                3 1 0  |   .0924537    .008927    10.36   0.000     .0749571
.1099504
                3 1 1  |   .1451561   .0179762     8.07   0.000     .1099234
.1803889
                3 2 0  |   .1069701   .0146306     7.31   0.000     .0782947
.1356455
                3 2 1  |   .1597269   .0252943     6.31   0.000      .110151
.2093029
                3 3 0  |   .0960481   .0140304     6.85   0.000     .0685491
.1235471
                3 3 1  |   .1427413   .0280566     5.09   0.000     .0877514
.1977312
------------------------------------------------------------------------------
----

.
. mlogit smokedif16_ord b1.colrace##i.arr1821 arpre18 smokepre18 family_cat usborn if
(female == 0 & colrace != 4), rrr

Iteration 0:   log likelihood = -1549.6946
Iteration 1:   log likelihood = -1474.3889
Iteration 2:   log likelihood = -1472.2688
Iteration 3:   log likelihood = -1472.2677
Iteration 4:   log likelihood = -1472.2677

Multinomial logistic regression                 Number of obs     =      2,217
                                                LR chi2(18)       =     154.85
                                                Prob > chi2       =     0.0000
Log likelihood = -1472.2677                     Pseudo R2         =     0.0500

------------------------------------------------------------------------------
 smokedif16_ord |        RRR   Std. Err.      z    P>|z|     [95% Conf. Interval]
----------------+-------------------------------------------------------------
0               |
        colrace |
             2  |   .9148352   .1933305    -0.42   0.674     .6045886    1.384286
             3  |    1.14945   .2359622     0.68   0.497      .768693    1.718806
                |
      1.arr1821 |   1.479946   .2965978     1.96   0.050     .9992074    2.191978
                |
colrace#arr1821 |
           2 1  |   1.293798   .4300696     0.77   0.438     .6744035    2.482065
           3 1  |   1.032617   .3687589     0.09   0.928     .5128209    2.079279
                |
        arpre18 |   1.175365   .1857067     1.02   0.306     .8623496    1.601997
     smokepre18 |    2.85069   .4008115     7.45   0.000     2.164062    3.755176
     family_cat |   .7955078   .1105055    -1.65   0.100      .605902    1.044447
```

```
         usborn |   .8860446   .2884935    -0.37   0.710     .4680657    1.677275
          _cons |   .1085929   .0385751    -6.25   0.000     .0541292    .2178568
----------------+----------------------------------------------------------------
1               |  (base outcome)
----------------+----------------------------------------------------------------
2               |
        colrace |
              2 |   .9395914   .2176026    -0.27   0.788     .5967699    1.479351
              3 |   1.118325    .252241     0.50   0.620     .7187495    1.740038
                |
      1.arr1821 |   1.426049   .3154123     1.60   0.109      .924414    2.199898
                |
colrace#arr1821 |
            2 1 |   1.307407   .4775466     0.73   0.463     .6389974    2.674994
            3 1 |   1.049328   .4119585     0.12   0.902     .4861113    2.265097
                |
        arpre18 |   1.230605   .2123089     1.20   0.229     .8775383    1.725724
     smokepre18 |   2.750459   .4248741     6.55   0.000     2.031967    3.723004
     family_cat |   .8693263   .1323988    -0.92   0.358     .6449774    1.171713
         usborn |   .7010964    .231276    -1.08   0.282       .36727    1.338351
          _cons |   .1058502   .0386699    -6.15   0.000      .051728    .2165999
------------------------------------------------------------------------------

. margins colrace##arr1821

Predictive margins                              Number of obs     =      2,217
Model VCE    : OIM

1._predict   : Pr(smokedif16_ord==0), predict(pr outcome(0))
2._predict   : Pr(smokedif16_ord==1), predict(pr outcome(1))
3._predict   : Pr(smokedif16_ord==2), predict(pr outcome(2))

------------------------------------------------------------------------------
                             |            Delta-method
                             |     Margin   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-----------------------------+------------------------------------------------
        _predict#colrace |
                      1 1  |   .1253757   .0096628    12.98   0.000     .1064369
.1443144
                      1 2  |   .1245489   .0142024     8.77   0.000     .0967127
.1523851
                      1 3  |   .1397506   .0161066     8.68   0.000     .1081822
.1713191
                           |
        _predict#arr1821 |
                      1 0  |   .1154075    .008077    14.29   0.000     .0995768
.1312381
                      1 1  |   .1610549   .0150131    10.73   0.000     .1316298
.1904801
                           |
_predict#colrace#arr1821 |
                    1 1 0  |   .1145896    .011001    10.42   0.000      .093028
.1361513
                    1 1 1  |   .1526059   .0203081     7.51   0.000     .1128028
.1924089
                    1 2 0  |   .1067978   .0163897     6.52   0.000     .0746746
.138921
                    1 2 1  |     .16983   .0279971     6.07   0.000     .1149567
.2247033
```

```
                  1 3 0  |   .1274539   .0182462     6.99   0.000      .091692
.1632158
                  1 3 1  |   .1714115   .0334561     5.12   0.000     .1058387
.2369843
                         |
        _predict#colrace |
                  2 1    |   .7750285   .0120343    64.40   0.000     .7514417
.7986152
                  2 2    |    .773636    .017674    43.77   0.000     .7389956
.8082765
                  2 3    |   .7516029    .019618    38.31   0.000     .7131524
.7900534
                         |
        _predict#arr1821 |
                  2 0    |   .7915667   .0100736    78.58   0.000     .7718228
.8113106
                  2 1    |    .712896   .0185327    38.47   0.000     .6765725
.7492194
                         |
_predict#colrace#arr1821 |
                  2 1 0  |   .7930999    .013788    57.52   0.000      .766076
.8201239
                  2 1 1  |   .7288505   .0253165    28.79   0.000     .6792311
.7784699
                  2 2 0  |   .8048525   .0206667    38.94   0.000     .7643466
.8453585
                  2 2 1  |   .6931999   .0343681    20.17   0.000     .6258396
.7605601
                  2 3 0  |   .7726293   .0223981    34.50   0.000     .7287298
.8165288
                  2 3 1  |   .6968984   .0407387    17.11   0.000     .6170519
.7767449
                         |
        _predict#colrace |
                  3 1    |   .0995959   .0088083    11.31   0.000     .0823319
.1168599
                  3 2    |   .1018151    .013235     7.69   0.000      .075875
.1277552
                  3 3    |   .1086465   .0144343     7.53   0.000     .0803557
.1369372
                         |
        _predict#arr1821 |
                  3 0    |   .0930258   .0073645    12.63   0.000     .0785916
.1074601
                  3 1    |   .1260491   .0136302     9.25   0.000     .0993344
.1527638
                         |
_predict#colrace#arr1821 |
                  3 1 0  |   .0923105   .0100604     9.18   0.000     .0725925
.1120285
                  3 1 1  |   .1185436   .0183275     6.47   0.000     .0826224
.1544648
                  3 2 0  |   .0883497   .0152444     5.80   0.000     .0584712
.1182281
                  3 2 1  |   .1369702   .0260598     5.26   0.000      .085894
.1880463
                  3 3 0  |   .0999168   .0163023     6.13   0.000     .0679648
.1318687
                  3 3 1  |   .1316901   .0299678     4.39   0.000     .0729543
.1904259
------------------------------------------------------------------------------
----
```

```
.
. mlogit smokedif17_ord b1.colrace##i.arr1821 arpre18 smokepre18 family_cat usborn if
(female == 0 & colrace != 4), rrr

Iteration 0:   log likelihood = -1071.7308
Iteration 1:   log likelihood = -999.50859
Iteration 2:   log likelihood = -995.66661
Iteration 3:   log likelihood =  -995.6573
Iteration 4:   log likelihood =  -995.6573

Multinomial logistic regression                 Number of obs     =      1,602
                                                LR chi2(18)       =     152.15
                                                Prob > chi2       =     0.0000
Log likelihood =  -995.6573                     Pseudo R2         =     0.0710

------------------------------------------------------------------------------
 smokedif17_ord |        RRR   Std. Err.      z    P>|z|     [95% Conf. Interval]
----------------+-------------------------------------------------------------
0               |
        colrace |
             2  |   .8631096    .240611    -0.53   0.597      .499775    1.490587
             3  |     1.1663   .2956827     0.61   0.544      .709597     1.91694
                |
      1.arr1821 |   1.420787   .3698689     1.35   0.177     .8529793    2.366571
                |
colrace#arr1821 |
           2 1  |   1.470042    .617266     0.92   0.359     .6455246      3.3477
           3 1  |   .7578995   .3541952    -0.59   0.553     .3032584    1.894133
                |
        arpre18 |   1.468175   .2832301     1.99   0.047     1.005935     2.14282
     smokepre18 |   3.246173   .5880249     6.50   0.000     2.276049    4.629795
     family_cat |   .7433296   .1324545    -1.66   0.096     .5242098    1.054041
         usborn |   .5850104   .2144961    -1.46   0.144     .2851462    1.200216
          _cons |   .1217607   .0490491    -5.23   0.000      .055286    .2681628
----------------+-------------------------------------------------------------
1               |  (base outcome)
----------------+-------------------------------------------------------------
2               |
        colrace |
             2  |   .9659546   .2701369    -0.12   0.901     .5583563    1.671098
             3  |   .9084621   .2603544    -0.33   0.738     .5180391    1.593129
                |
      1.arr1821 |   2.112629   .5271473     3.00   0.003     1.295477    3.445218
                |
colrace#arr1821 |
           2 1  |   1.205927   .4910977     0.46   0.646     .5428508    2.678931
           3 1  |    1.19818   .5386709     0.40   0.688      .496414    2.892014
                |
        arpre18 |   1.012689   .2056211     0.06   0.950     .6802116    1.507676
     smokepre18 |   3.023145   .5462988     6.12   0.000     2.121496    4.308001
     family_cat |   .8688544   .1556101    -0.78   0.432     .6116436    1.234228
         usborn |   1.503692   .8137858     0.75   0.451     .5205894    4.343324
          _cons |   .0461842   .0262459    -5.41   0.000     .0151623    .1406763
------------------------------------------------------------------------------

. margins colrace##arr1821

Predictive margins                              Number of obs     =      1,602
Model VCE    : OIM

1._predict   : Pr(smokedif17_ord==0), predict(pr outcome(0))
2._predict   : Pr(smokedif17_ord==1), predict(pr outcome(1))
3._predict   : Pr(smokedif17_ord==2), predict(pr outcome(2))
```

```
------------------------------------------------------------------------------
                             |            Delta-method
                             |     Margin   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-----------------------------+------------------------------------------------
        _predict#colrace |
                      1 1  |   .1060707   .0107107     9.90   0.000     .0850782
.1270632
                      1 2  |   .1046904   .0153272     6.83   0.000     .0746495
.1347312
                      1 3  |   .1120572   .0167363     6.70   0.000     .0792547
.1448597
                           |
        _predict#arr1821 |
                      1 0  |   .1004215    .009064    11.08   0.000     .0826563
.1181867
                      1 1  |   .1240802   .0153312     8.09   0.000     .0940317
.1541287
                           |
_predict#colrace#arr1821 |
                   1 1 0  |   .0999596   .0124222     8.05   0.000     .0756125
.1243066
                   1 1 1  |   .1214267   .0216152     5.62   0.000     .0790618
.1637917
                   1 2 0  |   .0882075   .0183449     4.81   0.000     .0522522
.1241628
                   1 2 1  |   .1438696   .0285551     5.04   0.000     .0879027
.1998366
                   1 3 0  |   .1151576   .0200751     5.74   0.000      .075811
.1545041
                   1 3 1  |   .1075143     .03063     3.51   0.000     .0474805
.1675481
                           |
        _predict#colrace |
                      2 1  |    .787643   .0138515    56.86   0.000     .7604946
.8147914
                      2 2  |   .7863048   .0199483    39.42   0.000     .7472069
.8254028
                      2 3  |   .7835079   .0214724    36.49   0.000     .7414228
.8255931
                           |
        _predict#arr1821 |
                      2 0  |   .8155632   .0114202    71.41   0.000       .79318
.8379463
                      2 1  |   .7127557   .0217106    32.83   0.000     .6702038
.7553077
                           |
_predict#colrace#arr1821 |
                   2 1 0  |    .813846   .0156374    52.04   0.000     .7831972
.8444947
                   2 1 1  |    .722114   .0306027    23.60   0.000     .6621338
.7820942
                   2 2 0  |   .8267966   .0237458    34.82   0.000     .7802557
.8733374
                   2 2 1  |   .6854017   .0385794    17.77   0.000     .6097874
.761016
                   2 3 0  |   .8073725   .0244878    32.97   0.000     .7593772
.8553678
                   2 3 1  |   .7221056   .0454847    15.88   0.000     .6329572
.8112541
```

```
                        |
       _predict#colrace |
                 3 1  |   .1062863    .010592    10.03   0.000     .0855263
.1270463
                 3 2  |   .1090048   .0156647     6.96   0.000     .0783026
.139707
                 3 3  |   .1044349   .0164283     6.36   0.000     .0722361
.1366336
                        |
       _predict#arr1821 |
                 3 0  |   .0840154   .0083146    10.10   0.000      .067719
.1003117
                 3 1  |    .163164   .0180988     9.02   0.000     .1276911
.198637
                        |
_predict#colrace#arr1821 |
               3 1 0  |   .0861945   .0112873     7.64   0.000     .0640717
.1083172
               3 1 1  |   .1564593   .0250724     6.24   0.000     .1073183
.2056002
               3 2 0  |   .0849959   .0178764     4.75   0.000     .0499589
.120033
               3 2 1  |   .1707286   .0320743     5.32   0.000     .1078643
.233593
               3 3 0  |   .0774699    .017157     4.52   0.000     .0438427
.1110971
               3 3 1  |   .1703801   .0389508     4.37   0.000     .0940379
.2467222
------------------------------------------------------------------------------
----

.
. mlogit smokedif18_ord b1.colrace##i.arr1821 arpre18 smokepre18 family_cat usborn if
(female == 0 & colrace != 4), rrr

Iteration 0:   log likelihood = -691.93389
Iteration 1:   log likelihood = -648.08447
Iteration 2:   log likelihood =  -645.3299
Iteration 3:   log likelihood = -645.32135
Iteration 4:   log likelihood = -645.32135

Multinomial logistic regression                 Number of obs     =      1,028
                                                LR chi2(18)       =      93.23
                                                Prob > chi2       =     0.0000
Log likelihood = -645.32135                     Pseudo R2         =     0.0674

------------------------------------------------------------------------------
 smokedif18_ord |        RRR   Std. Err.      z    P>|z|     [95% Conf. Interval]
----------------+-------------------------------------------------------------
0               |
        colrace |
             2  |   .7337218   .2700462    -0.84   0.400     .3566537    1.509441
             3  |   1.055474   .3515397     0.16   0.871     .5494691    2.027456
                |
      1.arr1821 |   2.523589   .7512488     3.11   0.002     1.408069    4.522862
                |
colrace#arr1821 |
           2 1  |   .9333663    .493017    -0.13   0.896     .3314635    2.628262
           3 1  |   1.046848    .541482     0.09   0.929     .3798389    2.885144
                |
        arpre18 |   .8655151   .2206194    -0.57   0.571     .5251746    1.426414
     smokepre18 |    2.46353   .5396763     4.12   0.000     1.603572    3.784665
     family_cat |   .6725829   .1468777    -1.82   0.069      .438391    1.031882
```

```
         usborn |   1.409701   .8958177     0.54   0.589     .4057111    4.898206
          _cons |   .0695882    .046299    -4.01   0.000     .0188889    .2563683
----------------+------------------------------------------------------------------
1               |  (base outcome)
----------------+------------------------------------------------------------------
2               |
        colrace |
             2  |   1.413627   .4908644     1.00   0.319     .7157569    2.791926
             3  |    1.10386   .4007317     0.27   0.785     .5418811    2.248659
                |
      1.arr1821 |   2.528776    .818813     2.87   0.004     1.340581    4.770105
                |
colrace#arr1821 |
           2 1  |   .9226544   .4618027    -0.16   0.872     .3459391    2.460812
           3 1  |   .7619446   .4467089    -0.46   0.643     .2414824    2.404149
                |
        arpre18 |   .9197472   .2406934    -0.32   0.749     .5506975    1.536115
     smokepre18 |   2.958191   .6802405     4.72   0.000     1.884912      4.6426
     family_cat |   .8483633   .1960518    -0.71   0.477     .5393544    1.334411
         usborn |   .8598045     .49151    -0.26   0.792     .2804191    2.636282
          _cons |   .0709746   .0436637    -4.30   0.000     .0212541    .2370083
------------------------------------------------------------------------------

. margins colrace##arr1821

Predictive margins                              Number of obs     =      1,028
Model VCE    : OIM

1._predict   : Pr(smokedif18_ord==0), predict(pr outcome(0))
2._predict   : Pr(smokedif18_ord==1), predict(pr outcome(1))
3._predict   : Pr(smokedif18_ord==2), predict(pr outcome(2))

------------------------------------------------------------------------------
             |            Delta-method
             |     Margin   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
_predict#colrace |
          1 1  |   .1213423   .0141406     8.58   0.000     .0936273    .1490573
          1 2  |   .0866949   .0176008     4.93   0.000      .052198    .1211918
          1 3  |   .1301492   .0226734     5.74   0.000     .0857102    .1745883
               |
_predict#arr1821 |
          1 0  |   .0894759   .0107413     8.33   0.000     .0684234    .1105283
          1 1  |   .1758415   .0236538     7.43   0.000     .1294809    .2222021
               |
_predict#colrace#arr1821 |
        1 1 0  |   .0951749   .0148357     6.42   0.000     .0660974    .1242524
        1 1 1  |   .1858593   .0343329     5.41   0.000      .118568    .2531506
        1 2 0  |   .0693796   .0204094     3.40   0.001      .029378    .1093813
        1 2 1  |   .1293304   .0346748     3.73   0.000     .0613692    .1972917
```

```
                  1 3 0  |   .0989514    .024534     4.03   0.000     .0508656
.1470372
                  1 3 1  |   .2061813   .0515169     4.00   0.000       .10521
.3071526
                         |
        _predict#colrace |
                  2 1    |    .783741   .0173056    45.29   0.000     .7498226
.8176594
                  2 2    |   .7834692   .0259817    30.15   0.000      .732546
.8343923
                  2 3    |   .7771899   .0272654    28.50   0.000     .7237507
.8306291
                         |
        _predict#arr1821 |
                  2 0    |   .8276349    .014101    58.69   0.000     .7999973
.8552724
                  2 1    |   .6729574   .0289531    23.24   0.000     .6162103
.7297045
                         |
_predict#colrace#arr1821 |
                  2 1 0  |   .8304254    .018741    44.31   0.000     .7936938
.8671571
                  2 1 1  |   .6691658   .0414326    16.15   0.000     .5879595
.7503722
                  2 2 0  |   .8262283   .0307771    26.85   0.000     .7659062
.8865504
                  2 2 1  |   .6787882   .0495822    13.69   0.000     .5816089
.7759674
                  2 3 0  |   .8201769   .0308308    26.60   0.000     .7597497
.8806041
                  2 3 1  |   .6713072    .059222    11.34   0.000     .5552343
.7873801
                         |
        _predict#colrace |
                  3 1    |   .0949167   .0126064     7.53   0.000     .0702086
.1196249
                  3 2    |    .129836   .0220944     5.88   0.000     .0865317
.1731402
                  3 3    |   .0926609   .0194754     4.76   0.000     .0544898
.1308319
                         |
        _predict#arr1821 |
                  3 0    |   .0828892   .0104942     7.90   0.000     .0623211
.1034574
                  3 1    |   .1512011   .0217624     6.95   0.000     .1085476
.1938546
                         |
_predict#colrace#arr1821 |
                  3 1 0  |   .0743997    .013216     5.63   0.000     .0484969
.1003025
                  3 1 1  |   .1449749   .0302069     4.80   0.000     .0857705
.2041793
                  3 2 0  |   .1043921   .0257685     4.05   0.000     .0538868
.1548974
                  3 2 1  |   .1918814   .0425715     4.51   0.000     .1084428
.2753199
                  3 3 0  |   .0808717   .0220146     3.67   0.000     .0377238
.1240196
                  3 3 1  |   .1225115   .0408372     3.00   0.003      .042472
.2025509
------------------------------------------------------------------------------
----
```

```
.
. *mlogit smokedif19_ord b1.colrace##i.arr1821 arpre18 smokepre18 family_cat usborn if
(female == 0 & colrace != 4), rrr
.
.
.
. *females

. mlogit smokedif10_ord b1.colrace##i.arr1821 arpre18 smokepre18 family_cat usborn if
(female == 1 & colrace != 4), rrr

Iteration 0:   log likelihood = -2161.8536
Iteration 1:   log likelihood = -2009.2954
Iteration 2:   log likelihood =  -1996.037
Iteration 3:   log likelihood = -1995.9759
Iteration 4:   log likelihood = -1995.9759

Multinomial logistic regression                 Number of obs     =      3,070
                                                LR chi2(18)       =     331.76
                                                Prob > chi2       =     0.0000
Log likelihood = -1995.9759                     Pseudo R2         =     0.0767

------------------------------------------------------------------------------
 smokedif10_ord |        RRR   Std. Err.      z    P>|z|     [95% Conf. Interval]
----------------+-------------------------------------------------------------
0               |
        colrace |
             2  |   .4071747   .0762339    -4.80   0.000     .2821066      .58769
             3  |   .8059499   .1351756    -1.29   0.198     .5801532    1.119627
                |
      1.arr1821 |   2.244953   .4613968     3.93   0.000     1.500593    3.358548
                |
colrace#arr1821 |
           2 1  |   .9390912   .4234739    -0.14   0.889     .3880314    2.272734
           3 1  |   .6667626   .3531156    -0.77   0.444     .2361442    1.882631
                |
        arpre18 |   1.061522   .1893819     0.33   0.738     .7482896    1.505874
     smokepre18 |   3.606965    .460121    10.06   0.000     2.809045    4.631536
     family_cat |   .7129134    .087739    -2.75   0.006     .5601166    .9073923
         usborn |   1.059303   .3168352     0.19   0.847     .5894236    1.903762
          _cons |   .1093601   .0349207    -6.93   0.000     .0584863    .2044859
----------------+-------------------------------------------------------------
1               |  (base outcome)
----------------+-------------------------------------------------------------
2               |
        colrace |
             2  |     .75826   .1219005    -1.72   0.085     .5533196    1.039107
             3  |   .9626724   .1593082    -0.23   0.818     .6960126    1.331496
                |
      1.arr1821 |   1.506251   .3550796     1.74   0.082     .9489367    2.390877
                |
colrace#arr1821 |
           2 1  |   .7378802   .3458768    -0.65   0.517     .2944357    1.849189
           3 1  |   1.815587   .8301691     1.30   0.192     .7409842    4.448619
                |
        arpre18 |   1.285547   .2212986     1.46   0.145     .9174011    1.801428
     smokepre18 |   3.137765    .392859     9.13   0.000     2.454975    4.010456
     family_cat |   .7646747   .0938596    -2.19   0.029     .6011688     .972651
         usborn |    1.38784   .4353041     1.04   0.296     .7505075    2.566396
          _cons |   .0773239    .025832    -7.66   0.000     .0401743    .1488262
------------------------------------------------------------------------------

. margins colrace##arr1821
```

```
Predictive margins                              Number of obs     =      3,070
Model VCE    : OIM

1._predict   : Pr(smokedif10_ord==0), predict(pr outcome(0))
2._predict   : Pr(smokedif10_ord==1), predict(pr outcome(1))
3._predict   : Pr(smokedif10_ord==2), predict(pr outcome(2))

------------------------------------------------------------------------------
                             |            Delta-method
                             |     Margin   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-----------------------------+------------------------------------------------
-----
        _predict#colrace |
                     1 1  |   .1412823   .0086394    16.35   0.000     .1243493
.1582153
                     1 2  |   .0680691   .0092543     7.36   0.000     .0499311
.0862072
                     1 3  |   .1104985    .012875     8.58   0.000      .085264
.135733
                          |
        _predict#arr1821 |
                     1 0  |   .1087216   .0058549    18.57   0.000     .0972461
.120197
                     1 1  |   .1794193   .0211836     8.47   0.000     .1379003
.2209384
                          |
_predict#colrace#arr1821 |
                  1 1 0  |   .1306968   .0089982    14.52   0.000     .1130607
.148333
                  1 1 1  |   .2314656   .0305069     7.59   0.000     .1716732
.291258
                  1 2 0  |   .0615813    .009297     6.62   0.000     .0433595
.079803
                  1 2 1  |   .1176445     .03651     3.22   0.001     .0460863
.1892027
                  1 3 0  |   .1094488     .01326     8.25   0.000     .0834597
.1354379
                  1 3 1  |   .1250959   .0480708     2.60   0.009      .030879
.2193129
                          |
        _predict#colrace |
                     2 1  |   .7397012   .0107666    68.70   0.000      .718599
.7608033
                     2 2  |     .82963   .0134621    61.63   0.000     .8032447
.8560152
                     2 3  |   .7587798   .0168982    44.90   0.000       .72566
.7918996
                          |
        _predict#arr1821 |
                     2 0  |   .7783739   .0076198   102.15   0.000     .7634394
.7933083
                     2 1  |   .6694394   .0269038    24.88   0.000      .616709
.7221699
                          |
_predict#colrace#arr1821 |
                  2 1 0  |   .7521929   .0113461    66.30   0.000     .7299549
.7744309
                  2 1 1  |   .6287468   .0356257    17.65   0.000     .5589217
.698572
```

```
                 2 2 0  |   .8359695   .0139915    59.75   0.000     .8085467
.8633924
                 2 2 1  |   .7789517   .0464349    16.78   0.000      .687941
.8699624
                 2 3 0  |   .7735059   .0172995    44.71   0.000     .7395994
.8074123
                 2 3 1  |   .6295109    .070892     8.88   0.000     .4905652
.7684566
                        |
        _predict#colrace |
                 3 1  |   .1190165    .008104    14.69   0.000     .1031329
.1349
                 3 2  |   .1023009   .0111138     9.20   0.000     .0805183
.1240835
                 3 3  |   .1307217   .0138243     9.46   0.000     .1036265
.1578169
                        |
        _predict#arr1821 |
                 3 0  |   .1129046   .0060012    18.81   0.000     .1011425
.1246667
                 3 1  |   .1511413   .0208302     7.26   0.000     .1103149
.1919677
                        |
_predict#colrace#arr1821 |
                 3 1 0  |   .1171103   .0085946    13.63   0.000     .1002651
.1339554
                 3 1 1  |   .1397876   .0245478     5.69   0.000     .0916747
.1879005
                 3 2 0  |   .1024492   .0116977     8.76   0.000      .079522
.1253763
                 3 2 1  |   .1034038   .0344794     3.00   0.003     .0358255
.1709822
                 3 3 0  |   .1170453   .0137102     8.54   0.000     .0901739
.1439168
                 3 3 1  |   .2453932   .0630585     3.89   0.000     .1218008
.3689856
------------------------------------------------------------------------------
----

.
. mlogit smokedif11_ord b1.colrace##i.arr1821 arpre18 smokepre18 family_cat usborn if
(female == 1 & colrace != 4), rrr

Iteration 0:   log likelihood = -2053.1624
Iteration 1:   log likelihood = -1935.0639
Iteration 2:   log likelihood = -1929.6592
Iteration 3:   log likelihood = -1929.6508
Iteration 4:   log likelihood = -1929.6508

Multinomial logistic regression                 Number of obs     =      3,013
                                                LR chi2(18)       =     247.02
                                                Prob > chi2       =     0.0000
Log likelihood = -1929.6508                     Pseudo R2         =     0.0602

------------------------------------------------------------------------------
 smokedif11_ord |        RRR   Std. Err.      z    P>|z|     [95% Conf. Interval]
----------------+-------------------------------------------------------------
0               |
        colrace |
             2  |   .6529812    .112494    -2.47   0.013     .4658625    .9152582
             3  |   .8478193   .1493928    -0.94   0.349     .6002256    1.197546
                |
      1.arr1821 |   1.451253   .3259399     1.66   0.097     .9344804    2.253805
```

```
                  |
colrace#arr1821 |
           2 1  |   1.171132   .5006977     0.37   0.712     .5066278    2.707214
           3 1  |   1.228676   .6085417     0.42   0.678     .4654276    3.243565
                  |
        arpre18 |    1.34132   .2372432     1.66   0.097     .9483703    1.897086
     smokepre18 |   3.328763   .4340464     9.22   0.000     2.578057    4.298069
     family_cat |   .7671275   .0975095    -2.09   0.037      .597959    .9841553
         usborn |   1.390192   .4695307     0.98   0.329     .7171099    2.695033
          _cons |   .0719502    .025742    -7.36   0.000     .0356856    .1450679
----------------+----------------------------------------------------------------
1               |  (base outcome)
----------------+----------------------------------------------------------------
2               |
        colrace |
              2 |   .8183384    .135202    -1.21   0.225     .5919723    1.131265
              3 |   1.092873   .1816243     0.53   0.593     .7890577    1.513668
                  |
      1.arr1821 |   1.356131   .3168152     1.30   0.192     .8579199    2.143665
                  |
colrace#arr1821 |
           2 1  |   .8736783   .3945071    -0.30   0.765     .3605734    2.116944
           3 1  |   .5181357   .3152371    -1.08   0.280     .1572415     1.70734
                  |
        arpre18 |   1.569133   .2706821     2.61   0.009     1.118984     2.20037
     smokepre18 |    3.00243   .3859275     8.55   0.000     2.333785    3.862647
     family_cat |   .8742053   .1095522    -1.07   0.283     .6838235    1.117591
         usborn |    1.38303    .434206     1.03   0.302     .7474718    2.558991
          _cons |   .0669769   .0225093    -8.04   0.000     .0346622    .1294176
------------------------------------------------------------------------------

. margins colrace##arr1821

Predictive margins                              Number of obs     =      3,013
Model VCE    : OIM

1._predict   : Pr(smokedif11_ord==0), predict(pr outcome(0))
2._predict   : Pr(smokedif11_ord==1), predict(pr outcome(1))
3._predict   : Pr(smokedif11_ord==2), predict(pr outcome(2))

------------------------------------------------------------------------------
                             |            Delta-method
                             |     Margin   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-----------------------------+------------------------------------------------------------
        _predict#colrace |
                     1 1  |   .1213643   .0082107    14.78   0.000     .1052716
.137457
                     1 2  |   .0885178   .0103823     8.53   0.000     .0681689
.1088666
                     1 3  |    .108888   .0131248     8.30   0.000     .0831639
.134612
                             |
        _predict#arr1821 |
                     1 0  |   .1050976   .0058674    17.91   0.000     .0935976
.1165975
                     1 1  |   .1496775   .0201181     7.44   0.000     .1102468
.1891082
                             |
_predict#colrace#arr1821 |
```

```
                1 1 0  |   .1174766     .00868    13.53   0.000     .1004641
.134489
                1 1 1  |   .1530326   .0250638     6.11   0.000     .1039084
.2021568
                1 2 0  |   .0831746   .0106947     7.78   0.000     .0622134
.1041358
                1 2 1  |     .12882   .0361481     3.56   0.000     .0579709
.1996691
                1 3 0  |   .1005858   .0130533     7.71   0.000     .0750018
.1261698
                1 3 1  |   .1701756   .0553318     3.08   0.002     .0617273
.2786239
                       |
        _predict#colrace |
                2 1  |   .7648176   .0105414    72.55   0.000     .7441567
.7854784
                2 2  |   .8121987   .0139505    58.22   0.000     .7848563
.8395412
                2 3  |   .7734911   .0170383    45.40   0.000     .7400966
.8068856
                       |
        _predict#arr1821 |
                2 0  |    .784806   .0076675   102.36   0.000     .7697781
.799834
                2 1  |     .73334   .0248443    29.52   0.000     .6846459
.782034
                       |
_predict#colrace#arr1821 |
                2 1 0  |   .7712665   .0111532    69.15   0.000     .7494066
.7931264
                2 1 1  |   .7113108   .0323005    22.02   0.000      .648003
.7746186
                2 2 0  |   .8182376   .0145994    56.05   0.000     .7896233
.8468519
                2 2 1  |   .7645671   .0455197    16.80   0.000     .6753502
.853784
                2 3 0  |   .7766562   .0175106    44.35   0.000      .742336
.8109763
                2 3 1  |   .7478714   .0638649    11.71   0.000     .6226985
.8730442
                       |
        _predict#colrace |
                3 1  |   .1138181   .0080041    14.22   0.000     .0981303
.1295059
                3 2  |   .0992835   .0110295     9.00   0.000      .077666
.120901
                3 3  |    .117621   .0133507     8.81   0.000      .091454
.1437879
                       |
        _predict#arr1821 |
                3 0  |   .1100964   .0060038    18.34   0.000     .0983291
.1218637
                3 1  |   .1169825   .0175573     6.66   0.000     .0825709
.1513942
                       |
_predict#colrace#arr1821 |
                3 1 0  |   .1112569    .008492    13.10   0.000     .0946129
.1279009
                3 1 1  |   .1356566   .0238761     5.68   0.000     .0888602
.182453
                3 2 0  |   .0985878   .0116203     8.48   0.000     .0758124
.1213632
```

```
                 3 2 1  |   .1066129   .0336095     3.17   0.002     .0407394
.1724864
                 3 3 0  |   .1227581   .0141771     8.66   0.000     .0949715
.1505446
                 3 3 1  |    .081953   .0396939     2.06   0.039     .0041545
.1597516
------------------------------------------------------------------------------
----

.
. mlogit smokedif12_ord b1.colrace##i.arr1821 arpre18 smokepre18 family_cat usborn if
(female == 1 & colrace != 4), rrr

Iteration 0:   log likelihood = -1947.2322
Iteration 1:   log likelihood = -1856.6411
Iteration 2:   log likelihood =  -1851.078
Iteration 3:   log likelihood = -1851.0583
Iteration 4:   log likelihood = -1851.0583

Multinomial logistic regression                 Number of obs     =      2,980
                                                LR chi2(18)       =     192.35
                                                Prob > chi2       =     0.0000
Log likelihood = -1851.0583                     Pseudo R2         =     0.0494

------------------------------------------------------------------------------
 smokedif12_ord |        RRR   Std. Err.      z    P>|z|     [95% Conf. Interval]
----------------+-------------------------------------------------------------
0               |
        colrace |
             2  |   .6013405   .1055625    -2.90   0.004     .4262811    .8482911
             3  |   .9873639   .1643919    -0.08   0.939     .7124523    1.368355
                |
      1.arr1821 |   1.107826   .2785506     0.41   0.684     .6767785    1.813414
                |
colrace#arr1821 |
           2 1  |   1.684528   .7851302     1.12   0.263     .6756901     4.19961
           3 1  |   1.169189   .5762299     0.32   0.751     .4450136     3.07182
                |
        arpre18 |   1.366892   .2505105     1.71   0.088     .9544082    1.957645
     smokepre18 |   2.481546    .322025     7.00   0.000     1.924259    3.200228
     family_cat |   .7977073   .1015372    -1.78   0.076     .6215804     1.02374
         usborn |   1.374375   .4449038     0.98   0.326     .7287184    2.592094
          _cons |   .0804483   .0278634    -7.28   0.000     .0408039    .1586105
----------------+-------------------------------------------------------------
1               |  (base outcome)
----------------+-------------------------------------------------------------
2               |
        colrace |
             2  |   .8597709    .147282    -0.88   0.378     .6145663    1.202809
             3  |   .9761724   .1771934    -0.13   0.894     .6839395     1.39327
                |
      1.arr1821 |    1.79301   .4117657     2.54   0.011     1.143151    2.812299
                |
colrace#arr1821 |
           2 1  |   1.106415   .4660404     0.24   0.810     .4845937    2.526145
           3 1  |   .3072336    .205427    -1.77   0.078     .0828563     1.13923
                |
        arpre18 |   1.487669   .2679839     2.21   0.027     1.045138    2.117576
     smokepre18 |   2.758282   .3739816     7.48   0.000     2.114602    3.597898
     family_cat |    .661937   .0887669    -3.08   0.002     .5089428    .8609229
         usborn |   1.011156   .3212014     0.03   0.972     .5425347    1.884555
          _cons |   .0909906   .0311266    -7.01   0.000     .0465385     .177902
------------------------------------------------------------------------------
```

```
. margins colrace##arr1821

Predictive margins                              Number of obs     =      2,980
Model VCE    : OIM

1._predict   : Pr(smokedif12_ord==0), predict(pr outcome(0))
2._predict   : Pr(smokedif12_ord==1), predict(pr outcome(1))
3._predict   : Pr(smokedif12_ord==2), predict(pr outcome(2))

------------------------------------------------------------------------------
                             |            Delta-method
                             |     Margin   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-----------------------------+------------------------------------------------
        _predict#colrace |
                      1 1  |    .116071   .0082935    14.00   0.000     .0998161
.1323259
                      1 2  |   .0798497   .0099278     8.04   0.000     .0603916
.0993078
                      1 3  |   .1196172    .013385     8.94   0.000     .0933831
.1458513
                           |
        _predict#arr1821 |
                      1 0  |   .1052159   .0059157    17.79   0.000     .0936213
.1168105
                      1 1  |   .1243285   .0192652     6.45   0.000     .0865695
.1620875
                           |
_predict#colrace#arr1821 |
                   1 1 0  |   .1163684   .0088267    13.18   0.000     .0990684
.1336684
                   1 1 1  |   .1166695   .0233708     4.99   0.000     .0708636
.1624753
                   1 2 0  |   .0753112   .0101389     7.43   0.000     .0554392
.0951831
                   1 2 1  |   .1190395   .0373716     3.19   0.001     .0457925
.1922865
                   1 3 0  |   .1154152   .0137271     8.41   0.000     .0885106
.1423199
                   1 3 1  |   .1513032   .0502736     3.01   0.003     .0527688
.2498377
                           |
        _predict#colrace |
                      2 1  |   .7793108   .0106126    73.43   0.000     .7585105
.8001111
                      2 2  |   .8226985   .0136092    60.45   0.000      .796025
.849372
                      2 3  |   .7894656   .0164527    47.98   0.000      .757219
.8217122
                           |
        _predict#arr1821 |
                      2 0  |   .7993701   .0075798   105.46   0.000     .7845141
.8142262
                      2 1  |   .7415183   .0251048    29.54   0.000     .6923137
.7907228
                           |
_predict#colrace#arr1821 |
                   2 1 0  |    .785775   .0111927    70.20   0.000     .7638378
.8077123
```

```
                 2 1 1  |   .7251629   .0329997    21.97   0.000     .6604847
.789841
                 2 2 0  |   .8339241   .0140316    59.43   0.000     .8064227
.8614255
                 2 2 1  |   .7293638   .0503412    14.49   0.000     .6306969
.8280307
                 2 3 0  |   .7886136   .0171525    45.98   0.000     .7549953
.822232
                 2 3 1  |   .7951276   .0563252    14.12   0.000     .6847323
.9055229
                        |
        _predict#colrace |
                 3 1    |   .1046183   .0078723    13.29   0.000     .0891889
.1200477
                 3 2    |   .0974518   .0108114     9.01   0.000     .0762619
.1186417
                 3 3    |   .0909172   .0116918     7.78   0.000     .0680018
.1138326
                        |
        _predict#arr1821 |
                 3 0    |   .0954139   .0056717    16.82   0.000     .0842975
.1065303
                 3 1    |   .1341533   .0187308     7.16   0.000     .0974416
.1708649
                        |
_predict#colrace#arr1821 |
                 3 1 0  |   .0978566   .0082227    11.90   0.000     .0817403
.1139728
                 3 1 1  |   .1581677    .026353     6.00   0.000     .1065168
.2098186
                 3 2 0  |   .0907648   .0110234     8.23   0.000     .0691594
.1123701
                 3 2 1  |   .1515967   .0404218     3.75   0.000     .0723714
.230822
                 3 3 0  |   .0959711    .012606     7.61   0.000     .0712638
.1206784
                 3 3 1  |   .0535692   .0303507     1.77   0.078     -.005917
.1130555
------------------------------------------------------------------------------
----

.
. mlogit smokedif13_ord b1.colrace##i.arr1821 arpre18 smokepre18 family_cat usborn if
(female == 1 & colrace != 4), rrr

Iteration 0:   log likelihood = -1901.0851
Iteration 1:   log likelihood = -1810.3896
Iteration 2:   log likelihood =  -1805.459
Iteration 3:   log likelihood = -1805.4465
Iteration 4:   log likelihood = -1805.4465

Multinomial logistic regression                 Number of obs     =      2,958
                                                LR chi2(18)       =     191.28
                                                Prob > chi2       =     0.0000
Log likelihood = -1805.4465                     Pseudo R2         =     0.0503

------------------------------------------------------------------------------
 smokedif13_ord |        RRR   Std. Err.      z    P>|z|     [95% Conf. Interval]
----------------+-------------------------------------------------------------
0               |
        colrace |
             2  |   .7636302   .1370232    -1.50   0.133     .5372128    1.085475
             3  |   1.120439   .1977472     0.64   0.519     .7927918    1.583498
```

```
                |
      1.arr1821 |   1.315518   .3229204     1.12   0.264     .8131156    2.128342
                |
colrace#arr1821 |
           2 1  |   1.841392    .842841     1.33   0.182     .7508178     4.51604
           3 1  |   .7764451   .4435117    -0.44   0.658     .2534531    2.378614
                |
        arpre18 |   1.367333    .251837     1.70   0.089     .9530131    1.961777
     smokepre18 |   3.250406   .4479884     8.55   0.000     2.480964    4.258482
     family_cat |   .8979765   .1202951    -0.80   0.422     .6906148      1.1676
         usborn |   1.154287   .3650701     0.45   0.650     .6210142    2.145488
          _cons |   .0636474    .021918    -8.00   0.000     .0324082    .1249987
----------------+----------------------------------------------------------------
1               |  (base outcome)
----------------+----------------------------------------------------------------
2               |
        colrace |
             2  |   .6833059   .1160435    -2.24   0.025     .4898448    .9531731
             3  |   .9144569   .1613365    -0.51   0.612      .647123     1.29223
                |
      1.arr1821 |   1.339831   .3257934     1.20   0.229     .8319008    2.157884
                |
colrace#arr1821 |
           2 1  |    1.69534   .7632662     1.17   0.241     .7015098    4.097131
           3 1  |   1.825979   .8610881     1.28   0.202     .7245853    4.601528
                |
        arpre18 |   1.087924   .2061354     0.44   0.656     .7504409    1.577178
     smokepre18 |   2.457589   .3240646     6.82   0.000     1.897874    3.182373
     family_cat |   .6861915   .0898227    -2.88   0.004     .5309123    .8868863
         usborn |   1.307624   .4246365     0.83   0.409     .6919334    2.471162
          _cons |   .0868546   .0301989    -7.03   0.000     .0439374    .1716927
------------------------------------------------------------------------------

. margins colrace##arr1821

Predictive margins                              Number of obs     =      2,958
Model VCE    : OIM

1._predict   : Pr(smokedif13_ord==0), predict(pr outcome(0))
2._predict   : Pr(smokedif13_ord==1), predict(pr outcome(1))
3._predict   : Pr(smokedif13_ord==2), predict(pr outcome(2))

------------------------------------------------------------------------------
             |            Delta-method
             |     Margin   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
_predict#colrace |
          1 1  |   .0990222   .0076187    13.00   0.000     .0840898    .1139546
          1 2  |   .0875414   .0105779     8.28   0.000     .0668091    .1082737
          1 3  |   .1060714   .0127167     8.34   0.000     .0811471    .1309956
               |
_predict#arr1821 |
          1 0  |   .0946055   .0056612    16.71   0.000     .0835098    .1057012
          1 1  |    .122065   .0189789     6.43   0.000     .0848671    .1592629
               |
```

```
_predict#colrace#arr1821 |
                  1 1 0  |   .0967558   .0080906    11.96   0.000     .0808986
.112613
                  1 1 1  |    .117594   .0223093     5.27   0.000     .0738685
.1613195
                  1 2 0  |   .0795572   .0105238     7.56   0.000     .0589309
.1001835
                  1 2 1  |   .1526053   .0443217     3.44   0.001     .0657363
.2394743
                  1 3 0  |   .1080165   .0133974     8.06   0.000     .0817581
.1342749
                  1 3 1  |   .0941414    .040706     2.31   0.021      .014359
.1739238
                         |
        _predict#colrace |
                  2 1    |   .7883728   .0105245    74.91   0.000     .7677452
.8090004
                  2 2    |   .8253789   .0134985    61.15   0.000     .7989223
.8518355
                  2 3    |   .7824092    .016733    46.76   0.000      .749613
.8152053
                         |
        _predict#arr1821 |
                  2 0    |   .8057746   .0075108   107.28   0.000     .7910537
.8204955
                  2 1    |   .7227744   .0272007    26.57   0.000     .6694619
.7760869
                         |
_predict#colrace#arr1821 |
                  2 1 0  |   .7932629    .011117    71.36   0.000      .771474
.8150517
                  2 1 1  |   .7457864   .0319982    23.31   0.000      .683071
.8085017
                  2 2 0  |   .8397891   .0137091    61.26   0.000     .8129198
.8666585
                  2 2 1  |   .7007296   .0555934    12.60   0.000     .5917686
.8096907
                  2 3 0  |   .7917086   .0171874    46.06   0.000     .7580219
.8253952
                  2 3 1  |   .6956402   .0675398    10.30   0.000     .5632647
.8280157
                         |
        _predict#colrace |
                  3 1    |   .1126049    .008331    13.52   0.000     .0962764
.1289335
                  3 2    |   .0870797   .0101213     8.60   0.000     .0672424
.106917
                  3 3    |   .1115194   .0130992     8.51   0.000     .0858455
.1371933
                         |
        _predict#arr1821 |
                  3 0    |   .0996199   .0057915    17.20   0.000     .0882687
.1109711
                  3 1    |   .1551606   .0223901     6.93   0.000     .1112769
.1990443
                         |
_predict#colrace#arr1821 |
                  3 1 0  |   .1099813   .0087718    12.54   0.000      .092789
.1271736
                  3 1 1  |   .1366196   .0256574     5.32   0.000      .086332
.1869073
                  3 2 0  |   .0806537   .0101194     7.97   0.000       .06082
.1004873
```

```
                 3 2 1  |   .1466651   .0430691     3.41   0.001     .0622511
.231079
                 3 3 0  |    .100275   .0129874     7.72   0.000     .0748202
.1257297
                 3 3 1  |   .2102184   .0603926     3.48   0.000     .0918511
.3285856
------------------------------------------------------------------------------
----

.
. mlogit smokedif14_ord b1.colrace##i.arr1821 arpre18 smokepre18 family_cat usborn if
(female == 1 & colrace != 4), rrr

Iteration 0:   log likelihood = -1893.0272
Iteration 1:   log likelihood = -1793.3277
Iteration 2:   log likelihood = -1784.7557
Iteration 3:   log likelihood = -1784.7173
Iteration 4:   log likelihood = -1784.7173

Multinomial logistic regression                 Number of obs     =      2,932
                                                LR chi2(18)       =     216.62
                                                Prob > chi2       =     0.0000
Log likelihood = -1784.7173                     Pseudo R2         =     0.0572

------------------------------------------------------------------------------
 smokedif14_ord |        RRR   Std. Err.      z    P>|z|     [95% Conf. Interval]
----------------+-------------------------------------------------------------
0               |
        colrace |
             2  |   .7956925   .1356252    -1.34   0.180     .5697162    1.111302
             3  |   1.136315   .1945571     0.75   0.455     .8123775    1.589422
                |
      1.arr1821 |   1.649578   .3680864     2.24   0.025     1.065212    2.554523
                |
colrace#arr1821 |
           2 1  |   1.185261   .5604879     0.36   0.719     .4691335    2.994549
           3 1  |   .7004032   .3544794    -0.70   0.482     .2597458    1.888634
                |
        arpre18 |    1.24422   .2180883     1.25   0.213     .8824656    1.754272
     smokepre18 |   3.331133   .4387739     9.14   0.000     2.573194    4.312325
     family_cat |   .8910031   .1134334    -0.91   0.365     .6942453    1.143525
         usborn |   1.118413   .3252652     0.38   0.700     .6324836    1.977675
          _cons |   .0738513   .0234579    -8.20   0.000     .0396264    .1376358
----------------+-------------------------------------------------------------
1               |  (base outcome)
----------------+-------------------------------------------------------------
2               |
        colrace |
             2  |   .8611316   .1541735    -0.84   0.404     .6062809    1.223109
             3  |   1.145259    .213533     0.73   0.467     .7946901    1.650479
                |
      1.arr1821 |   1.332781   .3505374     1.09   0.275     .7959442    2.231696
                |
colrace#arr1821 |
           2 1  |    3.21587   1.363731     2.75   0.006     1.400669    7.383485
           3 1  |   .8364675   .4846662    -0.31   0.758     .2686864    2.604069
                |
        arpre18 |    .984445   .1963335    -0.08   0.937     .6659344    1.455297
     smokepre18 |   2.981725   .4202161     7.75   0.000     2.262077     3.93032
     family_cat |   .7748241   .1078577    -1.83   0.067     .5898118    1.017871
         usborn |   2.196793   .8964267     1.93   0.054     .9872938    4.888006
          _cons |   .0365444    .015729    -7.69   0.000     .0157201    .0849543
------------------------------------------------------------------------------
```

```
. margins colrace##arr1821

Predictive margins                              Number of obs     =      2,932
Model VCE    : OIM

1._predict   : Pr(smokedif14_ord==0), predict(pr outcome(0))
2._predict   : Pr(smokedif14_ord==1), predict(pr outcome(1))
3._predict   : Pr(smokedif14_ord==2), predict(pr outcome(2))

------------------------------------------------------------------------------
                             |            Delta-method
                             |     Margin   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-----------------------------+------------------------------------------------
        _predict#colrace |
                      1 1  |   .1146919   .0081056    14.15   0.000     .0988051
.1305786
                      1 2  |   .0939664    .010985     8.55   0.000     .0724362
.1154966
                      1 3  |   .1213318   .0137201     8.84   0.000     .0944408
.1482228
                           |
        _predict#arr1821 |
                      1 0  |   .1065851     .00598    17.82   0.000     .0948646
.1183056
                      1 1  |   .1461644   .0203712     7.18   0.000     .1062376
.1860911
                           |
_predict#colrace#arr1821 |
                    1 1 0  |   .1090881   .0085257    12.80   0.000     .0923781
.1257982
                    1 1 1  |   .1601723   .0258918     6.19   0.000     .1094254
.2109192
                    1 2 0  |    .090762    .011218     8.09   0.000     .0687751
.1127488
                    1 2 1  |   .1254509   .0413664     3.03   0.002     .0443744
.2065275
                    1 3 0  |   .1198331   .0142581     8.40   0.000     .0918877
.1477785
                    1 3 1  |   .1335415   .0479079     2.79   0.005     .0396438
.2274392
                           |
        _predict#colrace |
                      2 1  |   .7953817   .0102131    77.88   0.000     .7753645
.815399
                      2 2  |   .8098115   .0139452    58.07   0.000     .7824793
.8371437
                      2 3  |    .780063   .0171552    45.47   0.000     .7464394
.8136866
                           |
        _predict#arr1821 |
                      2 0  |   .8057299    .007527   107.05   0.000     .7909773
.8204825
                      2 1  |   .7106015   .0269365    26.38   0.000     .6578069
.7633961
                           |
_predict#colrace#arr1821 |
                    2 1 0  |   .8025741    .010778    74.46   0.000     .7814496
.8236987
```

```
                 2 1 1  |   .7347733   .0318806    23.05   0.000     .6722885
.797258
                 2 2 0  |   .8297701   .0141973    58.45   0.000      .801944
.8575963
                 2 2 1  |   .6328662   .0582903    10.86   0.000     .5186193
.7471132
                 2 3 0  |   .7823047   .0178127    43.92   0.000     .7473924
.8172169
                 2 3 1  |   .7611537   .0614866    12.38   0.000     .6406422
.8816652
                        |
        _predict#colrace |
                 3 1    |   .0899264    .007343    12.25   0.000     .0755343
.1043185
                 3 2    |   .0962221   .0107754     8.93   0.000     .0751028
.1173414
                 3 3    |   .0986052   .0127773     7.72   0.000     .0735621
.1236483
                        |
        _predict#arr1821 |
                 3 0    |    .087685   .0054975    15.95   0.000       .07691
.0984599
                 3 1    |   .1432341   .0210567     6.80   0.000     .1019638
.1845045
                        |
_predict#colrace#arr1821 |
                 3 1 0  |   .0883377   .0077697    11.37   0.000     .0731094
.1035661
                 3 1 1  |   .1050544   .0220193     4.77   0.000     .0618974
.1482113
                 3 2 0  |   .0794679   .0103178     7.70   0.000     .0592453
.0996905
                 3 2 1  |   .2416828   .0525062     4.60   0.000     .1387726
.344593
                 3 3 0  |   .0978623    .013283     7.37   0.000     .0718281
.1238964
                 3 3 1  |   .1053048   .0450115     2.34   0.019     .0170839
.1935258
------------------------------------------------------------------------------
----

.
. mlogit smokedif15_ord b1.colrace##i.arr1821 arpre18 smokepre18 family_cat usborn if
(female == 1 & colrace != 4), rrr

Iteration 0:   log likelihood = -1742.9362
Iteration 1:   log likelihood =  -1626.128
Iteration 2:   log likelihood = -1615.4232
Iteration 3:   log likelihood = -1615.3721
Iteration 4:   log likelihood = -1615.3721

Multinomial logistic regression                 Number of obs     =      2,851
                                                LR chi2(18)       =     255.13
                                                Prob > chi2       =     0.0000
Log likelihood = -1615.3721                     Pseudo R2         =     0.0732

------------------------------------------------------------------------------
 smokedif15_ord |        RRR   Std. Err.      z    P>|z|     [95% Conf. Interval]
----------------+-------------------------------------------------------------
0               |
        colrace |
             2  |   .6644029   .1245952    -2.18   0.029     .4600511    .9595264
             3  |   .8746978   .1653419    -0.71   0.479     .6038897    1.266947
```

```
                |
      1.arr1821 |   .7666379   .2092196    -0.97   0.330      .449048    1.308844
                |
colrace#arr1821 |
           2 1  |   5.921659   2.579061     4.08   0.000     2.521851    13.90488
           3 1  |   .9010965   .6239041    -0.15   0.880     .2319603    3.500491
                |
        arpre18 |   1.197028   .2326011     0.93   0.355      .817905    1.751887
     smokepre18 |   3.583841   .5114271     8.94   0.000     2.709438    4.740436
     family_cat |   .8509827   .1184185    -1.16   0.246     .6478459    1.117814
         usborn |   2.162966   .9505515     1.76   0.079     .9140607    5.118284
          _cons |   .0362779   .0166591    -7.22   0.000      .014749     .089232
----------------+------------------------------------------------------------------
1               |  (base outcome)
----------------+------------------------------------------------------------------
2               |
        colrace |
             2  |   .9225703    .166911    -0.45   0.656     .6471434     1.31522
             3  |   1.146739   .2137137     0.73   0.463     .7958461    1.652342
                |
      1.arr1821 |   .9307896   .2449459    -0.27   0.785     .5557122    1.559025
                |
colrace#arr1821 |
           2 1  |   1.402284   .7517871     0.63   0.528     .4903355    4.010318
           3 1  |   .7565528   .4749332    -0.44   0.657     .2210494     2.58934
                |
        arpre18 |   1.507053    .275572     2.24   0.025      1.05313    2.156626
     smokepre18 |   4.129738   .6089936     9.62   0.000     3.093141    5.513728
     family_cat |   .6790272   .0973534    -2.70   0.007     .5126829    .8993432
         usborn |   1.682554    .655949     1.33   0.182     .7836559     3.61254
          _cons |   .0391604   .0161916    -7.84   0.000     .0174141    .0880629
------------------------------------------------------------------------------

. margins colrace##arr1821

Predictive margins                              Number of obs     =      2,851
Model VCE    : OIM

1._predict   : Pr(smokedif15_ord==0), predict(pr outcome(0))
2._predict   : Pr(smokedif15_ord==1), predict(pr outcome(1))
3._predict   : Pr(smokedif15_ord==2), predict(pr outcome(2))

------------------------------------------------------------------------------
             |            Delta-method
             |     Margin   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
_predict#colrace |
          1 1  |    .100711    .007757    12.98   0.000     .0855075    .1159144
          1 2  |   .0911071   .0107867     8.45   0.000     .0699656    .1122486
          1 3  |   .0875514   .0121129     7.23   0.000     .0638105    .1112922
               |
_predict#arr1821 |
          1 0  |   .0926799   .0056999    16.26   0.000     .0815083    .1038516
          1 1  |   .1219489   .0190304     6.41   0.000     .0846501    .1592478
               |
```

```
_predict#colrace#arr1821 |
                  1 1 0  |   .1030834   .0083637    12.33   0.000     .0866909
.119476
                  1 1 1  |   .0823113   .0185995     4.43   0.000     .0458569
.1187657
                  1 2 0  |   .0724594   .0103277     7.02   0.000     .0522176
.0927013
                  1 2 1  |   .2427467   .0518388     4.68   0.000     .1411446
.3443489
                  1 3 0  |    .090051   .0127409     7.07   0.000     .0650792
.1150227
                  1 3 1  |   .0675279   .0377491     1.79   0.074    -.0064589
.1415147
                         |
        _predict#colrace |
                  2 1    |   .8085509   .0099595    81.18   0.000     .7890306
.8280712
                  2 2    |   .8210662   .0137978    59.51   0.000      .794023
.8481093
                  2 3    |   .8112138   .0162445    49.94   0.000     .7793751
.8430524
                         |
        _predict#arr1821 |
                  2 0    |   .8144307   .0074159   109.82   0.000     .7998959
.8289656
                  2 1    |   .7915354     .02307    34.31   0.000     .7463191
.8367517
                         |
_predict#colrace#arr1821 |
                  2 1 0  |   .8059434   .0106762    75.49   0.000     .7850184
.8268684
                  2 1 1  |   .8293137   .0250769    33.07   0.000     .7801639
.8784634
                  2 2 0  |   .8385004   .0141468    59.27   0.000     .8107732
.8662275
                  2 2 1  |   .6726228   .0551276    12.20   0.000     .5645748
.7806709
                  2 3 0  |   .8058234   .0169884    47.43   0.000     .7725268
.8391199
                  2 3 1  |   .8524842   .0517932    16.46   0.000     .7509715
.953997
                         |
        _predict#colrace |
                  3 1    |   .0907381   .0073443    12.35   0.000     .0763435
.1051327
                  3 2    |   .0878268   .0106455     8.25   0.000     .0669619
.1086916
                  3 3    |   .1012349   .0127872     7.92   0.000     .0761725
.1262973
                         |
        _predict#arr1821 |
                  3 0    |   .0928893   .0056907    16.32   0.000     .0817358
.1040429
                  3 1    |   .0865157   .0154657     5.59   0.000     .0562035
.1168278
                         |
_predict#colrace#arr1821 |
                  3 1 0  |   .0909732   .0079159    11.49   0.000     .0754584
.1064879
                  3 1 1  |    .088375   .0184784     4.78   0.000      .052158
.124592
                  3 2 0  |   .0890402   .0112296     7.93   0.000     .0670307
.1110497
```

```
                  3 2 1  |   .0846304   .0328683     2.57   0.010     .0202097
.1490511
                  3 3 0  |   .1041257   .0134928     7.72   0.000     .0776803
.130571
                  3 3 1  |   .0799879   .0386211     2.07   0.038     .0042918
.1556839
------------------------------------------------------------------------------
----

.
. mlogit smokedif16_ord b1.colrace##i.arr1821 arpre18 smokepre18 family_cat usborn if
(female == 1 & colrace != 4), rrr

Iteration 0:   log likelihood = -1438.1686
Iteration 1:   log likelihood = -1355.8122
Iteration 2:   log likelihood = -1351.2096
Iteration 3:   log likelihood = -1351.2054
Iteration 4:   log likelihood = -1351.2054

Multinomial logistic regression                 Number of obs     =      2,275
                                                LR chi2(18)       =     173.93
                                                Prob > chi2       =     0.0000
Log likelihood = -1351.2054                     Pseudo R2         =     0.0605

------------------------------------------------------------------------------
 smokedif16_ord |        RRR   Std. Err.      z    P>|z|     [95% Conf. Interval]
----------------+-------------------------------------------------------------
0               |
        colrace |
             2  |    1.03922   .1982539     0.20   0.840     .7150263    1.510402
             3  |    1.09914   .2242747     0.46   0.643      .736833    1.639597
                |
      1.arr1821 |   1.822051   .4930171     2.22   0.027      1.07211    3.096576
                |
colrace#arr1821 |
           2 1  |   1.055376   .5163942     0.11   0.912     .4044968    2.753589
           3 1  |   .6212406   .4002688    -0.74   0.460     .1757219    2.196311
                |
        arpre18 |   1.462189   .2950894     1.88   0.060     .9845087    2.171638
     smokepre18 |    3.39766   .5194283     8.00   0.000     2.517965    4.584691
     family_cat |     .76375   .1156553    -1.78   0.075     .5676139     1.02766
         usborn |   .7907538   .2602742    -0.71   0.476     .4148307    1.507342
          _cons |   .0934714    .033606    -6.59   0.000     .0462003    .1891096
----------------+-------------------------------------------------------------
1               |  (base outcome)
----------------+-------------------------------------------------------------
2               |
        colrace |
             2  |    .894438   .1803206    -0.55   0.580     .6024849    1.327866
             3  |   .9189164   .2020273    -0.38   0.701     .5972224    1.413891
                |
      1.arr1821 |   1.785742   .4968038     2.08   0.037     1.035165    3.080548
                |
colrace#arr1821 |
           2 1  |    .859759   .4722545    -0.28   0.783     .2929697    2.523078
           3 1  |   .6292725    .448783    -0.65   0.516     .1555181    2.546223
                |
        arpre18 |   1.336591    .290594     1.33   0.182     .8728413    2.046737
     smokepre18 |   3.256042   .5254341     7.32   0.000     2.373176    4.467351
     family_cat |   .7553336   .1205893    -1.76   0.079     .5523878    1.032841
         usborn |   1.082317    .431659     0.20   0.843     .4953026    2.365037
          _cons |   .0689638    .029377    -6.28   0.000     .0299247    .1589327
------------------------------------------------------------------------------
```

```
. margins colrace##arr1821

Predictive margins                              Number of obs     =      2,275
Model VCE    : OIM

1._predict   : Pr(smokedif16_ord==0), predict(pr outcome(0))
2._predict   : Pr(smokedif16_ord==1), predict(pr outcome(1))
3._predict   : Pr(smokedif16_ord==2), predict(pr outcome(2))

------------------------------------------------------------------------------
                             |            Delta-method
                             |     Margin   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-----------------------------+------------------------------------------------
        _predict#colrace |
                  1 1  |    .102164   .0089151    11.46   0.000     .0846907
.1196372
                  1 2  |   .1082263   .0129991     8.33   0.000     .0827486
.1337041
                  1 3  |   .1073227   .0147765     7.26   0.000     .0783613
.136284
                       |
        _predict#arr1821 |
                  1 0  |   .1000647   .0065723    15.23   0.000     .0871832
.1129461
                  1 1  |   .1460782   .0235351     6.21   0.000     .0999502
.1922062
                       |
_predict#colrace#arr1821 |
                1 1 0  |    .096937   .0093189    10.40   0.000     .0786724
.1152017
                1 1 1  |   .1483545   .0294691     5.03   0.000     .0905961
.2061128
                1 2 0  |   .1015067   .0131751     7.70   0.000     .0756839
.1273295
                1 2 1  |   .1662288   .0499257     3.33   0.001     .0683763
.2640814
                1 3 0  |   .1062376   .0150822     7.04   0.000      .076677
.1357982
                1 3 1  |   .1165849    .055327     2.11   0.035      .008146
.2250239
                       |
        _predict#colrace |
                  2 1  |   .8009646   .0116066    69.01   0.000     .7782162
.823713
                  2 2  |    .806169   .0159677    50.49   0.000      .774873
.8374651
                  2 3  |    .807369   .0184755    43.70   0.000     .7711577
.8435804
                       |
        _predict#arr1821 |
                  2 0  |   .8116997   .0083907    96.74   0.000     .7952543
.8281452
                  2 1  |   .7330718   .0295026    24.85   0.000     .6752477
.7908958
                       |
_predict#colrace#arr1821 |
                2 1 0  |   .8108151   .0121618    66.67   0.000     .7869785
.8346517
```

```
                 2 1 1  |   .7130079   .0383121    18.61   0.000     .6379176
.7880982
                 2 2 0  |   .8153583    .016441    49.59   0.000     .7831345
.8475822
                 2 2 1  |   .7248614   .0586697    12.35   0.000      .609871
.8398518
                 2 3 0  |   .8092331   .0188495    42.93   0.000     .7722888
.8461775
                 2 3 1  |   .7912914   .0709716    11.15   0.000     .6521896
.9303931
                        |
        _predict#colrace |
                 3 1    |   .0968714   .0087217    11.11   0.000     .0797773
.1139656
                 3 2    |   .0856046   .0116634     7.34   0.000     .0627447
.1084646
                 3 3    |   .0853083   .0135145     6.31   0.000     .0588203
.1117963
                        |
        _predict#arr1821 |
                 3 0    |   .0882356   .0062336    14.15   0.000      .076018
.1004533
                 3 1    |     .12085   .0215471     5.61   0.000     .0786185
.1630815
                        |
_predict#colrace#arr1821 |
                 3 1 0  |   .0922479   .0091057    10.13   0.000      .074401
.1100947
                 3 1 1  |   .1386376   .0289273     4.79   0.000     .0819413
.195334
                 3 2 0  |    .083135   .0119825     6.94   0.000     .0596496
.1066203
                 3 2 1  |   .1089098   .0418126     2.60   0.009     .0269586
.190861
                 3 3 0  |   .0845293   .0137959     6.13   0.000     .0574899
.1115686
                 3 3 1  |   .0921237   .0510158     1.81   0.071    -.0078654
.1921128
------------------------------------------------------------------------------
----

.
. mlogit smokedif17_ord b1.colrace##i.arr1821 arpre18 smokepre18 family_cat usborn if
(female == 1 & colrace != 4), rrr

Iteration 0:   log likelihood =  -986.6396
Iteration 1:   log likelihood = -930.45582
Iteration 2:   log likelihood = -924.41378
Iteration 3:   log likelihood = -924.37921
Iteration 4:   log likelihood = -924.37921

Multinomial logistic regression                 Number of obs     =      1,667
                                                LR chi2(18)       =     124.52
                                                Prob > chi2       =     0.0000
Log likelihood = -924.37921                     Pseudo R2         =     0.0631

------------------------------------------------------------------------------
 smokedif17_ord |        RRR   Std. Err.      z    P>|z|     [95% Conf. Interval]
----------------+-------------------------------------------------------------
0               |
        colrace |
             2  |    1.00367   .2339227     0.02   0.987     .6356294    1.584814
             3  |   1.041535   .2591091     0.16   0.870     .6396096    1.696026
```

```
                |
      1.arr1821 |   1.545311   .4938002     1.36   0.173     .8260697    2.890781
                |
colrace#arr1821 |
           2 1  |   .6684826    .476522    -0.56   0.572     .1653173    2.703098
           3 1  |   .2824175   .3139983    -1.14   0.255     .0319526    2.496187
                |
        arpre18 |   1.189642   .3103777     0.67   0.506     .7134076    1.983786
     smokepre18 |   3.225222   .5998628     6.30   0.000     2.239977    4.643822
     family_cat |   .7903437   .1451246    -1.28   0.200     .5514632    1.132701
         usborn |   1.034096   .4509815     0.08   0.939      .439888    2.430972
          _cons |   .0714368   .0336799    -5.60   0.000     .0283537    .1799838
----------------+-----------------------------------------------------------------
1               |  (base outcome)
----------------+-----------------------------------------------------------------
2               |
        colrace |
             2  |   1.070242   .2739798     0.27   0.791     .6480012    1.767616
             3  |   1.275307   .3342424     0.93   0.353     .7630015    2.131593
                |
      1.arr1821 |   1.913862   .6123756     2.03   0.042      1.02224    3.583178
                |
colrace#arr1821 |
           2 1  |   1.990087   1.085073     1.26   0.207       .68354    5.794023
           3 1  |   .6851058   .5220657    -0.50   0.620     .1538592    3.050647
                |
        arpre18 |   1.250787   .3288472     0.85   0.395      .747123    2.093991
     smokepre18 |    3.85852   .7664458     6.80   0.000      2.61421    5.695097
     family_cat |   .8563199   .1662686    -0.80   0.424     .5852767    1.252884
         usborn |     2.2689   1.408226     1.32   0.187     .6722096    7.658186
          _cons |   .0225843   .0147568    -5.80   0.000     .0062752     .081281
------------------------------------------------------------------------------

. margins colrace##arr1821

Predictive margins                              Number of obs     =      1,667
Model VCE    : OIM

1._predict   : Pr(smokedif17_ord==0), predict(pr outcome(0))
2._predict   : Pr(smokedif17_ord==1), predict(pr outcome(1))
3._predict   : Pr(smokedif17_ord==2), predict(pr outcome(2))

------------------------------------------------------------------------------
             |            Delta-method
             |     Margin   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
_predict#colrace |
          1 1  |   .0956434   .0101274     9.44   0.000     .0757941    .1154927
          1 2  |   .0894313   .0141612     6.32   0.000     .0616758    .1171868
          1 3  |   .0872566   .0155991     5.59   0.000     .0566829    .1178303
               |
_predict#arr1821 |
          1 0  |   .0925213   .0074705    12.38   0.000     .0778794    .1071632
          1 1  |   .0943885   .0211893     4.45   0.000     .0528582    .1359189
               |
```

```
_predict#colrace#arr1821 |
                  1 1 0  |   .0923046   .0106841     8.64   0.000     .0713641
.1132452
                  1 1 1  |   .1244944   .0306191     4.07   0.000     .0644821
.1845067
                  1 2 0  |   .0919923   .0150358     6.12   0.000     .0625227
.1214619
                  1 2 1  |   .0748685   .0414247     1.81   0.071    -.0063224
.1560594
                  1 3 0  |   .0932727   .0167954     5.55   0.000     .0603543
.1261911
                  1 3 1  |   .0419512   .0413637     1.01   0.310    -.0391202
.1230226
                         |
          _predict#colrace |
                  2 1    |   .8264836   .0126761    65.20   0.000     .8016389
.8513283
                  2 2    |   .8163312   .0185577    43.99   0.000     .7799588
.8527035
                  2 3    |   .8194385   .0212761    38.51   0.000      .777738
.861139
                         |
          _predict#arr1821 |
                  2 0    |   .8307854   .0094784    87.65   0.000      .812208
.8493628
                  2 1    |   .7573762   .0319131    23.73   0.000     .6948276
.8199248
                         |
_predict#colrace#arr1821 |
                  2 1 0  |   .8354061   .0133677    62.49   0.000     .8092059
.8616062
                  2 1 1  |   .7555666   .0394238    19.17   0.000     .6782973
.8328359
                  2 2 0  |   .8312158    .019042    43.65   0.000     .7938941
.8685374
                  2 2 1  |   .6978108     .06881    10.14   0.000     .5629456
.832676
                  2 3 0  |   .8174352   .0218865    37.35   0.000     .7745384
.860332
                  2 3 1  |   .8373372   .0758011    11.05   0.000     .6887697
.9859046
                         |
          _predict#colrace |
                  3 1    |    .077873     .00886     8.79   0.000     .0605077
.0952383
                  3 2    |   .0942375    .014464     6.52   0.000     .0658885
.1225865
                  3 3    |   .0933049   .0167297     5.58   0.000     .0605153
.1260945
                         |
          _predict#arr1821 |
                  3 0    |   .0766933    .006866    11.17   0.000     .0632362
.0901505
                  3 1    |   .1482353   .0267429     5.54   0.000     .0958201
.2006504
                         |
_predict#colrace#arr1821 |
                  3 1 0  |   .0722893   .0092878     7.78   0.000     .0540856
.0904929
                  3 1 1  |    .119939   .0286368     4.19   0.000      .063812
.176066
                  3 2 0  |   .0767919   .0139847     5.49   0.000     .0493825
.1042014
```

```
                 3 2 1  |   .2273207   .0640207     3.55   0.000     .1018426
.3527989
                 3 3 0  |   .0892921    .016763     5.33   0.000     .0564373
.1221469
                 3 3 1  |   .1207116   .0664006     1.82   0.069    -.0094311
.2508544
------------------------------------------------------------------------------
----

.
. mlogit smokedif18_ord b1.colrace##i.arr1821 arpre18 smokepre18 family_cat usborn if
(female == 1 & colrace != 4), rrr

Iteration 0:   log likelihood = -687.95285
Iteration 1:   log likelihood = -654.35604
Iteration 2:   log likelihood =  -652.6946
Iteration 3:   log likelihood = -652.69315
Iteration 4:   log likelihood = -652.69315

Multinomial logistic regression                 Number of obs     =      1,089
                                                LR chi2(18)       =      70.52
                                                Prob > chi2       =     0.0000
Log likelihood = -652.69315                     Pseudo R2         =     0.0513

------------------------------------------------------------------------------
 smokedif18_ord |        RRR   Std. Err.      z    P>|z|     [95% Conf. Interval]
----------------+-------------------------------------------------------------
0               |
        colrace |
             2  |    .821517   .2284683    -0.71   0.480     .4763135    1.416903
             3  |   .7967613   .2539607    -0.71   0.476     .4265944    1.488131
                |
      1.arr1821 |   .9799538   .4033098    -0.05   0.961     .4374063    2.195463
                |
colrace#arr1821 |
           2 1  |   2.352552   1.718517     1.17   0.242     .5620108    9.847676
           3 1  |   .6689719   .7869301    -0.34   0.733     .0666985    6.709647
                |
        arpre18 |   1.540036   .4770664     1.39   0.163     .8391681    2.826265
     smokepre18 |    2.89067   .6590113     4.66   0.000     1.849024    4.519125
     family_cat |   .7839533   .1771848    -1.08   0.282     .5033921    1.220883
         usborn |   1.328463   .8447211     0.45   0.655     .3820334    4.619527
          _cons |   .0708124   .0469079    -4.00   0.000     .0193309    .2593976
----------------+-------------------------------------------------------------
1               |  (base outcome)
----------------+-------------------------------------------------------------
2               |
        colrace |
             2  |   .8624895   .2408211    -0.53   0.596     .4989816    1.490813
             3  |   1.060175   .3156039     0.20   0.844     .5915387    1.900081
                |
      1.arr1821 |   .8671425   .3720929    -0.33   0.740      .373971     2.01068
                |
colrace#arr1821 |
           2 1  |   2.637169   1.958052     1.31   0.192      .615369    11.30161
           3 1  |   .5712614   .6737744    -0.47   0.635     .0566089    5.764806
                |
        arpre18 |   1.506491   .4662495     1.32   0.185     .8213441    2.763173
     smokepre18 |   3.252972   .7347989     5.22   0.000     2.089326    5.064707
     family_cat |   .7708857   .1733143    -1.16   0.247     .4961566    1.197736
         usborn |   1.554947   .9840358     0.70   0.485     .4498209    5.375163
          _cons |   .0558163   .0368705    -4.37   0.000     .0152927    .2037223
------------------------------------------------------------------------------
```

```
. margins colrace##arr1821

Predictive margins                              Number of obs     =      1,089
Model VCE    : OIM

1._predict   : Pr(smokedif18_ord==0), predict(pr outcome(0))
2._predict   : Pr(smokedif18_ord==1), predict(pr outcome(1))
3._predict   : Pr(smokedif18_ord==2), predict(pr outcome(2))

------------------------------------------------------------------------------
                             |            Delta-method
                             |     Margin   Std. Err.      z    P>|z|     [95% Conf.
Interval]
-----------------------------+------------------------------------------------
        _predict#colrace |
                  1 1  |   .1040294   .0131873     7.89   0.000     .0781829
.129876
                  1 2  |   .0962603   .0175449     5.49   0.000      .061873
.1306476
                  1 3  |   .0820226   .0195398     4.20   0.000     .0437253
.12032
                       |
        _predict#arr1821 |
                  1 0  |   .0958995   .0093824    10.22   0.000     .0775102
.1142887
                  1 1  |   .1129704   .0301176     3.75   0.000     .0539409
.1719998
                       |
_predict#colrace#arr1821 |
                1 1 0  |   .1039731   .0140276     7.41   0.000     .0764795
.1314667
                1 1 1  |   .1039057   .0344151     3.02   0.003     .0364534
.1713581
                1 2 0  |   .0890152   .0174724     5.09   0.000     .0547699
.1232604
                1 2 1  |   .1604522   .0726691     2.21   0.027     .0180235
.302881
                1 3 0  |   .0843899   .0205438     4.11   0.000     .0441248
.124655
                1 3 1  |   .0620167    .060908     1.02   0.309    -.0573607
.1813942
                       |
        _predict#colrace |
                  2 1  |   .7967135   .0171507    46.45   0.000     .7630988
.8303281
                  2 2  |   .8058834   .0224676    35.87   0.000     .7618477
.849919
                  2 3  |   .8148313    .026982    30.20   0.000     .7619476
.8677151
                       |
        _predict#arr1821 |
                  2 0  |   .8050022   .0123137    65.37   0.000     .7808679
.8291366
                  2 1  |   .7822692   .0387352    20.20   0.000     .7063496
.8581887
                       |
_predict#colrace#arr1821 |
                2 1 0  |   .7954452   .0182266    43.64   0.000     .7597217
.8311687
```

```
                  2 1 1  |   .8071007   .0445001    18.14   0.000     .7198821
.8943192
                  2 2 0  |   .8204796    .022939    35.77   0.000     .7755199
.8654393
                  2 2 1  |   .6787223   .0892254     7.61   0.000     .5038438
.8536008
                  2 3 0  |   .8069359   .0283535    28.46   0.000     .7513641
.8625077
                  2 3 1  |   .8774437    .083026    10.57   0.000     .7147156
1.040172
                         |
        _predict#colrace |
                  3 1    |   .0992571   .0127404     7.79   0.000     .0742864
.1242278
                  3 2    |   .0978563   .0176886     5.53   0.000     .0631874
.1325253
                  3 3    |    .103146   .0215552     4.79   0.000     .0608987
.1453934
                         |
        _predict#arr1821 |
                  3 0    |   .0990983   .0094945    10.44   0.000     .0804895
.1177071
                  3 1    |   .1047605   .0289173     3.62   0.000     .0480835
.1614374
                         |
_predict#colrace#arr1821 |
                  3 1 0  |   .1005817   .0136502     7.37   0.000     .0738278
.1273356
                  3 1 1  |   .0889936   .0312293     2.85   0.004     .0277853
.150202
                  3 2 0  |   .0905052   .0176368     5.13   0.000     .0559377
.1250727
                  3 2 1  |   .1608254   .0722869     2.22   0.026     .0191457
.3025051
                  3 3 0  |   .1086742   .0230344     4.72   0.000     .0635276
.1538208
                  3 3 1  |   .0605396   .0593936     1.02   0.308    -.0558698
.176949
------------------------------------------------------------------------------
----

.
. *mlogit smokedif19_ord b1.colrace##i.arr1821 arpre18 smokepre18 family_cat usborn if
(female == 1 & colrace != 4), rrr
.
end of do-file

. log close
```