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clear all
*****
***** EXAMPLES *****
*****

use "C:\Users\Cyrus\Desktop\ADQUANT - 020720\GSS2016.dta"

***** LOGIT Model Comparison *****
** Coding of Variables **
recode attend (7 8 =1 "Weekly") (.d=.) (else=0 "Non-Weekly"), gen(wkattnd)

    * Check
    tab wkattnd

* Political Ideology
recode polviews (1 2 3=1 "libs.") (4=0 "mods") (5 6 7=2 "cons."), gen (pview)

    * Check
    tab pview

** recode degree for advanced and BA
recode degree (3=1 "BA") (4=2 "Advance") (0 1 2=0 "No Col.") (.n=.), gen(cdeg)

    * Check
    tab cdeg

*****
***** MODEL/GROUP COMPARISON *****
*****
eststo clear
** Full
eststo: logit wkattnd i.pview i.sex i.cdeg i.race c.age

** Men
eststo: logit wkattnd i.pview i.cdeg i.race c.age if sex==1

** Women
eststo: logit wkattnd i.pview i.cdeg i.race c.age if sex==2

** Interaction comparions
eststo:logit wkattnd i.pview##i.sex i.cdeg i.race c.age

    ** Comparison Table
    esttab, b(%9.2f) se(%9.2f) aic bic nonnumber nodelpvars varwidth(15)          ///
    drop (0.pview 1.sex 0.cdeg 1.race 0.pview#1.sex 1.pview#1.sex              ///
    2.pview#1.sex 0.pview#2.sex)                                              ///
    order(1.pview 2.pview 2.sex 1.pview#2.sex 2.pview#2.sex )                ///
    coeflabel( 1.pview "Liberals" 2.pview "Conservatives" 1.cdeg "Bachelors" ///
    2.cdeg "Advanced Deg." 2.race "Black" 3.race "Other Race" age "Age"      ///
    2.sex "Female" _cons "Intercept" 1.pview#2.sex "Libs*Female"           ///
    2.pview#2.sex "Cons*Female")                                             ///
    mtitle("Full" "Men" "Women" "Interaction")

** Interaction comparions
logit wkattnd i.pview##i.sex i.cdeg i.race c.age

    ** To test the differences in the probabilities first we post them so we can
    ** recall for testing
    margins pview#sex, post

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** Plotting is a good way to eyeball difference
marginsplot, recast(bar) x(pview sex) xlabel(, angle(30))

** Formal statistical tests of difference - Moderates by gender
test 0.pview#1.sex=0.pview#2.sex

** Formal statistical tests of difference - Liberal by gender
test 1.pview#1.sex=1.pview#2.sex

** Formal statistical tests of difference - Conservatives by gender
test 2.pview#1.sex=2.pview#2.sex

** What else can we test under these conditions? **

** Formal statistical tests of difference - Mod v lib for males nder
test 0.pview#1.sex=1.pview#1.sex

** How do we report this?

eststo clear
** Formal statistical tests of difference - no college by gender
eststo: logit wkattnd i.pview##i.sex i.cdeg i.race c.age

** Margins for testing
margins pview#sex, post

** Formal statistical tests of difference - no college by gender
test 0.pview#1.sex=0.pview#2.sex
estadd scalar chil = r(chi2)
estadd scalar df1 = r(df)
estadd scalar p1 = r(p)

** Saving it all
eststo

** Table
esttab, b(%9.2f) se(%9.2f) aic bic nonumber nodelvars varwidth(15)          ///
drop (0.pview 1.sex 0.cdeg 1.race )                                       ///
order(1.pview 2.pview 2.sex 0.pview#1.sex 0.pview#2.sex 1.pview#1.sex    ///
1.pview#2.sex 2.pview#1.sex 2.pview#2.sex)                                ///
coeflabel( 1.pview "Liberals" 2.pview "Conservatives" 1.cdeg "Bachelors"  ///
2.cdeg "Advanced Deg." 2.race "Black" 3.race "Other Race" age "Age"      ///
2.sex "Female" _cons "Intercept" 0.pview#1.sex "Mods*Male"              ///
0.pview#2.sex "Mods*Female" 1.pview#1.sex "Libs*Male" 1.pview#2.sex      ///
"Libs*Female" 2.pview#1.sex "Cons*Male" 2.pview#2.sex "Cons*Female")     ///
mtitle("Full" "Probablities") scalar(chil df1 p1)

** Age dif by race
logit wkattnd i.pview i.sex i.cdeg i.race##c.age##c.age

** Margins
margins race, at(age=(20(10)90))

**Plot it
marginsplot, recastci(rarea) legend(row(1))

** Margins
margins r.race if race!=1, at(age=(20(10)90))

**Plot it
marginsplot, recastci(rarea) legend(row(1)) yline(0, lw(thick))

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