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*****
***** Solutions for Topic 3*****
*****
global main_loc "/Users/gesun/Desktop/Bootcamp2023/03_Graphs/Class_Exercise"
global data "$main_loc/data"
global logfile "$main_loc/log_files"

clear
clear all
set more off
capture log close

log using "$logfile/topic3.log", replace

use "$data/baseline_student_raw.dta",clear

* 1. Draw a picture that shows the distribution of the highest education level the
oldest sibling has. Change the title of the picture and change the theme of the picture
to whatever you like.
order sib_age* sib_high_edu*
gen old_sib = 0
gen old_sib_edu = .

forvalues i = 1/11{
replace old_sib_edu = sib_high_edu_level`i' if sib_age`i' > old_sib & sib_age`i' < .
replace old_sib = sib_age`i' if sib_age`i' > old_sib & sib_age`i' < .
}

list sib_age* sib_high_edu* old_sib old_sib_edu
list child_id if sib_age5 > sib_age1 & sib_age5 < .

list sib_age* sib_high_edu* old_sib old_sib_edu if child_id == 3405054

hist old_sib_edu // Not quite right

label list grp10_3sib_edu_level5

recode old_sib_edu(12=0) (11=0)

tab old_sib_edu

recode old_sib_edu(0=.)

hist old_sib_edu, title("The distribution of education levels of the child's oldest
sibling") xtitle("education level") scheme(s2mono)

graph export "$logfile/old_edu_dist.pdf", as(pdf) name("Graph") replace

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/* 2. There is a variable shows whether the student has a TV in her house. And for
those who have a TV, there are 6 variables show what do they watch on TV "what_tv_*.
Make a bar picture where horizontal axis shows that the type of TV programs, and
vertical axis show the percentage of students who watch it. There are several other
alterations that are expected:
- change the legends to their proper meanings
- change the unit of the vertical axis to percentage and keep the first two digits
after the decimal point
- Add a note to specify the data source ("Survey data collected by Dhar et al.(2022)")
- Add a title to this graph
*/

order what_tv*

graph bar (mean) what_tv_1 (mean) what_tv_2 (mean) what_tv_3 (mean) what_tv_4 (mean)
what_tv_5 (mean) what_tv_6, percentages xlabel(bar, format(%9.2f)) ylabel(,
format(%9.2g)) title(Different TV programs that child watches) note(Data source: Survey
data collected by Dhar et al.(2022)) legend(on) scheme(s2mono) legend(label(1 "Sports")
label(2 "Family Serials") label(3 "Cartoons") label(4 "News") label(5 "Movies") label(6
"Songs"))

graph export "$logfile/tv_programs.pdf", as(pdf) name("Graph") replace

capture log close

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