

# Subject index

## Symbols

|                        |     |
|------------------------|-----|
| $\beta$ weights.....   | 272 |
| $\eta^2$ .....         | 222 |
| $\phi$ .....           | 131 |
| * comment .....        | 83  |
| /* and */ comment..... | 83  |

## A

|                                       |            |
|---------------------------------------|------------|
| acquiring datasets.....               | 449–450    |
| add, label define option .....        | 2          |
| agreement, intraclass correlation ... | 255        |
| alpha reliability.....                | 369        |
| ameans command.....                   | 95         |
| analysis of covariance .....          | see ANCOVA |
| analysis of variance.....             | see ANOVA  |
| ANCOVA .....                          | 231–242    |
| ANOVA,                                |            |
| degrees of freedom .....              | 221        |
| equal-variance test .....             | 221        |
| one-way .....                         | 215–216    |
| one-way power analysis ...            | 257–260    |
| power analysis.....                   | 257–264    |
| repeated-measures .....               | 249        |
| repeated-measures power               |            |
| analysis .....                        | 262–264    |
| two-way .....                         | 243–249    |
| two-way power analysis...             | 260–262    |
| ANOVA assumptions .....               | 216        |
| ATS at UCLA .....                     | 202        |

## B

|                                       |          |
|---------------------------------------|----------|
| bar chart .....                       | 105, 344 |
| bar graph of means .....              | 227      |
| Bartlett test of equal variances .... | 221      |
| beta weights.....                     | 209, 272 |
| limitation .....                      | 308      |
| binary variables.....                 | 292–293  |

|   |                |
|---|----------------|
| binscatter command.....                 | 196–200, 313   |
| block regression .....                  | 291–299        |
| blog .....                              | see Stata Blog |
| Bonferroni multiple-comparison test...  |                |
| .....                                   | 206, 219       |
| bookstore, Stata .....                  | 446            |
| bootstrap estimation of standard errors |                |
| .....                                   | 283            |
| bootstrap regression .....              | 278            |
| Boston College Stata site .....         | 444            |
| box plot.....                           | 115, 230–231   |

## C

|  |                   |
|--|-------------------|
| casewise deletion .....                | 203               |
| categorical covariates .....           | 233, 237          |
| categorical predictors, regression ... | 293               |
| categorical variable.....              | 299–301           |
| cause and effect .....                 | 194               |
| center command.....                    | 305               |
| centering.....                         | 317–318           |
| chi-squared                            |                   |
| table.....                             | 127               |
| test .....                             | 125, 346          |
| chitable command .....                 | 127–129           |
| clear command .....                    | 29                |
| cls command .....                      | 16                |
| codebook command .....                 | 43–45, 53–54, 136 |
| codebook example.....                  | 25–28             |
| coding system .....                    | 24–28             |
| coefficient of variation .....         | 114               |
| Cohen's <i>d</i> .....                 | 169–170, 174–182  |
| Cohen's <i>f</i> .....                 | 258               |
| collinearity .....                     | 287               |
| command structure .....                | 76                |
| Command window .....                   | 8, 10             |

confidence interval  
     regression line ..... 209  
     slope ..... 209  
 constant ..... 209  
 continuous covariates ..... 233–235  
 continuous variable ..... 313  
 conventions used in the book ..... 1  
 copying, HTML format ..... 18, 87  
 copying results to word processor ..... 18,  
     86  
 correlate command ..... 203–204  
 correlation,  
     interpreting ..... 200  
     limitation ..... 308  
     multiple comparison ..... 206  
 correlation ratio ..... 222, 241–242  
 count outcome variables ..... 337  
 Cramér's *V*, measure of association ...  
     ..... 131  
 creating value labels ..... 55–58  
 criterion-related validity ..... 376  
 cross-tabulation ..... 122  
 curve fitting ..... 311–317

**D**

data,  
     long format ..... 160, 217  
     wide format ..... 158, 217  
 Data Editor ..... 29–33, 40–41  
 dataset contents ..... 43  
 dataset,  
     acquisition ..... 449–450  
     c10interaction ..... 301, 326  
     c11barchart ..... 344  
     cancer ..... 10, 11  
     census ..... 325  
     censusfv ..... 19  
     chapter6\_aspirin ..... 134  
     chapter13\_missing ..... 399  
     chores ..... 171  
     create ..... 21–23  
     depression ..... 213  
     descriptive\_gss ..... 98, 117, 118  
     divorce ..... 331  
     download ..... xxix, 449–450

dataset, *continued*  
 environ ..... 334  
 firstsurvey ..... 43  
 firstsurvey\_chapter4 ..... 78, 83,  
     90  
 flourishing\_bmi ..... 414, 415  
 gss2002 and 2006\_chapter12 ...  
     ..... 392  
 gss2002\_chapter10 ..... 440  
 gss2002\_chapter6 ..... 146, 147  
 gss2002\_chapter7 ..... 155, 161, 162,  
     164, 172, 187  
 gss2002\_chapter8 ..... 213  
 gss2002\_chapter9 ..... 265  
 gss2002\_chapter10 ..... 325, 326  
 gss2002\_chapter11 ..... 359  
 gss2006\_chapter6 ..... 122, 135, 140,  
     143, 146  
 gss2006\_chapter6\_10percent ....  
     ..... 143  
 gss2006\_chapter8 .. 190, 212, 213  
 gss2006\_chapter8\_selected .. 206  
 gss2006\_chapter9 ..... 225, 232  
 gss2006\_chapter9\_2way ..... 243  
 gss2006\_chapter12 ..... 362, 369  
 gss2006\_chapter12\_selected ....  
     ..... 383  
 intraclass ..... 256  
 kappa1 ..... 373  
 kuder-richardson ..... 371  
 long ..... 160  
 nlsrw88 ..... 327  
 nlsy97\_chapter7 ..... 183, 187  
 nlsy97\_chapter11 ..... 337, 346  
 nlsy97\_selected\_variables ....  
     ..... 266, 291  
 ops2004 ..... 268, 412  
 partyid ..... 218, 228, 266  
 positive ..... 73  
 regsmpl ..... 311, 399, 440  
 relate ..... xxix, 50, 73  
 relate\_small ..... xxix  
 retest ..... 367  
 severity ..... 359  
 spearman ..... 211, 213

- dataset, *continued*
- wide* ..... 157
  - wide9* ..... 250
  - degrees of freedom, ..... 127
    - ANOVA ..... 221
    - one-sample *t* test ..... 164
  - dependent *t* test ..... 171
  - dependent variable ..... 124
  - describe** command ..... 10, 45–46, 51
  - dfbeta** command ..... 286
  - dialog box,
    - alpha* ..... 369
    - anova* ..... 243
    - codebook* ..... 43–45
    - correlate* ..... 203
    - describe* ..... 45–46
    - egen* ..... 68–70
    - generate* ..... 63, 65–66
    - graph bar* ..... 141–142, 227
    - graph box* ..... 230
    - graph hbox* ..... 115
    - graph pie* ..... 102
    - histogram* ..... 14–15, 105–107
    - kwallis* ..... 228
    - lfit* ..... 210
    - logistic* ..... 338–339
    - margins* ..... 236, 238–239, 245
    - nestreg* ..... 319
    - oneway* ..... 218–219
    - open* ..... 64
    - pcorr* ..... 273–274
    - power* ..... 177–178
    - prtest* ..... 155–161
    - recode* ..... 59–60, 291
    - regress* ..... 207, 269
    - rename* ..... 55
    - rvplot* ..... 280
    - scatter* ..... 191–195
    - sdtest* ..... 170
    - sktest* ..... 110
    - Submit vs. OK ..... 17
    - summarize* ..... 11
    - tab1* ..... 98
    - tabi* ..... 138–139
    - table* ..... 140
  - dialog box, *continued*
    - tabstat* ..... 114
    - tabulate* ..... 66–67, 122–126, 136
    - ttest* ..... 162–163, 166–169, 172
  - dictionary file ..... 50
  - difference of means test ..... 164
  - difference of proportions test ..... 157
  - discontinuity graph ..... 198–200
  - display** command ..... 169–170, 342, 431–432
  - do-file,
    - continuation line ..... 165
    - introduction ..... 6
  - Do-file Editor ..... 81–85
  - download datasets ..... 449–450
  - drop** command ..... 71
  - dummy variables ..... 292–293
- E**
- effect size ..... 169–170, 222, 241, 273
    - $\eta^2$  ..... 222, 241–242
  - egen** command ..... 63, 68–70, 363
  - egen count** command ..... 363
  - egen rowmean** command ..... 70, 363
  - egen rowmiss** command ..... 69
  - egenmore** command ..... 69
  - entering data ..... 29–33
  - equal variance, Bartlett test ..... 221
  - esize** command ..... 169–170
  - estat esize** command ..... 241–242
  - estat vif** postestimation command .. ..... 287–288
  - estimates store** command ..... 346
  - Excel
    - exporting data ..... 47
    - importing data ..... 47
  - exit Stata ..... 18, 43
  - exponentiation ..... 342
  - external validity ..... 203
- F**
- F* ratio ..... 221
  - F* test of unequal variances ..... 170
  - Facebook ..... see Stata on Facebook

- factor analysis, ..... 378  
 commonality ..... 381  
 eigenvalue ..... 381, 386  
 exploratory factor analysis ..... 379  
 extraction ..... 381  
 factor score ..... 381, 390  
 loading ..... 381  
 oblique rotation ..... 381, 388  
 orthogonal rotation ..... 381, 387  
 PCF ..... 380  
 PF ..... 379  
 postestimation ..... 382  
 principal component analysis ..... 380  
 principal-component factor analy-  
 sis ..... 380  
 promax ..... 388  
 rotation ..... 381  
 scree plot ..... 381, 386  
 simple structure ..... 381  
 varimax ..... 387  
 factor variable ..... 299–301  
 fonts, fixed ..... 86  
 format,  
   numeric ..... 31  
   string ..... 32  
**fre** command ..... 100–102  
 frequency distributions ..... 99  
**ftable** command ..... 221  
 full mediation ..... 435
- G**  
 gamma, measure of association ..... 136  
 generalized linear model ..... 427–428  
 generalized structural equation model-  
 ing ..... 413–441  
**generate** command ..... 63–68  
 geometric mean ..... 95  
**glm** command ..... 427–428  
 Goodman and Kruskal's gamma, mea-  
 sure of association ..... 136  
**GradPlan** ..... 446  
 graph,  
   alternative scattergram ..... 196–200  
   bar chart ..... 105, 142, 344  
   box plot ..... 115

- graph, *continued*  
 collinearity ..... 287  
 discontinuity ..... 198–200  
 hanging rootogram ..... 275  
 heteroskedasticity ..... 279  
 histogram ..... 108, 275  
 medians ..... 231  
 overlay two-way showing  
   interaction effects ..... 303  
 pie chart ..... 102  
 residual versus fitted ..... 280  
 scattergram ..... 190–196  
**graph bar** command ..... 141–142, 227,  
 344  
**graph box** command ..... 230–231  
 Graph Editor ..... 104–105  
 graphics book ..... 447  
**gsem** command ..... 413–441  
   logistic regression ..... 425–428  
 GUI interface, *Edit* ▶ *Preferences* ..... 8

## H

- harmonic mean ..... 95  
 help ..... 6  
   video ..... 19  
   web-based ..... 19  
**help, listcoef** option ..... 342–343  
**help label** command ..... 43  
 heteroskedasticity ..... 279  
 hierarchical regression ..... 291–299,  
 319–321, 353–355  
 histogram ..... 108  
**histogram** command ..... 13–17, 275  
 HTML format ..... 87

## I

- ice** command ..... 399  
 imputation ..... see multiple imputation  
 increment in  $R^2$  ..... 273  
 independent variable ..... 124  
 indicator variables ..... 292–293  
 interaction term ..... 301–304  
 interactive table ..... 138  
 intercept ..... 209  
 interquartile range ..... 114

- interval-level variables ..... 94  
 intraclass correlation ..... 255, 256
- J**  
`jitter()`, `scatter` option ..... 193
- K**  
`kappa` ..... 372  
`kappa`, weighted ..... 374  
`kappa` with three raters ..... 374  
`keep` command ..... 71  
 Kendall's tau, measure of association..  
       ..... 136  
 Kruskal–Wallis test, ANOVA alternative  
       ..... 228  
 Kuder–Richardson coefficient of  
     reliability ..... 371  
 kurtosis ..... 97, 110, 277–278
- L**  
`label variable` command ..... 57  
 labeling values ..... 33  
 labeling variables ..... 23  
 likelihood-ratio chi-squared test...346–  
       347  
 limitations of Stata ..... 450  
`list` command ..... 79–80, 218  
`list` option, `nolabel` ..... 218  
`listcoef` command ..... 342–344  
 listwise deletion ..... 203  
`log`, `.smcl` extension ..... 87  
`log` files ..... 87  
`log` files and graphs ..... 88  
`logistic` command ..... 338–341  
`logistic` regression ..... 329–360, 433  
     bar chart ..... 344  
     exponentiation ..... 342  
     hypothesis tests ..... 346  
     interpreting odds ratio ..... 341  
     likelihood-ratio chi-squared test...  
       ..... 346  
`logits` ..... 336  
 McFadden pseudo- $R^2$  ..... 340  
 nested ..... 353–355  
 nonlinear ..... 332
- logistic regression, *continued*  
 odds ratio ..... 334  
 percentage change ..... 341  
 pseudo- $R^2$  ..... 340  
 $S$ -curve ..... 332  
 vs. OLS regression ..... 333  
 Wald chi-squared test ..... 346  
`logit` command ..... 332, 338–341,  
       426–428  
`logits` ..... 336  
 long format ..... 160, 167, 217, 251–252  
`lrdrop1` command ..... 346–347  
`lrtest` command ..... 346
- M**  
`MAR` ..... 395–397  
`margins` command .. 236, 238–240, 306,  
       350–352  
`marginsplot` command ..... 246–249,  
       306–307  
 maximum number of variables ..... 450  
`MCAR` ..... 395–396  
 McFadden pseudo- $R^2$  ..... 340  
 mean squares ..... 221  
 measure of association,  
      $\eta^2$  ..... 222, 241–242  
      $\phi$  ..... 131  
     odds ratio ..... 133  
      $V$  ..... 131  
`median` command ..... 185  
 median, graph box plot ..... 231  
 mediation ..... 434–438  
     correlated residuals ..... 439  
     full ..... 435  
     partial ..... 435  
 menu, open ..... 64  
`mi estimate` command .. 399, 405–406  
`mi impute chained` command ..... 399  
`mi impute` command ..... 403–404  
`mi impute mvn` command ..... 399, 404  
`mi register` command ..... 403  
`mi set` command ..... 403–404  
`mibeta` command ..... 406–408  
`mim` command ..... 399  
 missing, count ..... 363

- missing values . . . . . 27, 54, 65, 77, 393–412
  - types . . . . . 53, 54
- misstable** command . . . . . 400–401
- more** command . . . . . 4, 44
- multicollinearity . . . . . 287
- multiple comparison,
  - Bonferroni . . . . . 219
  - Scheffé . . . . . 219
  - Šidák . . . . . 219
- multiple comparison and correlation . . . . . 206
- multiple correlation . . . . . 270
- multiple imputation . . . . . 393–412
- multiple regression command . . . . . 269–273
- multiple regression diagnostics . . . . . 283
- multiple regression with interaction
  - term . . . . . 301–307
- multiple regression,
  - block . . . . . 291–299
  - categorical predictors . . . . . 293
  - dummy variables . . . . . 293
  - hierarchical . . . . . 291–299
  - indicator variables . . . . . 293
  - influential case . . . . . 283
  - nested . . . . . 291–299
  - outlier . . . . . 283
  - residual . . . . . 279
  - weighted data . . . . . 289
- mvdecode** command . . . . . 54, 65, 165
- N**
- naming variables . . . . . 25
- nested regression . . . . . 291–299, 319–321, 353–355
- nestreg** command . . . . . 297–299, 319–321, 353–355
- NetCourses . . . . . 449
- nolabel, list** option . . . . . 218
- nominal-level variables . . . . . 94
- nonlinear . . . . . 332
- nonlinear regression . . . . . 308–321
- nonparametric ANOVA alternatives . . . . . 228
- nonparametric tests . . . . . 183
  - Mann–Whitney . . . . . 183
- nonparametric tests, *continued*
  - median . . . . . 184
  - rank sum . . . . . 183
  - normally distributed residuals . . . . . 278
  - numlabel** command . . . . . 80, 102
- O**
- odds ratio . . . . . 133, 334
  - interpretation . . . . . 341
  - percentage change . . . . . 341
- OLS regression vs. logistic regression . . . . . 333
- omega2** command . . . . . 241
- one-sample *t* test . . . . . 162
- one-way ANOVA . . . . . 215–216
- oneway** option
  - bonferroni** . . . . . 219
  - scheffe** . . . . . 219
  - sidak** . . . . . 219
- open
  - existing dataset . . . . . 9–11
  - Stata-installed dataset . . . . . 10
- optifact** command . . . . . 444
- option,
  - add, label define** . . . . . 2
  - help, listcoef** . . . . . 342–343
  - jitter(), scatter** . . . . . 193
  - percent, listcoef** . . . . . 343
- ordinal-level variables . . . . . 94
- ordinary least-squares regression . . . . . 413–415
- outlier . . . . . 283
- P**
- paired *t* test . . . . . 171
- part correlation . . . . . 273
- partial mediation . . . . . 435
- pasting,
  - reformatting . . . . . 86
- pasting results to word processor, . . . . . 86
  - formatting . . . . . 86
- path analysis . . . . . 434–438
- pcorr** command . . . . . 273, 295
- Pearson’s chi-squared . . . . . 136
- percent, listcoef** option . . . . . 343

- pie chart ..... 102
  - plot a confidence interval ..... 210
  - Poisson regression ..... 337
  - postestimation command,
    - `estat vif` ..... 287–288
    - `margins` ..... 306
    - `marginsplot` ..... 306–307
    - `predict` ..... 284–286, 302
    - `test` ..... 296–297
  - power, unequal standard deviations ... ..... 178
  - power analysis ..... 173–182
    - one-way ANOVA ..... 257–260
    - repeated-measures ANOVA ... 262–264
    - two-way ANOVA ..... 260–262
  - `power` command ..... 177–182
  - `power oneway` command ..... 257–260
  - `power repeated` command....262–264
  - `power twomeans` command....179–182
  - `power twoway` command ..... 260–262
  - `powerreg` command ..... 321–324
  - `predict` postestimation command.... ..... 284–286, 302
  - `predict` postregression..... 284–286
  - predictive validity ..... 376
  - probability tables ..... 127
  - product term ..... 304
  - project outline ..... 50
  - prophecy formula ..... 368
  - proportions,
    - one-sample test ..... 155
    - two-sample test ..... 157
  - `prtest` command ..... 155–161
  - pseudo- $R^2$  ..... 340
  - `pwcorr` command ..... 204–206
  - `pweights` ..... 290
  - `pwmean` command ..... 223–225
- Q**
- quadratic model,
    - centering ..... 317–318
    - examining ..... 319–321
    - fitting ..... 311–317
- qualifier,
    - `if` with missing values ..... 77
    - `in` ..... 78
- R**
- $R^2$  ..... 169–170, 270
    - change ..... 273
  - random sample ..... 191
    - how to draw ..... 153
  - random sampling ..... 151
  - randomization ..... 151
    - alternative to ..... 232
    - how to perform ..... 153
  - `ranksum` command..... 183
  - `recode` command..... 59–61, 291
  - recoding ..... 165
    - ranges ..... 59
  - `regress` command .. 207–210, 269–270, 293–296, 301–304
  - regression,
    - block ..... 291–299
    - bootstrap ..... 278
    - categorical predictors ..... 293
    - dummy variables ..... 293
    - hierarchical ..... 291–299
    - indicator variables ..... 293
    - influential case ..... 283
    - nested ..... 291–299
    - outlier ..... 283
    - residual ..... 279
    - robust ..... 278
    - weighted data ..... 289
  - regression diagnostics ..... 283
  - regression line, plotting ..... 195
  - regression with interaction term .. 301–307
  - reliability,
    - alpha ..... 369
    - equivalent forms ..... 368
    - kappa ..... 372
    - kappa with three raters ..... 374
    - Kuder–Richardson coefficient of reliability ..... 371
    - prophecy formula ..... 368
    - split-half ..... 368

- reliability, *continued*  
     test-retest ..... 367  
     weighted kappa ..... 374
- rename** command ..... 55, 251
- rename variable ..... 251
- repeated-measures *t* test ..... 171
- repeated-measures ANOVA ..... 249
- repeated-measures design ..... 262–264
- replace** command ..... 63, 165
- reshape** command ..... 251–252
- reshape wide to long format ..... 251–252
- residual ..... 278, 279
- Results window ..... 8  
     clear ..... 16  
     *more* ..... 4  
     scroll size ..... 4
- reverse coding ..... 363
- reverse-code variables ..... 58
- Review window ..... 8
- robust estimation of standard errors...  
     ..... 283
- robust regression ..... 278
- root mean squared error ..... 209
- S**
- sample, draw ..... 191
- sample** command ..... 143, 191
- save** command ..... 41–42
- saveold** command ..... 42
- scale construction ..... 362  
     reverse coding ..... 363
- scale creation ..... 68
- scatter** command ..... 191–197
- scattergram ..... 190–200
- scattergram with confidence interval ..  
     ..... 210
- scattergram with **jitter()** option ..... 193
- scattergram, alternative ..... 196–200
- Scheffé, multiple comparison ..... 219
- schemes ..... 15
- scientific notation ..... 272
- scree plot ..... 385–386
- S*-curve ..... 332
- sdttest** command ..... 170–171
- search** command ..... 6, 444
- seed for starting a random sample ..... 191
- sem** advantages ..... 413
- SEM Builder ..... 415–422  
     restore default settings ..... 423
- sem** command ..... 413–441
- sembuilder** command ..... 415
- semipartial correlation ..... 273, 295
- set more off** command ..... 4
- set seed** command ..... 143, 152, 190
- Šidák, multiple comparison ..... 219
- significance,  
     statistical ..... 202  
     substantive ..... 202
- skewness ..... 97, 110, 277–278
- skttest** command ..... 277–278
- slope ..... 209
- SMCL ..... 87
- spearman** command ..... 211
- Spearman's rho ..... 211
- split-half reliability ..... 368
- ssc** command ..... 444
- standardized beta coefficient ..... 209
- standardized beta weights ..... 272
- standardized regression coefficients ....  
     ..... 272
- Stat/Transfer ..... 450
- Stata Blog ..... 445
- Stata, limitations ..... 450
- Stata on Facebook ..... 445
- Stata on Twitter ..... 445
- Stata bookstore ..... 446
- Stata code for textbook examples ..... 444
- Stata/IC limitations ..... 450
- Stata Journal* ..... 446
- Stata listserver ..... 445
- Stata Markup and Control Language..  
     ..... see SMCL
- Stata NetCourses ..... 449
- Stata Portal, UCLA ..... 202, 444, 447
- Stata screen ..... 7
- Stata tutorial ..... 449
- Statalist ..... 445
- statistical significance versus  
     substantive significance ... 202
- structural equation modeling .. 413–441

- sum of squares ..... 221  
**summarize** command ..... 11–13, 110, 207,  
   276–277  
**summarize()**, **tabulate** option ..... 243–  
   249  
 summary of data ..... 27  
**sunflower** command ..... 193  
**sysuse** command ..... 10
- T**
- t* test,  
   one-sample ..... 162  
   power analysis ..... 177–182  
   two-sample ..... 164  
**tab** command ..... 143  
**tab1** command ..... 99, 203  
**tab2** command ..... 292  
**tabdisp** command ..... 252  
**tabi** command ..... 138–139  
 table ..... 122  
   probability ..... 127  
   summary statistics ..... 229  
 table calculator ..... 138–139  
**table** command ..... 140–141  
**tabstat** command ..... 114, 229  
**tabulate** command ..... 62, 66–  
   68, 99, 122–126, 134, 136–138,  
   243–249  
 tau, measure of association ..... 136  
 test of significance,  
   kurtosis ..... 110  
   skewness ..... 110  
**test** postestimation command ..... 296–  
   297  
 test-retest reliability ..... 367  
 tests,  
   Bonferroni ..... 206  
   chi-squared ..... 125  
   dependent *t* test ..... 171  
   likelihood-ratio chi-squared ..... 346–  
   347  
   likelihood-ratio chi-squared with  
     logistic regression ..... 346  
   logistic regression ..... 346  
   long format for portions ..... 160
- tests, *continued*  
   Mann–Whitney ..... 183  
   median ..... 184  
   multiple comparison with correla-  
     tions ..... 206  
   nonparametric ..... 183  
   one-sample *t* test ..... 162  
   paired *t* test ..... 171  
   proportions ..... 155, 157  
   rank sum ..... 183  
   repeated-measures *t* test ..... 171  
   skewness and kurtosis ..... 277–278  
   two-sample *t* test ..... 164  
   unequal variances ..... 170  
   Wald chi-squared test ..... 346  
   wide format for proportions ..... 158  
   *z* test for proportions ..... 161  
   *z* test with logistic regression ..... 346  
 textbook examples using Stata  
   commands ..... 444  
 tolerance ..... 287–288  
 toolbar,  
   Stata for Mac ..... 9  
   Stata for Windows ..... 9  
**ttest** command ..... 162–169, 172  
 tutorial ..... 449  
 Twitter ..... see Stata on Twitter  
 two-by-two table ..... 122  
 two-way ANOVA ..... 243–249  
**twoway** command ..... 195–196, 303
- U**
- UCLA Stata Portal ..... 19, 202, 444  
   reshaping data wide to long ..... 251  
 user-written commands ..... 444
- V**
- validity,  
   criterion related ..... 376  
   external ..... 203  
   predictive ..... 376  
 value labels ..... 23, 33–40, 55–58, 80  
 variable labels ..... 23  
 variable name ..... 22, 25  
   reserved ..... 22

Variables Manager ..... 33–40, 55–57, 71  
Variables window ..... 8  
variance inflation factor ..... 287–288  
VIF ..... see variance inflation factor

**W**

Wald chi-squared test ..... 346  
web search ..... 444  
weighted data ..... 289–291  
weighted kappa ..... 374  
weights, `pweights` ..... 290  
wide format .... 158, 168, 217, 251–252  
working directory ..... 9

**X**

`xtreg` command ..... 256  
`xtset` command ..... 253

**Z**

*z* test,  
    one-sample proportion ..... 155  
    two-sample proportion ..... 157  
zero-inflated models ..... 337