

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	ageXscreensize, imaginary_screensize, age ^b	.	Enter

a. Dependent Variable: raw_score

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.508 ^a	.258	.256	4.337

a. Predictors: (Constant), ageXscreensize, imaginary_screensize, age

b. Dependent Variable: raw_score

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6506.050	3	2168.683	115.310	<.001 ^b
	Residual	18732.186	996	18.807		
	Total	25238.236	999			

a. Dependent Variable: raw_score

b. Predictors: (Constant), ageXscreensize, imaginary_screensize, age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	386.329	47.699		8.099	<.001
	age	-2.925	1.088	-.7182	-2.689	.007
	imaginary_screensize	-.281	.036	-.743	-7.747	<.001
	ageXscreensize	.002	.001	.7190	2.677	.008

Coefficients^a

Model		95.0% Confidence Interval for B		Collinearity Statistics	
		Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	292.727	479.930		
	age	-5.059	-.790	.000	9573.007
	imaginary_screensize	-.352	-.210	.081	12.346
	ageXscreensize	.001	.004	.000	9677.794

a. Dependent Variable: raw_score

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	age	imaginary_screensize
1	1	3.924	1.000	.00	.00	.00
	2	.076	7.200	.00	.00	.00
	3	9.481E-5	203.450	.02	.02	.02
	4	2.044E-6	1385.685	.98	.98	.98

Collinearity Diagnostics^a

Model	Dimension	Variance ...
		ageXscreensize
1	1	.00
	2	.00
	3	.02
	4	.98

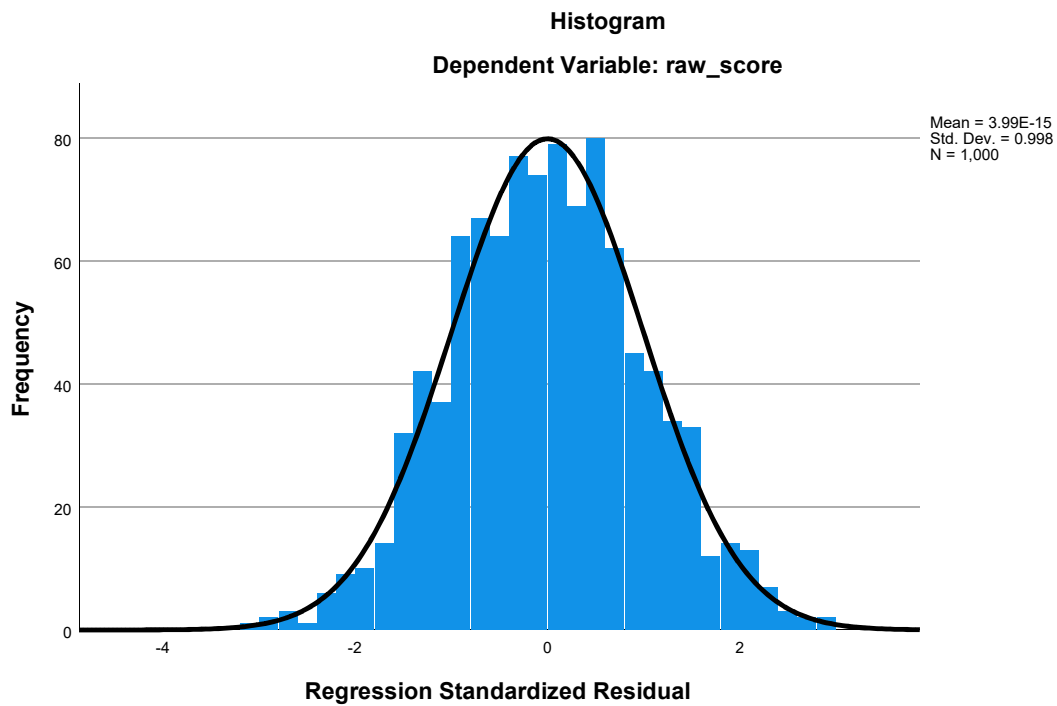
a. Dependent Variable: raw_score

Residuals Statistics^a

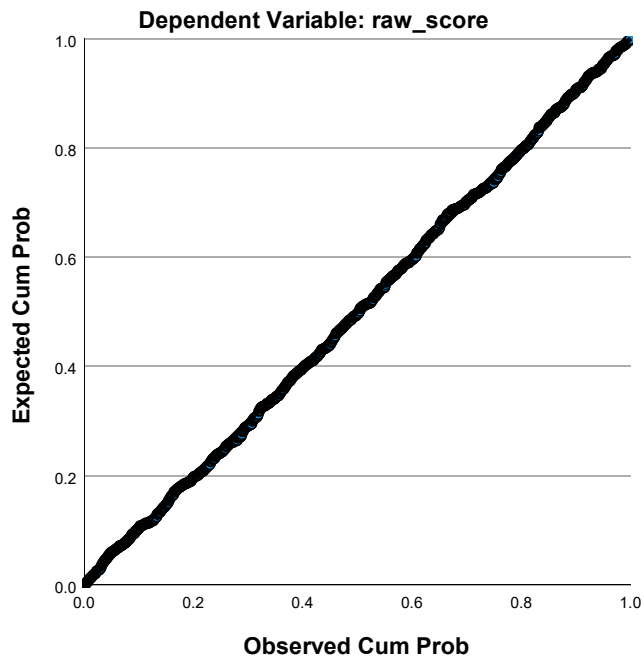
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	10.05	27.28	16.04	2.552	1000
Residual	-13.621	12.964	.000	4.330	1000
Std. Predicted Value	-2.350	4.403	.000	1.000	1000
Std. Residual	-3.141	2.989	.000	.998	1000

a. Dependent Variable: raw_score

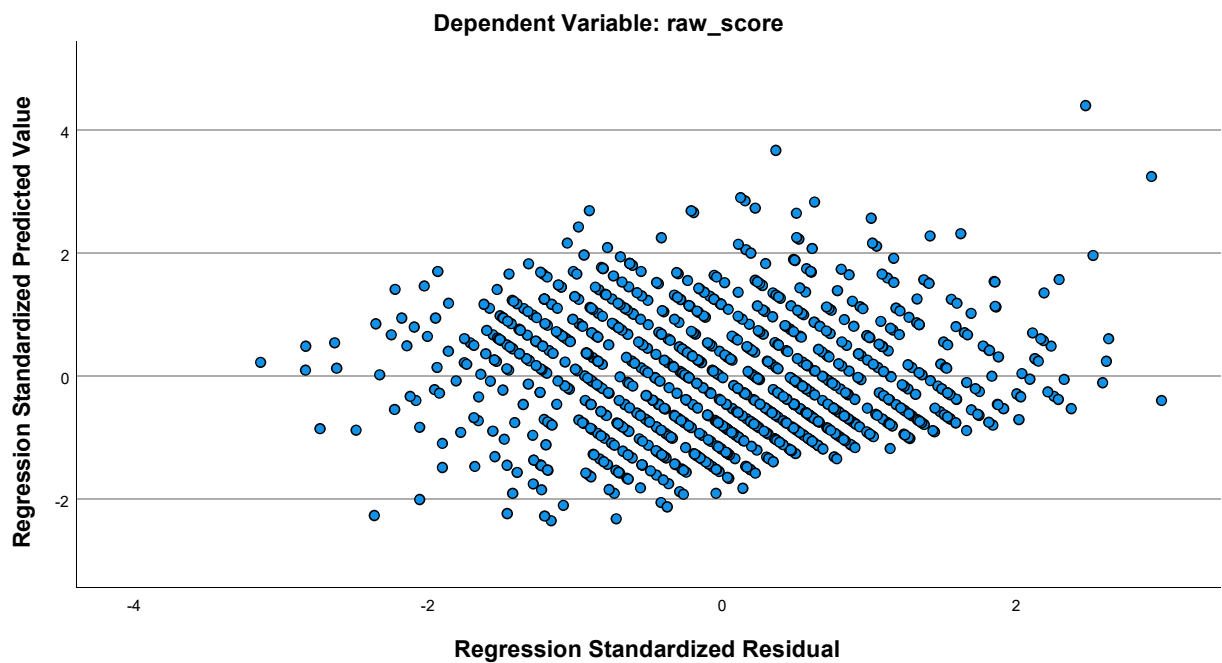
Charts



Normal P-P Plot of Regression Standardized Residual



Scatterplot



```
>Error # 10910. Command name: aggregate  
>The definition of a new variable on the AGGREGATE command specifies a new  
>variable name that duplicates the name of an existing variable. To replace
```

>existing variables, specify OVERWRITE=YES in the OUTFILE subcommand.
>Execution of this command stops.
>New variable mean_age caused the error.

>Error # 10910. Command name: aggregate
>The definition of a new variable on the AGGREGATE command specifies a new
>variable name that duplicates the name of an existing variable. To replace
>existing variables, specify OVERWRITE=YES in the OUTFILE subcommand.
>New variable mean_screensize caused the error.

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>New variable mean_screensize caused the error.

Regression

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	age_centXscreen_size_cent, age_cent, screen_size_cent ^b	.	Enter

a. Dependent Variable: raw_score

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.508 ^a	.258	.256	4.337

a. Predictors: (Constant), age_centXscreen_size_cent, age_cent, screen_size_cent

b. Dependent Variable: raw_score

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6506.050	3	2168.683	115.310	<.001 ^b
	Residual	18732.186	996	18.807		
	Total	25238.236	999			

a. Dependent Variable: raw_score

b. Predictors: (Constant), age_centXscreen_size_cent, age_cent, screen_size_cent

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	15.991	.138		115.470	.000
	age_cent	-.013	.011	-.031	-1.138	.255
	screensize_cent	-.185	.011	-.488	-17.585	<.001
	age_centXscreensize_cent	.002	.001	.074	2.677	.008

Coefficients^a

Model		95.0% Confidence Interval for B		Collinearity Statistics	
		Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	15.719	16.262		
	age_cent	-.035	.009	.980	1.021
	screensize_cent	-.205	-.164	.966	1.035
	age_centXscreensize_cent	.001	.004	.986	1.014

a. Dependent Variable: raw_score

Collinearity Diagnostics^a

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	age_cent	screensize_cent t
1	1	1.215	1.000	.11	.14	.28
	2	1.089	1.056	.34	.29	.13
	3	.902	1.160	.36	.39	.16
	4	.794	1.237	.19	.18	.43

Collinearity Diagnostics^a

Model	Dimension	Variance ... age_centXscre ensize_cent
1	1	.27
	2	.14
	3	.18
	4	.42

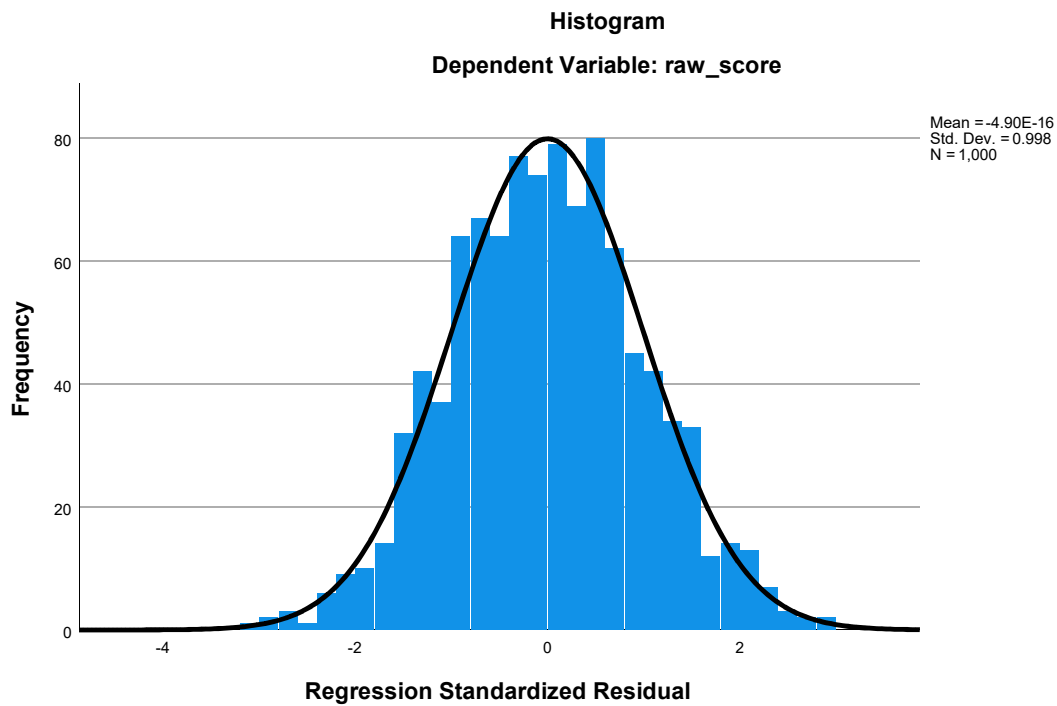
a. Dependent Variable: raw_score

Residuals Statistics^a

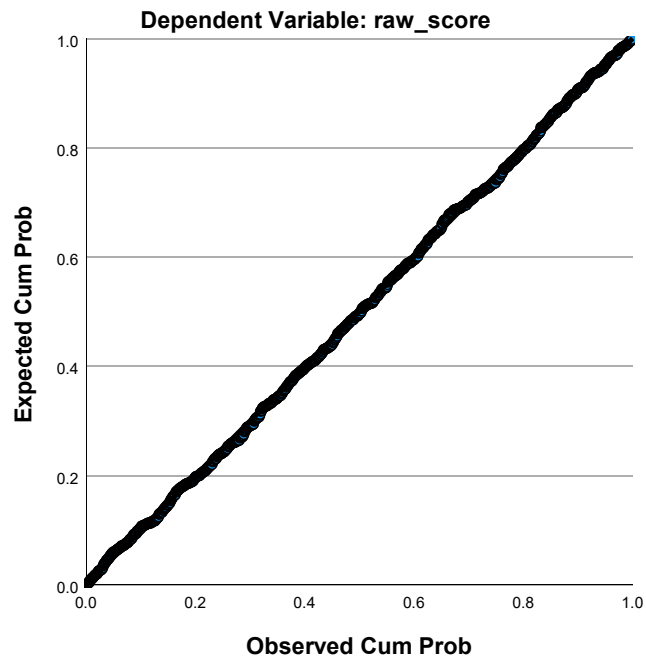
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	10.05	27.28	16.04	2.552	1000
Residual	-13.621	12.964	.000	4.330	1000
Std. Predicted Value	-2.350	4.403	.000	1.000	1000
Std. Residual	-3.141	2.989	.000	.998	1000

a. Dependent Variable: raw_score

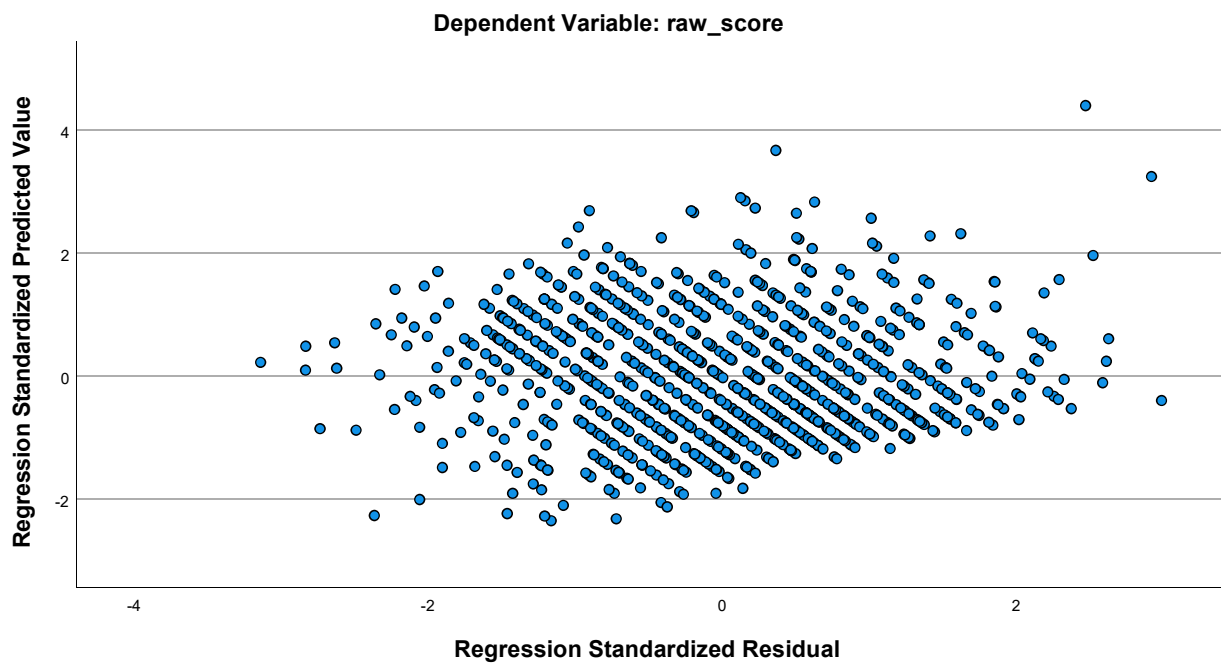
Charts



Normal P-P Plot of Regression Standardized Residual



Scatterplot



Matrix

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 1
Y : raw_scor
X : age
W : imaginar

Sample
Size: 1000

OUTCOME VARIABLE:
raw_scor

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	.5077	.2578	18.8074	115.3100	3.0000	996.0000	.0000

Model						
	coeff	se	t	p	LLCI	ULCI
constant	386.3288	47.6986	8.0994	.0000	292.7274	479.9301
age	-2.9247	1.0877	-2.6889	.0073	-5.0592	-.7902
imaginar	-.2810	.0363	-7.7472	.0000	-.3522	-.2098
Int_1	.0022	.0008	2.6775	.0075	.0006	.0038

Product terms key:
Int_1 : age x imaginar

Test(s) of highest order unconditional interaction(s):					
	R2-chng	F	df1	df2	p
X*W	.0053	7.1688	1.0000	996.0000	.0075

Focal predict: age (X)
Mod var: imaginar (W)

Conditional effects of the focal predictor at values of the moderator(s):

	imaginar	Effect	se	t	p	LLCI	ULCI
1302.0000		-.0437	.0162	-2.7028	.0070	-.0754	-.0120
1317.0000		-.0105	.0113	-.9336	.3507	-.0326	.0116
1330.0000		.0183	.0161	1.1353	.2565	-.0133	.0498

Data for visualizing the conditional effect of the focal predictor:
Paste text below into a SPSS syntax window and execute to produce plot.

```

DATA LIST FREE/
  age      imaginar  raw_scor  .
BEGIN DATA.
  28.0000  1302.0000  19.2495
  47.0000  1302.0000  18.4192
  56.0000  1302.0000  18.0259
  28.0000  1317.0000  15.9639
  47.0000  1317.0000  15.7642
  56.0000  1317.0000  15.6697
  28.0000  1330.0000  13.1164
  47.0000  1330.0000  13.4633
  56.0000  1330.0000  13.6276
END DATA.
GRAPH/SCATTERPLOT=
  age      WITH      raw_scor BY      imaginar .

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
  95.0000

```

W values in conditional tables are the 16th, 50th, and 84th percentiles.

WARNING: Variables names longer than eight characters can produce incorrect output when some variables in the data file have the same first eight characters. Shorter variable names are recommended. By using this output, you are accepting all risk and consequences of interpreting or reporting results that may be incorrect.

----- END MATRIX -----

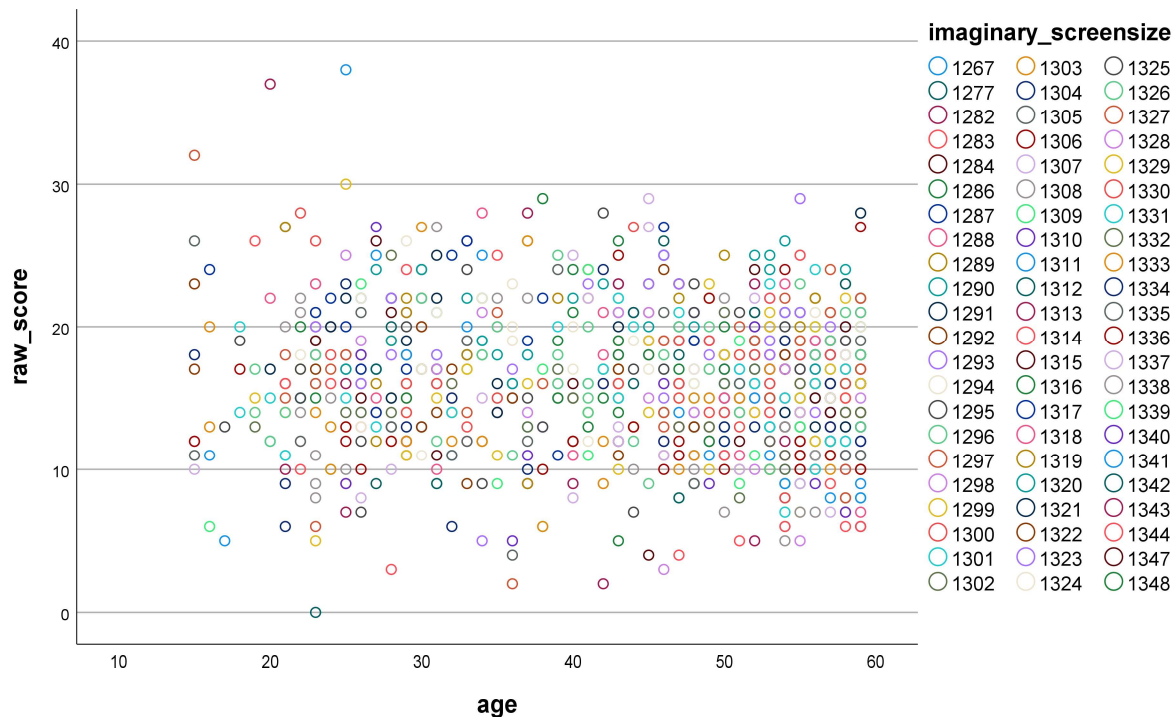
Graph

```

>Error # 701 in column 11.  Text: raw_scor
>An undefined variable name, or a scratch or system variable was specified in a
>variable list which accepts only standard variables.  Check spelling and
>verify the existence of this variable.
>Execution of this command stops.

```

Graph



Matrix

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

***** ANALYSIS NOTES AND ERRORS *****

ERROR: You have specified an M variable in a model that does not use it.
In this release of PROCESS, moderators are W and Z in models 1, 2, and 3.

ERROR: You are using outdated syntax. The current version of PROCESS
is documented in Appendices A and B of www.guilford.com/p/hayes3

----- END MATRIX -----

Matrix

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 1
 Y : raw_scor
 X : age
 W : imaginar

Sample
 Size: 1000

OUTCOME VARIABLE:

raw_scor

Model Summary

R	R-sq	MSE	F	df1	df2	p
.5077	.2578	18.8074	115.3100	3.0000	996.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	386.3288	47.6986	8.0994	.0000	292.7274	479.9301
age	-2.9247	1.0877	-2.6889	.0073	-5.0592	-.7902
imaginar	-.2810	.0363	-7.7472	.0000	-.3522	-.2098
Int_1	.0022	.0008	2.6775	.0075	.0006	.0038

Product terms key:

Int_1 : age x imaginar

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0053	7.1688	1.0000	996.0000	.0075

Focal predict: age (X)

Mod var: imaginar (W)

Conditional effects of the focal predictor at values of the moderator(s):

imaginar	Effect	se	t	p	LLCI	ULCI
1302.6797	-.0422	.0158	-2.6758	.0076	-.0731	-.0113
1315.9720	-.0128	.0112	-1.1383	.2553	-.0348	.0093
1329.2643	.0166	.0157	1.0625	.2883	-.0141	.0473

Moderator value(s) defining Johnson-Neyman significance region(s):

Value	% below	% above
1311.1578	37.7000	62.3000
1345.5128	99.8000	.2000

Conditional effect of focal predictor at values of the moderator:

imaginar	Effect	se	t	p	LLCI	ULCI
----------	--------	----	---	---	------	------

1267.0000	-.1211	.0421	-2.8787	.0041	-.2037	-.0386
1271.2632	-.1117	.0387	-2.8867	.0040	-.1877	-.0358
1275.5263	-.1023	.0353	-2.8940	.0039	-.1716	-.0329
1279.7895	-.0928	.0320	-2.8995	.0038	-.1557	-.0300
1284.0526	-.0834	.0287	-2.9015	.0038	-.1398	-.0270
1288.3158	-.0740	.0255	-2.8964	.0039	-.1241	-.0239
1292.5789	-.0645	.0224	-2.8775	.0041	-.1086	-.0205
1296.8421	-.0551	.0195	-2.8319	.0047	-.0933	-.0169
1301.1053	-.0457	.0167	-2.7339	.0064	-.0785	-.0129
1305.3684	-.0362	.0143	-2.5352	.0114	-.0643	-.0082
1309.6316	-.0268	.0124	-2.1573	.0312	-.0512	-.0024
1311.1578	-.0234	.0119	-1.9623	.0500	-.0469	.0000
1313.8947	-.0174	.0114	-1.5281	.1268	-.0397	.0049
1318.1579	-.0079	.0114	-.6995	.4844	-.0302	.0143
1322.4211	.0015	.0124	.1199	.9046	-.0228	.0258
1326.6842	.0109	.0142	.7664	.4436	-.0170	.0389
1330.9474	.0204	.0166	1.2224	.2218	-.0123	.0530
1335.2105	.0298	.0194	1.5356	.1249	-.0083	.0678
1339.4737	.0392	.0224	1.7538	.0798	-.0047	.0831
1343.7368	.0487	.0255	1.9102	.0564	-.0013	.0986
1345.5128	.0526	.0268	1.9623	.0500	.0000	.1052
1348.0000	.0581	.0287	2.0257	.0431	.0018	.1144

Data for visualizing the conditional effect of the focal predictor:
 Paste text below into a SPSS syntax window and execute to produce plot.

```

DATA LIST FREE/
  age      imaginar  raw_scor  .
BEGIN DATA.
  31.1907  1302.6797  18.9660
  43.5330  1302.6797  18.4452
  55.8753  1302.6797  17.9244
  31.1907  1315.9720  16.1483
  43.5330  1315.9720  15.9905
  55.8753  1315.9720  15.8327
  31.1907  1329.2643  13.3306
  43.5330  1329.2643  13.5359
  55.8753  1329.2643  13.7411
END DATA.
GRAPH/SCATTERPLOT=
  age      WITH      raw_scor BY      imaginar .

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
  95.0000

W values in conditional tables are the mean and +/- SD from the mean.

```

WARNING: Variables names longer than eight characters can produce incorrect output when some variables in the data file have the same first eight characters. Shorter variable names are recommended. By using this output, you are accepting all risk and consequences of interpreting or reporting results that may be incorrect.

----- END MATRIX -----

Matrix

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 1
Y : raw_scor
X : age
W : imaginar

Sample
Size: 1000

OUTCOME VARIABLE:
raw_scor

Model Summary

R	R-sq	MSE	F	df1	df2	p
.5077	.2578	18.8074	115.3100	3.0000	996.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	15.9905	.1385	115.4704	.0000	15.7188	16.2623
age	-.0128	.0112	-1.1383	.2553	-.0348	.0093
imaginar	-.1847	.0105	-17.5853	.0000	-.2053	-.1641
Int_1	.0022	.0008	2.6775	.0075	.0006	.0038

Product terms key:

Int_1 : age x imaginar

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0053	7.1688	1.0000	996.0000	.0075

Focal predict: age (X)
Mod var: imaginar (W)

Conditional effects of the focal predictor at values of the moderator(s):

imaginar	Effect	se	t	p	LLCI	ULCI
-13.2923	-.0422	.0158	-2.6758	.0076	-.0731	-.0113
.0000	-.0128	.0112	-1.1383	.2553	-.0348	.0093
13.2923	.0166	.0157	1.0625	.2883	-.0141	.0473

Moderator value(s) defining Johnson-Neyman significance region(s):

Value	% below	% above
-4.8142	37.7000	62.3000
29.5408	99.8000	.2000

Conditional effect of focal predictor at values of the moderator:

imaginar	Effect	se	t	p	LLCI	ULCI
-48.9720	-.1211	.0421	-2.8787	.0041	-.2037	-.0386
-44.7088	-.1117	.0387	-2.8867	.0040	-.1877	-.0358
-40.4457	-.1023	.0353	-2.8940	.0039	-.1716	-.0329
-36.1825	-.0928	.0320	-2.8995	.0038	-.1557	-.0300
-31.9194	-.0834	.0287	-2.9015	.0038	-.1398	-.0270
-27.6562	-.0740	.0255	-2.8964	.0039	-.1241	-.0239
-23.3931	-.0645	.0224	-2.8775	.0041	-.1086	-.0205
-19.1299	-.0551	.0195	-2.8319	.0047	-.0933	-.0169
-14.8667	-.0457	.0167	-2.7339	.0064	-.0785	-.0129
-10.6036	-.0362	.0143	-2.5352	.0114	-.0643	-.0082
-6.3404	-.0268	.0124	-2.1573	.0312	-.0512	-.0024
-4.8142	-.0234	.0119	-1.9623	.0500	-.0469	.0000
-2.0773	-.0174	.0114	-1.5281	.1268	-.0397	.0049
2.1859	-.0079	.0114	-.6995	.4844	-.0302	.0143
6.4491	.0015	.0124	.1199	.9046	-.0228	.0258
10.7122	.0109	.0142	.7664	.4436	-.0170	.0389
14.9754	.0204	.0166	1.2224	.2218	-.0123	.0530
19.2385	.0298	.0194	1.5356	.1249	-.0083	.0678
23.5017	.0392	.0224	1.7538	.0798	-.0047	.0831
27.7648	.0487	.0255	1.9102	.0564	-.0013	.0986
29.5408	.0526	.0268	1.9623	.0500	.0000	.1052
32.0280	.0581	.0287	2.0257	.0431	.0018	.1144

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95.0000

W values in conditional tables are the mean and +/- SD from the mean.

NOTE: The following variables were mean centered prior to analysis:

imaginar age

WARNING: Variables names longer than eight characters can produce incorrect output when some variables in the data file have the same first eight characters. Shorter

variable names are recommended. By using this output, you are accepting all risk and consequences of interpreting or reporting results that may be incorrect.

----- END MATRIX -----

Matrix

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 1
Y : raw_scor
X : age
W : imaginar

Sample
Size: 1000

OUTCOME VARIABLE:

raw_scor

Model Summary

R	R-sq	MSE	F	df1	df2	p
.5077	.2578	18.8074	115.3100	3.0000	996.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	15.9905	.1385	115.4704	.0000	15.7188	16.2623
age	-.0128	.0112	-1.1383	.2553	-.0348	.0093
imaginar	-.1847	.0105	-17.5853	.0000	-.2053	-.1641
Int_1	.0022	.0008	2.6775	.0075	.0006	.0038

Product terms key:

Int_1 : age x imaginar

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0053	7.1688	1.0000	996.0000	.0075

Focal predict: age (X)
Mod var: imaginar (W)

Conditional effects of the focal predictor at values of the moderator(s):

imaginar	Effect	se	t	p	LLCI	ULCI
-13.2923	-.0422	.0158	-2.6758	.0076	-.0731	-.0113
.0000	-.0128	.0112	-1.1383	.2553	-.0348	.0093
13.2923	.0166	.0157	1.0625	.2883	-.0141	.0473

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95.0000

W values in conditional tables are the mean and +/- SD from the mean.

NOTE: The following variables were mean centered prior to analysis:
imaginar age

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----- END MATRIX -----

Matrix

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.0 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 4
Y : raw_scor
X : age
M : eyesight

Sample
Size: 1000

OUTCOME VARIABLE:
eyesight

Model Summary	R	R-sq	MSE	F	df1	df2	p
	.0811	.0066	.9944	6.6046	1.0000	998.0000	.0103

Model	coeff	se	t	p	LLCI	ULCI
-------	-------	----	---	---	------	------

constant	.2860	.1157	2.4726	.0136	.0590	.5130
age	-.0066	.0026	-2.5699	.0103	-.0116	-.0016

Standardized coefficients

	coeff
age	-.0811

OUTCOME VARIABLE:

raw_scor

Model Summary

R	R-sq	MSE	F	df1	df2	p
.8379	.7022	7.5398	1175.1727	2.0000	997.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	16.6401	.3195	52.0880	.0000	16.0132	17.2670
age	-.0137	.0071	-1.9455	.0520	-.0276	.0001
eyesight	4.1946	.0872	48.1241	.0000	4.0236	4.3656

Standardized coefficients

	coeff
age	-.0337
eyesight	.8345

***** TOTAL EFFECT MODEL *****

OUTCOME VARIABLE:

raw_scor

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1014	.0103	25.0288	10.3689	1.0000	998.0000	.0013

Model

	coeff	se	t	p	LLCI	ULCI
constant	17.8397	.5803	30.7436	.0000	16.7010	18.9784
age	-.0413	.0128	-3.2201	.0013	-.0665	-.0161

Standardized coefficients

	coeff
age	-.1014

***** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y *****

Total effect of X on Y

Effect	se	t	p	LLCI	ULCI	c_cs
-.0413	.0128	-3.2201	.0013	-.0665	-.0161	-.1014

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI	c'_cs
-.0137	.0071	-1.9455	.0520	-.0276	.0001	-.0337

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
eyesight	-.0276	.0111	-.0489	-.0061

Completely standardized indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
eyesight	-.0677	.0268	-.1193	-.0149

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

WARNING: Variables names longer than eight characters can produce incorrect output when some variables in the data file have the same first eight characters. Shorter variable names are recommended. By using this output, you are accepting all risk and consequences of interpreting or reporting results that may be incorrect.

----- END MATRIX -----