do "C:\Users\LOCAL\_~4\Temp\2\STD2c40\_000000.tmp"

set more off

set linesize 150

cd "H:\CRUE\Stata\Datasources"

H:\CRUE\Stata\Datasources

use FGH\_2022\_COHORT\_GEN\_EX.dta, replace

capture log close

log using "FGH\_ANALYSIS\_2022\_Results\_GEN\_EX.log", replace

--------------------------------------------------------------------------------------

name: <unnamed>

log: H:\CRUE\Stata\Datasources\FGH\_ANALYSIS\_2022\_Results\_GEN\_EX.log

log type: text

opened on: 3 Mar 2024, 15:20:05

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Limit Sample \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

foreach x in belong fgh01 oncampus01 homevisits timestuorg firstgencomp01{

codebook `x'

}

--------------------------------------------------------------------------------------

belong Level of belonging on campus: 0=no, 1=some, 2=high

--------------------------------------------------------------------------------------

Type: Numeric (float)

Label: labelbelong

Range: [0,2] Units: 1

Unique values: 3 Missing .: 415/5,190

Tabulation: Freq. Numeric Label

539 0 Low belonging

2,710 1 Some belonging

1,526 2 High belonging

415 .

--------------------------------------------------------------------------------------

fgh01 In FGH at Census: 0=no, 1=yes

--------------------------------------------------------------------------------------

Type: Numeric (float)

Label: labelfgh

Range: [0,1] Units: 1

Unique values: 2 Missing .: 0/5,190

Tabulation: Freq. Numeric Label

5,055 0 No in FGH

135 1 In FGH

--------------------------------------------------------------------------------------

oncampus01 Lives On-Campus: 0=no, 1=yes

--------------------------------------------------------------------------------------

Type: Numeric (float)

Label: labeloncampus01

Range: [0,1] Units: 1

Unique values: 2 Missing .: 0/5,190

Tabulation: Freq. Numeric Label

690 0 Off Campus

4,500 1 On Campus

--------------------------------------------------------------------------------------

homevisits Number of visits to home student made

--------------------------------------------------------------------------------------

Type: Numeric (float)

Range: [0,5] Units: 1

Unique values: 6 Missing .: 415/5,190

Tabulation: Freq. Value

116 0

1,678 1

1,540 2

739 3

373 4

329 5

415 .

--------------------------------------------------------------------------------------

timestuorg Number of hours spent per week with a student or community organization

--------------------------------------------------------------------------------------

Type: Numeric (float)

Range: [1,7] Units: 1

Unique values: 7 Missing .: 415/5,190

Tabulation: Freq. Value

122 1

189 2

117 3

828 4

509 5

1,284 6

1,726 7

415 .

--------------------------------------------------------------------------------------

firstgencomp01 First Gen not in Any Program: 0=no, 1=yes

--------------------------------------------------------------------------------------

Type: Numeric (float)

Label: labelfirstgencomp01

Range: [0,1] Units: 1

Unique values: 2 Missing .: 0/5,190

Tabulation: Freq. Numeric Label

4,286 0 Not in FGH Comparison Group

904 1 In FGH Comparison Group

drop if belong==. | timestuorg==. | homevisits==.

(415 observations deleted)

drop if fgh01==0 & firstgencomp01==0

(3,844 observations deleted)

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Descriptive Statistics \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

tabulate belong

Level of |

belonging on |

campus: 0=no, |

1=some, 2=high | Freq. Percent Cum.

---------------+-----------------------------------

Low belonging | 129 13.86 13.86

Some belonging | 534 57.36 71.21

High belonging | 268 28.79 100.00

---------------+-----------------------------------

Total | 931 100.00

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Empty Means Models \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

display "STATA Empty Model Predicting Ordinal Belong"

STATA Empty Model Predicting Ordinal Belong

gologit2 belong, pl nolog

Generalized Ordered Logit Estimates Number of obs = 931

LR chi2(0) = 0.00

Prob > chi2 = .

Log likelihood = -885.5257 Pseudo R2 = 0.0000

------------------------------------------------------------------------------

belong | Coefficient Std. err. z P>|z| [95% conf. interval]

-------------+----------------------------------------------------------------

Low\_belong~g |

\_cons | 1.827296 .0948621 19.26 0.000 1.64137 2.013223

-------------+----------------------------------------------------------------

Some\_belon~g |

\_cons | -.905788 .0723854 -12.51 0.000 -1.047661 -.7639153

------------------------------------------------------------------------------

display "-2LL= " e(ll)\*-2 // Print -2LL for model

-2LL= 1771.0514

estat ic, n(931) // AIC and BIC using N=931

Akaike's information criterion and Bayesian information criterion

-----------------------------------------------------------------------------

Model | N ll(null) ll(model) df AIC BIC

-------------+---------------------------------------------------------------

. | 931 -885.5257 -885.5257 2 1775.051 1784.724

-----------------------------------------------------------------------------

margins // all 3 probabilities

Predictive margins Number of obs = 931

Model VCE: OIM

1.\_predict: Pr(belong==0), predict(pr outcome(0))

2.\_predict: Pr(belong==1), predict(pr outcome(1))

3.\_predict: Pr(belong==2), predict(pr outcome(2))

------------------------------------------------------------------------------

| Delta-method

| Margin std. err. z P>|z| [95% conf. interval]

-------------+----------------------------------------------------------------

\_predict |

1 | .1385607 .0113229 12.24 0.000 .1163682 .1607532

2 | .5735768 .0162084 35.39 0.000 .5418088 .6053448

3 | .2878625 .0148388 19.40 0.000 .2587789 .3169461

------------------------------------------------------------------------------

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Proportional Odds - FGH Model \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

display "STATA Proportional Odds Model Predicting Ordinal Belong from FGH Participation"

STATA Proportional Odds Model Predicting Ordinal Belong from FGH Participation

gologit2 belong fgh01, pl nolog

Generalized Ordered Logit Estimates Number of obs = 931

LR chi2(1) = 0.06

Prob > chi2 = 0.8019

Log likelihood = -885.49421 Pseudo R2 = 0.0000

( 1) [Low\_belonging]fgh01 - [Some\_belonging]fgh01 = 0

------------------------------------------------------------------------------

belong | Coefficient Std. err. z P>|z| [95% conf. interval]

-------------+----------------------------------------------------------------

Low\_belong~g |

fgh01 | -.046136 .1839129 -0.25 0.802 -.4065986 .3143266

\_cons | 1.833927 .0985327 18.61 0.000 1.640806 2.027047

-------------+----------------------------------------------------------------

Some\_belon~g |

fgh01 | -.046136 .1839129 -0.25 0.802 -.4065986 .3143266

\_cons | -.8993065 .0768139 -11.71 0.000 -1.049859 -.748754

------------------------------------------------------------------------------

display "-2LL= " e(ll)\*-2 // Print -2LL for model

-2LL= 1770.9876

estat ic, n(931) // AIC and BIC using N=931

Akaike's information criterion and Bayesian information criterion

-----------------------------------------------------------------------------

Model | N ll(null) ll(model) df AIC BIC

-------------+---------------------------------------------------------------

. | 931 -885.5257 -885.4938 4 1778.988 1798.333

-----------------------------------------------------------------------------

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Proportional Odds - 4 Predictor Model \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

display "STATA Proportional Odds Model Predicting Ordinal Belong"

STATA Proportional Odds Model Predicting Ordinal Belong

gologit2 belong fgh01 oncampus01 homevisits timestuorg, pl nolog

Generalized Ordered Logit Estimates Number of obs = 931

LR chi2(4) = 36.82

Prob > chi2 = 0.0000

Log likelihood = -867.11427 Pseudo R2 = 0.0208

( 1) [Low\_belonging]fgh01 - [Some\_belonging]fgh01 = 0

( 2) [Low\_belonging]oncampus01 - [Some\_belonging]oncampus01 = 0

( 3) [Low\_belonging]homevisits - [Some\_belonging]homevisits = 0

( 4) [Low\_belonging]timestuorg - [Some\_belonging]timestuorg = 0

------------------------------------------------------------------------------

belong | Coefficient Std. err. z P>|z| [95% conf. interval]

-------------+----------------------------------------------------------------

Low\_belong~g |

fgh01 | -.1813189 .1883232 -0.96 0.336 -.5504256 .1877878

oncampus01 | .6812639 .2214445 3.08 0.002 .2472407 1.115287

homevisits | -.1197216 .0491482 -2.44 0.015 -.2160504 -.0233929

timestuorg | .1748086 .0419844 4.16 0.000 .0925208 .2570964

\_cons | .6384709 .3156213 2.02 0.043 .0198646 1.257077

-------------+----------------------------------------------------------------

Some\_belon~g |

fgh01 | -.1813189 .1883232 -0.96 0.336 -.5504256 .1877878

oncampus01 | .6812639 .2214445 3.08 0.002 .2472407 1.115287

homevisits | -.1197216 .0491482 -2.44 0.015 -.2160504 -.0233929

timestuorg | .1748086 .0419844 4.16 0.000 .0925208 .2570964

\_cons | -2.186434 .3258317 -6.71 0.000 -2.825053 -1.547816

------------------------------------------------------------------------------

display "-2LL= " e(ll)\*-2 // Print -2LL for model

-2LL= 1734.2285

estat ic, n(931) // AIC and BIC using N=931

Akaike's information criterion and Bayesian information criterion

-----------------------------------------------------------------------------

Model | N ll(null) ll(model) df AIC BIC

-------------+---------------------------------------------------------------

. | 931 -885.5257 -867.1143 6 1746.229 1775.246

-----------------------------------------------------------------------------

margins, at(c.fgh01=(0(1)1) c.oncampus01=(0(1)1) c.timestuorg=(1(2)5)) predict(xb) // Yhat>0 in logits

Predictive margins Number of obs = 931

Model VCE: OIM

Expression: Linear prediction, belong==0, predict(xb)

1.\_at: fgh01 = 0

oncampus01 = 0

timestuorg = 1

2.\_at: fgh01 = 0

oncampus01 = 0

timestuorg = 3

3.\_at: fgh01 = 0

oncampus01 = 0

timestuorg = 5

4.\_at: fgh01 = 0

oncampus01 = 1

timestuorg = 1

5.\_at: fgh01 = 0

oncampus01 = 1

timestuorg = 3

6.\_at: fgh01 = 0

oncampus01 = 1

timestuorg = 5

7.\_at: fgh01 = 1

oncampus01 = 0

timestuorg = 1

8.\_at: fgh01 = 1

oncampus01 = 0

timestuorg = 3

9.\_at: fgh01 = 1

oncampus01 = 0

timestuorg = 5

10.\_at: fgh01 = 1

oncampus01 = 1

timestuorg = 1

11.\_at: fgh01 = 1

oncampus01 = 1

timestuorg = 3

12.\_at: fgh01 = 1

oncampus01 = 1

timestuorg = 5

------------------------------------------------------------------------------

| Delta-method

| Margin std. err. z P>|z| [95% conf. interval]

-------------+----------------------------------------------------------------

\_at |

1 | .5332003 .2623361 2.03 0.042 .0190309 1.04737

2 | .8828175 .2242695 3.94 0.000 .4432573 1.322378

3 | 1.232435 .2141842 5.75 0.000 .8126413 1.652228

4 | 1.214464 .2003194 6.06 0.000 .8218455 1.607083

5 | 1.564081 .1359222 11.51 0.000 1.297679 1.830484

6 | 1.913699 .1045148 18.31 0.000 1.708853 2.118544

7 | .3518814 .3230917 1.09 0.276 -.2813668 .9851295

8 | .7014986 .2847732 2.46 0.014 .1433534 1.259644

9 | 1.051116 .2681507 3.92 0.000 .5255501 1.576681

10 | 1.033145 .2744182 3.76 0.000 .4952954 1.570995

11 | 1.382763 .2210957 6.25 0.000 .9494229 1.816102

12 | 1.73238 .1912139 9.06 0.000 1.357607 2.107152

------------------------------------------------------------------------------

marginsplot, xdimension(c.timestuorg) noci // graph of Yhat>0 in logits

Variables that uniquely identify margins: fgh01 oncampus01 timestuorg

A graph of a graph with colored lines

Description automatically generated with medium confidence

display "Get Odds Ratios Instead of Logit Fixed Effects"

Get Odds Ratios Instead of Logit Fixed Effects

gologit2 belong fgh01 oncampus01 homevisits timestuorg, pl or nolog

Generalized Ordered Logit Estimates Number of obs = 931

LR chi2(4) = 36.82

Prob > chi2 = 0.0000

Log likelihood = -867.11427 Pseudo R2 = 0.0208

( 1) [Low\_belonging]fgh01 - [Some\_belonging]fgh01 = 0

( 2) [Low\_belonging]oncampus01 - [Some\_belonging]oncampus01 = 0

( 3) [Low\_belonging]homevisits - [Some\_belonging]homevisits = 0

( 4) [Low\_belonging]timestuorg - [Some\_belonging]timestuorg = 0

------------------------------------------------------------------------------

belong | Odds ratio Std. err. z P>|z| [95% conf. interval]

-------------+----------------------------------------------------------------

Low\_belong~g |

fgh01 | .8341693 .1570934 -0.96 0.336 .5767043 1.206577

oncampus01 | 1.976374 .4376572 3.08 0.002 1.280487 3.050444

homevisits | .8871674 .0436027 -2.44 0.015 .8056947 .9768786

timestuorg | 1.191018 .0500041 4.16 0.000 1.096936 1.29317

\_cons | 1.893583 .5976551 2.02 0.043 1.020063 3.515132

-------------+----------------------------------------------------------------

Some\_belon~g |

fgh01 | .8341693 .1570934 -0.96 0.336 .5767043 1.206577

oncampus01 | 1.976374 .4376572 3.08 0.002 1.280487 3.050444

homevisits | .8871674 .0436027 -2.44 0.015 .8056947 .9768786

timestuorg | 1.191018 .0500041 4.16 0.000 1.096936 1.29317

\_cons | .1123165 .0365963 -6.71 0.000 .0593055 .212712

------------------------------------------------------------------------------

Note: \_cons estimates baseline odds.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\* TEST - Non-Proportional Odds - 4 Predictor Model \*\*\*\*\*\*\*\*\*\*\*\*

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

display "TEST - STATA Non-Proportional Odds Model Predicting Ordinal Belong"

TEST - STATA Non-Proportional Odds Model Predicting Ordinal Belong

display "TEST - all 4 predictor slopes not significantly different across submodels"

TEST - all 4 predictor slopes not significantly different across submodels

gologit2 belong fgh01 oncampus01 homevisits timestuorg, gamma nolog

Generalized Ordered Logit Estimates Number of obs = 931

LR chi2(8) = 41.87

Prob > chi2 = 0.0000

Log likelihood = -864.59318 Pseudo R2 = 0.0236

------------------------------------------------------------------------------

belong | Coefficient Std. err. z P>|z| [95% conf. interval]

-------------+----------------------------------------------------------------

Low\_belong~g |

fgh01 | -.3098778 .277364 -1.12 0.264 -.8535013 .2337457

oncampus01 | .8783161 .2573471 3.41 0.001 .373925 1.382707

homevisits | -.1031184 .0683743 -1.51 0.132 -.2371296 .0308929

timestuorg | .2412801 .0573777 4.21 0.000 .128822 .3537383

\_cons | .1303533 .3864377 0.34 0.736 -.6270508 .8877573

-------------+----------------------------------------------------------------

Some\_belon~g |

fgh01 | -.1314672 .2123767 -0.62 0.536 -.5477179 .2847835

oncampus01 | .4439422 .2706327 1.64 0.101 -.0864882 .9743726

homevisits | -.1356053 .0579065 -2.34 0.019 -.2491001 -.0221106

timestuorg | .1326181 .048394 2.74 0.006 .0377676 .2274686

\_cons | -1.699194 .378176 -4.49 0.000 -2.440406 -.9579828

------------------------------------------------------------------------------

Alternative parameterization: Gammas are deviations from proportionality

------------------------------------------------------------------------------

belong | Coefficient Std. err. z P>|z| [95% conf. interval]

-------------+----------------------------------------------------------------

Beta |

fgh01 | -.3098778 .277364 -1.12 0.264 -.8535013 .2337457

oncampus01 | .8783161 .2573471 3.41 0.001 .373925 1.382707

homevisits | -.1031184 .0683743 -1.51 0.132 -.2371296 .0308929

timestuorg | .2412801 .0573777 4.21 0.000 .128822 .3537383

-------------+----------------------------------------------------------------

Gamma\_2 |

fgh01 | .1784106 .3047434 0.59 0.558 -.4188754 .7756966

oncampus01 | -.4343739 .3144695 -1.38 0.167 -1.050723 .1819749

homevisits | -.032487 .0782165 -0.42 0.678 -.1857886 .1208146

timestuorg | -.1086621 .0651559 -1.67 0.095 -.2363653 .0190412

-------------+----------------------------------------------------------------

Alpha |

\_cons\_1 | .1303533 .3864377 0.34 0.736 -.6270508 .8877573

\_cons\_2 | -1.699194 .378176 -4.49 0.000 -2.440406 -.9579828

------------------------------------------------------------------------------

display "-2LL= " e(ll)\*-2 // Print -2LL for model

-2LL= 1729.1864

estat ic, n(931) // AIC and BIC using N=931

Akaike's information criterion and Bayesian information criterion

-----------------------------------------------------------------------------

Model | N ll(null) ll(model) df AIC BIC

-------------+---------------------------------------------------------------

. | 931 -885.5257 -864.5932 10 1749.186 1797.549

-----------------------------------------------------------------------------

log close

name: <unnamed>

log: H:\CRUE\Stata\Datasources\FGH\_ANALYSIS\_2022\_Results\_GEN\_EX.log

log type: text

closed on: 3 Mar 2024, 15:20:08

--------------------------------------------------------------------------------------