

## ASDA2 ANALYSIS EXAMPLE REPLICATION SPSS C9

\* Syntax for Analysis Example Replication C9

\* get NCSR data.

GET

SAS DATA='P:\ASDA 2\Data sets\NCSR\ncsr\_sub\_5apr2017.sas7bdat'.

DATASET NAME DataSet2 WINDOW=FRONT.

\* reverse coding and variable creation.

compute revag4cat=5-ag4cat.

compute reved4cat=5-ed4cat.

compute revmar3cat=4-mar3cat.

compute sexm=(sex=1).

execute.

\* EXAMPLE 9.2.6 MULTINOMIAL LOGISTIC REGRESSION.

CSLOGISTIC WKSTAT3C(LOW) BY reved4cat revag4cat revmar3cat WITH sexm ald mde

/PLAN FILE='P:\ASDA 2\Data sets\NCSR\ncsr\_p2wt.csaplan'

/MODEL reved4cat revag4cat revmar3cat sexm ald mde

/INTERCEPT INCLUDE=YES SHOW=YES

/STATISTICS PARAMETER EXP SE CINTERVAL TTEST

/TEST TYPE=F PADJUST=LSD

/MISSING CLASSMISSING=EXCLUDE

/CRITERIA MXITER=100 MXSTEP=5 PCONVERGE=[1E-006 RELATIVE] LCONVERGE=[0] CHKSEP=20 CILEVEL=95

/PRINT SUMMARY VARIABLEINFO SAMPLEINFO.

\* Average Marginal Effects Not Available in CSLOGISTIC Nor is GOF test like mlogitgof of Stata.

\* Example 9.3.6 Cumulative Logit Regression using Russian Federation Data.

GET

SAS DATA='P:\ASDA 2\Data sets\ESS6 Russia\ess6\_russia\_2aug2016.sas7bdat'.

DATASET NAME DataSet2 WINDOW=FRONT.

recode stflife (sysmis=sysmis) (0 thru 1=1) (2 thru 4 =2) (5=3) (6 thru 8=4) (9 thru 10=5) into stflife2.

execute.

weight by pspwght.

GRAPH

/BAR(SIMPLE)=PCT BY stflife2

/TITLE='(Weighted) Satisfaction with Life Russian Federation Data'.

weight off.

compute revagecat=5-agecat.

compute revmarcat=4-marcat.

compute male=(gndr=1).

execute.

CSORDINAL stflife2 (ASCENDING) BY revagecat revmarcat WITH male

/PLAN FILE='P:\ASDA 2\Data sets\ess6\_russia\russia\_csplan.csaplan'

/LINK FUNCTION=LOGIT

/MODEL revagecat revmarcat male

/STATISTICS PARAMETER EXP SE CINTERVAL TTEST

/NONPARALLEL TEST

/TEST TYPE=F PADJUST=LSD

/MISSING CLASSMISSING=EXCLUDE

/CRITERIA MXITER=100 MXSTEP=5 PCONVERGE=[1e-006 RELATIVE] LCONVERGE=[0] METHOD=NEWTON CHKSEP=20 CILEVEL=95

/PRINT SUMMARY SAMPLEINFO.

\* Example 9.4.1 Count Model Not Available in the Complex Samples commands in SPSS v22.

\* Export Output.

OUTPUT EXPORT

/CONTENTS EXPORT=ALL LAYERS=PRINTSETTING MODELVIEWS=PRINTSETTING

/DOC DOCUMENTFILE='P:\ASDA 2\Analysis Example Replication\SPSS\Analysis Example Replication '+

'SPSS C9.doc'

NOTESCAPTIONS=YES WIDETABLES=WRAP PAGEBREAKS=YES

PAGESIZE=INCHES(8.5, 11.0) TOPMARGIN=INCHES(1.0) BOTTOMMARGIN=INCHES(1.0)

LEFTMARGIN=INCHES(.5) RIGHTMARGIN=INCHES(.5).

OUTPUT **ASDA2 ANALYSIS EXAMPLE REPLICATION SPSS C9**

```

DATASET ACTIVATE DataSet1.
* Export Output.
* Syntax for Analysis Example Replication C9
* get NCSR data.
GET
  SAS DATA='P:\ASDA 2\Data sets\NCSR\ncsr_sub_5apr2017.sas7bdat'.
DATASET NAME DataSet2 WINDOW=FRONT.

* reverse coding and variable creation.
compute revag4cat=5-ag4cat.
compute reved4cat=5-ed4cat.
compute revmar3cat=4-mar3cat.
compute sexm=(sex=1).
execute.

* EXAMPLE 9.2.6 MULTINOMIAL LOGISTIC REGRESSION.
CSLOGISTIC WKSTAT3C(LOW) BY reved4cat revag4cat revmar3cat WITH sexm ald mde
/PLAN FILE='P:\ASDA 2\Data sets\NCSR\ncsr_p2wt.csaplan'
/MODEL reved4cat revag4cat revmar3cat sexm ald mde
/INTERCEPT INCLUDE=YES SHOW=YES
/STATISTICS PARAMETER EXP SE CINTERVAL TTEST
/TEST TYPE=F PADJUST=LSD
/MISSING CLASSMISSING=EXCLUDE
/CRITERIA MXITER=100 MXSTEP=5 PCONVERGE=[1E-006 RELATIVE] LCONVERGE=[0] CHKSEP=20 CILEVEL=95
/PRINT SUMMARY VARIABLEINFO SAMPLEINFO.

```

**Complex Samples: Logistic Regression**

**Sample Design Information**

		N
Unweighted Cases	Valid	5679
	Invalid	3603
	Total	9282
Population Size		5667.185
Stage 1	Strata	42
	Units	84
Sampling Design Degrees of Freedom		42

**Categorical Variable Information**

		Weighted Count	Weighted Percent
Work Status 3 categories <sup>a</sup>	1 <sup>b</sup>	3671.472	64.8%
	2	289.817	5.1%
	3	1705.896	30.1%
reved4cat	1.00	1315.579	23.2%
	2.00	1567.870	27.7%
	3.00	1848.467	32.6%
	4.00	935.269	16.5%
revag4cat	1.00	1202.804	21.2%
	2.00	1502.135	26.5%
	3.00	1633.099	28.8%
	4.00	1329.147	23.5%
revmar3cat	1.00	1312.250	23.2%
	2.00	1177.332	20.8%
	3.00	3177.603	56.1%
Population Size		5667.185	100.0%

a. Dependent Variable

b. Reference Category

**Covariate Information**

	Mean
Male 1=Yes 0=No	.47
Alcohol Dependence 1=Yes 0=No	.05
Major Depressive Episode 1=Yes 0=No	.19

**Pseudo R Squares**

Cox and Snell	.253
Nagelkerke	.318
McFadden	.184

Dependent Variable: Work Status 3  
categories (reference category = 1)

Model: (Intercept), reved4cat,  
revag4cat, revmar3cat, sexm, ald, mde

**Tests of Model Effects**

Source	df1	df2	Wald F	Sig.
(Corrected Model)	22.000	21.000	73.913	.000
(Intercept)	2.000	41.000	127.647	.000
reved4cat	6.000	37.000	13.681	.000
revag4cat	6.000	37.000	83.591	.000
revmar3cat	4.000	39.000	24.813	.000
sexm	2.000	41.000	35.755	.000
ald	2.000	41.000	5.048	.011
mde	2.000	41.000	1.139	.330

Dependent Variable: Work Status 3 categories (reference category = 1)

Model: (Intercept), reved4cat, revag4cat, revmar3cat, sexm, ald, mde

Parameter Estimates

Work Status 3 categories	Parameter	B	Std. Error	95% Confidence Interval		Hypothesis Test	
				Lower	Upper	t	df
2	(Intercept)	-.644	.296	-1.241	-.046	-2.174	42.000
	[reved4cat=1.00]	-1.731	.310	-2.358	-1.104	-5.575	42.000
	[reved4cat=2.00]	-1.365	.258	-1.885	-.846	-5.302	42.000
	[reved4cat=3.00]	-.847	.235	-1.322	-.372	-3.598	42.000
	[reved4cat=4.00]	.000 <sup>a</sup>	.	.	.	.	.
	[revag4cat=1.00]	1.828	.295	1.234	2.423	6.204	42.000
	[revag4cat=2.00]	-.838	.258	-1.359	-.317	-3.246	42.000
	[revag4cat=3.00]	-.852	.295	-1.447	-.258	-2.894	42.000
	[revag4cat=4.00]	.000 <sup>a</sup>	.	.	.	.	.
	[revmar3cat=1.00]	-2.785	.380	-3.552	-2.017	-7.323	42.000
	[revmar3cat=2.00]	-.590	.225	-1.044	-.135	-2.619	42.000
	[revmar3cat=3.00]	.000 <sup>a</sup>	.	.	.	.	.
	sexm	-1.393	.198	-1.792	-.994	-7.049	42.000
	ald	-.164	.357	-.884	.557	-.459	42.000
mde	-.140	.157	-.457	.178	-.889	42.000	
3	(Intercept)	-.379	.173	-.728	-.031	-2.194	42.000
	[reved4cat=1.00]	-1.230	.160	-1.552	-.907	-7.704	42.000
	[reved4cat=2.00]	-.917	.146	-1.213	-.621	-6.259	42.000
	[reved4cat=3.00]	-.651	.141	-.936	-.367	-4.619	42.000
	[reved4cat=4.00]	.000 <sup>a</sup>	.	.	.	.	.
	[revag4cat=1.00]	2.381	.173	2.031	2.731	13.729	42.000
	[revag4cat=2.00]	.065	.171	-.280	.410	.380	42.000
	[revag4cat=3.00]	-.316	.129	-.576	-.057	-2.457	42.000
	[revag4cat=4.00]	.000 <sup>a</sup>	.	.	.	.	.
	[revmar3cat=1.00]	.553	.132	.286	.820	4.176	42.000
	[revmar3cat=2.00]	-.052	.105	-.264	.160	-.498	42.000
	[revmar3cat=3.00]	.000 <sup>a</sup>	.	.	.	.	.
	sexm	-.640	.110	-.862	-.418	-5.818	42.000
	ald	.333	.130	.070	.596	2.559	42.000
mde	.099	.088	-.079	.276	1.120	42.000	

**Parameter Estimates**

Work Status 3 categories	Parameter	Hypothesis	Exp(B)	95% Confidence Interval for Exp(B)	
		Test		Lower	Upper
		Sig.			
2	(Intercept)	.035	.525	.289	.955
	[reved4cat=1.00]	.000	.177	.095	.331
	[reved4cat=2.00]	.000	.255	.152	.429
	[reved4cat=3.00]	.001	.429	.267	.689
	[reved4cat=4.00]	.	1.000	.	.
	[revag4cat=1.00]	.000	6.224	3.434	11.281
	[revag4cat=2.00]	.002	.433	.257	.728
	[revag4cat=3.00]	.006	.426	.235	.773
	[revag4cat=4.00]	.	1.000	.	.
	[revmar3cat=1.00]	.000	.062	.029	.133
	[revmar3cat=2.00]	.012	.554	.352	.873
	[revmar3cat=3.00]	.	1.000	.	.
	sexm	.000	.248	.167	.370
	ald	.649	.849	.413	1.745
	mde	.379	.870	.633	1.194
3	(Intercept)	.034	.684	.483	.970
	[reved4cat=1.00]	.000	.292	.212	.404
	[reved4cat=2.00]	.000	.400	.297	.537
	[reved4cat=3.00]	.000	.521	.392	.693
	[reved4cat=4.00]	.	1.000	.	.
	[revag4cat=1.00]	.000	10.811	7.619	15.341
	[revag4cat=2.00]	.706	1.067	.756	1.507
	[revag4cat=3.00]	.018	.729	.562	.945
	[revag4cat=4.00]	.	1.000	.	.
	[revmar3cat=1.00]	.000	1.738	1.331	2.270
	[revmar3cat=2.00]	.621	.949	.768	1.173
	[revmar3cat=3.00]	.	1.000	.	.
	sexm	.000	.527	.422	.658
	ald	.014	1.395	1.073	1.815
	mde	.269	1.104	.924	1.318

Dependent Variable: Work Status 3 categories (reference category = 1)

Model: (Intercept), reved4cat, revag4cat, revmar3cat, sexm, ald, mde

a. Set to zero because this parameter is redundant.

\* Average Marginal Effects Not Available in CSLOGISTIC, Nor is GOF test like mlogitgof of Stata.

\* Example 9.3.6 Cumulative Logit Regression using Russian Federation Data.

GET

```
SAS DATA='P:\ASDA 2\Data sets\ESS6 Russia\ess6_russia_2aug2016.sas7bdat'.  
DATASET NAME DataSet2 WINDOW=FRONT.
```

```
recode stflife (sysmis=sysmis) (0 thru 1=1) (2 thru 4 =2) (5=3) (6 thru 8=4) (9 thru 10=5) into stflife2.  
execute.
```

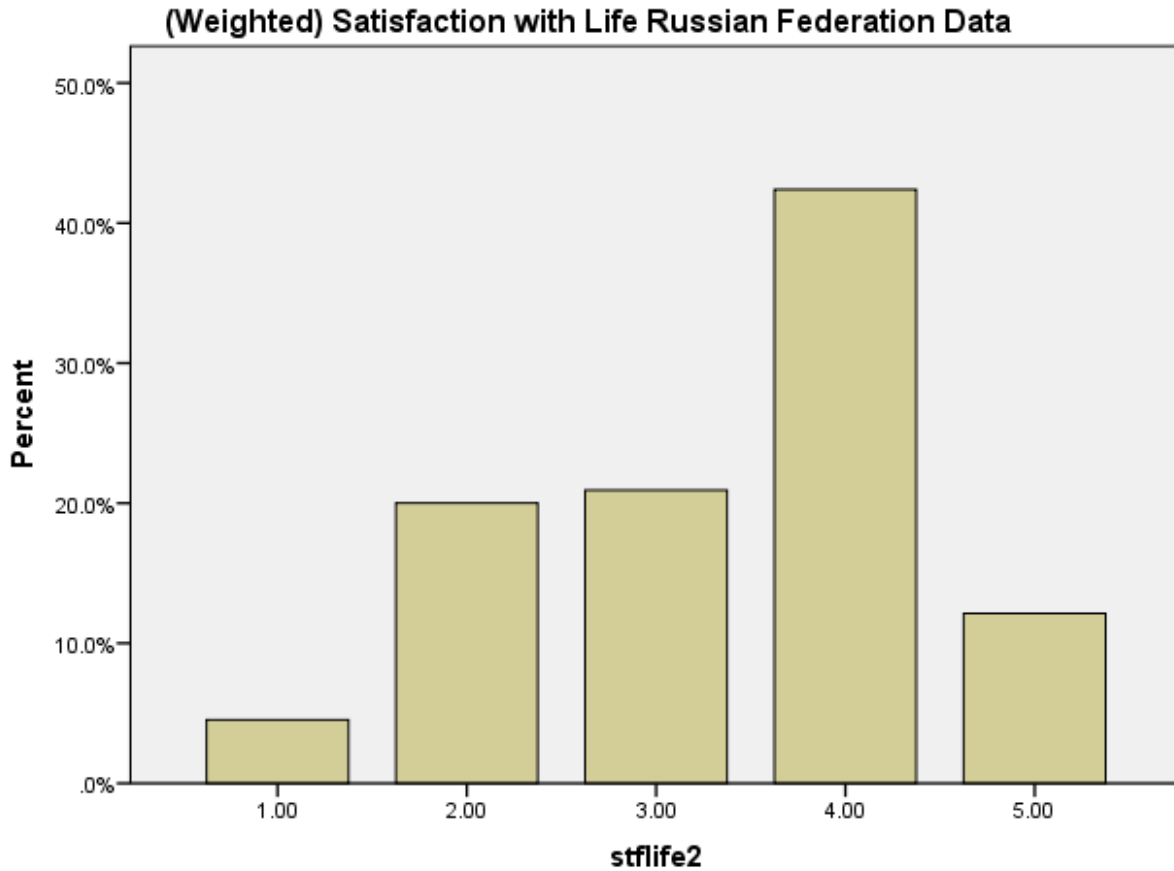
```
weight by pspwght.
```

GRAPH

```
/BAR(SIMPLE)=PCT BY stflife2
```

```
/TITLE='(Weighted) Satisfaction with Life Russian Federation Data'.
```

### Graph



Cases weighted by Post-stratification weight including design weight



```

weight off.
compute revagecat=5-agecat.
compute revmarcat=4-marcat.
compute male=(gndr=1) .
execute.

```

```

CSORDINAL stflife2 (ASCENDING) BY revagecat revmarcat WITH male
/PLAN FILE='P:\ASDA 2\Data sets\ess6 russia\russia_csplan.csaplan'
/LINK FUNCTION=LOGIT
/MODEL revagecat revmarcat male
/STATISTICS PARAMETER EXP SE CINTERVAL TTEST
/NONPARALLEL TEST
/TEST TYPE=F PADJUST=LSD
/MISSING CLASSMISSING=EXCLUDE
/CRITERIA MXITER=100 MXSTEP=5 PCONVERGE=[1e-006 RELATIVE] LCONVERGE=[0] METHOD=NEWTON CHKSEP=20 CILEVEL=95
/PRINT SUMMARY SAMPLEINFO.

```

**Complex Samples: Ordinal Regression**

**Sample Design Information**

		N
Unweighted Cases	Valid	2415
	Invalid	69
	Total	2484
Population Size		2422.138
Stage 1	Strata	8
	Units	184
Sampling Design Degrees of Freedom		176

**Pseudo R Squares**

Cox and Snell	.030
Nagelkerke	.031
McFadden	.011

Dependent Variable: stflife2 (Ascending)

Model: (Threshold), revagecat,

revmarcat, male

Link function: Logit

**Tests of Model Effects**

Source	df1	df2	Wald F	Sig.
revagecat	3.000	174.000	10.271	.000
revmarcat	2.000	175.000	2.190	.115
male	1.000	176.000	1.325	.251

Dependent Variable: stflife2 (Ascending)

Model: (Threshold), revagecat, revmarcat, male

Link function: Logit

**Parameter Estimates**

Parameter	B	Std. Error	95% Confidence Interval		Hypothesis Test			
			Lower	Upper	t	df	Sig.	
Threshold	[stflife2=1.00]	-3.711	.214	-4.134	-3.288	-17.307	176.000	.000
	[stflife2=2.00]	-1.793	.167	-2.122	-1.464	-10.747	176.000	.000
	[stflife2=3.00]	-.835	.159	-1.149	-.521	-5.243	176.000	.000
	[stflife2=4.00]	1.384	.154	1.081	1.687	9.009	176.000	.000
Regression	[revagecat=1.00]	-.808	.166	-1.135	-.481	-4.879	176.000	.000
	[revagecat=2.00]	-.746	.143	-1.028	-.463	-5.202	176.000	.000
	[revagecat=3.00]	-.529	.136	-.798	-.261	-3.888	176.000	.000
	[revagecat=4.00]	.000 <sup>a</sup>	.	.	.	.	.	.
	[revmarcat=1.00]	-.137	.132	-.398	.123	-1.039	176.000	.300
	[revmarcat=2.00]	-.209	.105	-.417	-.001	-1.981	176.000	.049
	[revmarcat=3.00]	.000 <sup>a</sup>	.	.	.	.	.	.
	male	-.110	.095	-.298	.078	-1.151	176.000	.251

**Parameter Estimates**

Parameter	Exp(B)	95% Confidence Interval for Exp(B)		
		Lower	Upper	
Threshold	[stflife2=1.00]	.024	.016	.037
	[stflife2=2.00]	.166	.120	.231
	[stflife2=3.00]	.434	.317	.594
	[stflife2=4.00]	3.991	2.947	5.405
Regression	[revagecat=1.00]	.446	.321	.618
	[revagecat=2.00]	.474	.358	.630
	[revagecat=3.00]	.589	.450	.771
	[revagecat=4.00]	1.000	.	.
	[revmarcat=1.00]	.872	.672	1.131
	[revmarcat=2.00]	.811	.659	.999
	[revmarcat=3.00]	1.000	.	.
	male	.896	.743	1.081

Dependent Variable: stflife2 (Ascending)

Model: (Threshold), revagecat, revmarcat, male

Link function: Logit

a. Set to zero because this parameter is redundant.

**Generalized Cumulative Model**

**Test of Parallel Lines**

df1	df2	Wald F	Sig.
18.000	159.000	1.005	.457

Dependent Variable: stflife2 (Ascending)

Model: (Threshold), revagecat, revmarcat, male

Link function: Logit

\* Example 9.4.1 Count Model Not Available in the Complex Samples commands in SPSS v22.

\* Export Output.

OUTPUT EXPORT

```
/CONTENTS EXPORT=ALL LAYERS=PRINTSETTING MODELVIEWS=PRINTSETTING
/DOC DOCUMENTFILE='P:\ASDA 2\Analysis Example Replication\SPSS\Analysis Example Replication '+
'SPSS C9.doc'
NOTESCAPTIONS=YES WIDETABLES=WRAP PAGEBREAKS=YES
PAGESIZE=INCHES(8.5, 11.0) TOPMARGIN=INCHES(1.0) BOTTOMMARGIN=INCHES(1.0)
```