

```

title 'Moderation, Misanthropy Data';
data AR1; infile 'D:\_Stats\StatData \Moderate.dat';
input AR Misanth Ideal;
proc means mean stddev min max nmiss; var AR Misanth Ideal; run;
title; run;

```

Moderation, Misanthropy Data

The MEANS Procedure

Variable	Mean	Std Dev	Minimum	Maximum	N Miss
AR	2.1624459	0.6006459	1.0833333	4.3333333	0
Misanth	2.3207792	0.6734629	1.0000000	4.0000000	0
Ideal	3.6502371	0.5327801	2.3000000	5.0000000	0

```

proc standard mean=0 std=1 out=Zs;
data Interaction; set Zs;
Interact = Misanth*Ideal;
proc corr; var AR Misanth Ideal;
proc reg; model AR = Misanth Ideal interact / tol; run; QUIT;

```

The CORR Procedure

3 Variables: AR Misanth Ideal

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
AR	154	0	1.00000	0	-1.79659	3.61426
Misanth	154	0	1.00000	0	-1.96118	2.49341
Ideal	154	0	1.00000	0	-2.53432	2.53343

	AR	Misanth	Ideal
AR	1.00000	0.29092	0.02990
		0.0003	0.7128
Misanth	0.29092	1.00000	-0.13975
		0.0003	0.0839
Ideal	0.02990	-0.13975	1.00000
		0.7128	0.0839

Number of Observations Read 154

Number of Observations Used 154

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	17.29453	5.76484	6.37	0.0004
Error	150	135.70547	0.90470		
Corrected Total	153	153.00000			

Root MSE	0.95116	R-Square	0.1130
Dependent Mean	2.08347E-16	Adj R-Sq	0.0953
Coeff Var	4.565262E17		

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t	Tolerance
Intercept	1	-0.02022	0.07732	-0.26	0.7940	.
Misanth	1	0.30281	0.07766	3.90	0.0001	0.98033
Ideal	1	0.06716	0.07770	0.86	0.3888	0.97952
Interact	1	-0.14564	0.07333	-1.99	0.0488	0.99876

```
%process (data=Zs,y=ar,x=Misanth,w=Ideal,model=1,jn=1,plot=1);
```

```
***** PROCESS v3.4 for SAS *****
```

Model and Variables

Model: 1

Y: AR

X: MISANTH

W: IDEAL

Sample size:

154

```
*****
*
```

**OUTCOME
VARIABLE:**

AR

Model Summary

R	R-sq	MSE	F	df1	df2	p
0.3362	0.1130	0.9047	6.3721	3.0000	150.0000	0.0004

Model

	coeff	se	t	p	LLCI	ULCI
constant	-0.0202	0.0773	-0.2615	0.7940	-0.1730	0.1326
MISANTH	0.3028	0.0777	3.8990	0.0001	0.1494	0.4563
IDEAL	0.0672	0.0777	0.8643	0.3888	-0.0864	0.2207
Int_1	-0.1456	0.0733	-1.9861	0.0488	-0.2905	-0.0007

Focal predict: MISANTH (X)

Mod var: IDEAL (W)

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

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

“Effect” here is the standardized slope for predicting AR from Misanthropy.

IDEAL	Effect	se	t	p	LLCI	ULCI
-1.0328	0.4532	0.1091	4.1534	0.0001	0.2376	0.6688
0.0934	0.2892	0.0779	3.7133	0.0003	0.1353	0.4431
1.2196	0.1252	0.1177	1.0632	0.2894	-0.1075	0.3578

As idealism increases, the effect of Misanthropy declines.

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

Value	% below	% above
0.7788	77.2727	22.7273

Conditional effect of focal predictor at values of the moderator:

IDEAL	Effect	se	t	p	LLCI	ULCI
-2.5343	0.6719	0.2023	3.3219	0.0011	0.2722	1.0716
-2.2809	0.6350	0.1852	3.4279	0.0008	0.2690	1.0010
-2.0275	0.5981	0.1686	3.5483	0.0005	0.2650	0.9312
-1.7742	0.5612	0.1523	3.6846	0.0003	0.2603	0.8622
-1.5208	0.5243	0.1367	3.8367	0.0002	0.2543	0.7943
-1.2674	0.4874	0.1218	4.0008	0.0001	0.2467	0.7281

Conditional effect of focal predictor at values of the moderator:

IDEAL	Effect	se	t	p	LLCI	ULCI
-1.0140	0.4505	0.1082	4.1651	0.0001	0.2368	0.6642
-0.7606	0.4136	0.0962	4.3013	0.0000	0.2236	0.6036
-0.5072	0.3767	0.0865	4.3542	0.0000	0.2057	0.5476
-0.2538	0.3398	0.0801	4.2431	0.0000	0.1816	0.4980
-0.0004	0.3029	0.0777	3.8998	0.0001	0.1494	0.4563
0.2529	0.2660	0.0796	3.3400	0.0011	0.1086	0.4233
0.5063	0.2291	0.0857	2.6734	0.0083	0.0598	0.3984
0.7597	0.1922	0.0950	2.0220	0.0450	0.0044	0.3800
0.7788	0.1894	0.0959	1.9759	0.0500	0.0000	0.3788
1.0131	0.1553	0.1068	1.4533	0.1482	-0.0558	0.3664
1.2665	0.1184	0.1204	0.9834	0.3270	-0.1195	0.3562
1.5199	0.0815	0.1351	0.6030	0.5474	-0.1855	0.3484
1.7733	0.0446	0.1507	0.2957	0.7679	-0.2532	0.3423
2.0267	0.0076	0.1669	0.0458	0.9635	-0.3221	0.3374
2.2800	-0.0293	0.1835	-0.1594	0.8735	-0.3919	0.3333
2.5334	-0.0662	0.2005	-0.3300	0.7419	-0.4623	0.3300

Data for visualizing the conditional effect of the focal predictor:

MISANTH	IDEAL	AR
-1.0703	-1.0328	-0.5746
-0.1793	-1.0328	-0.1709
1.0085	-1.0328	0.3675
-1.0703	0.0934	-0.3235
-0.1793	0.0934	-0.0658
1.0085	0.0934	0.2777
-1.0703	1.2196	-0.0723
-0.1793	1.2196	0.0392
1.0085	1.2196	0.1879

The plot below was made using the values from the “Data for visualizing conditional effect of X on Y” table above.

Data plot1; input Misanthropy Idealism Animal_Rights; cards;

```

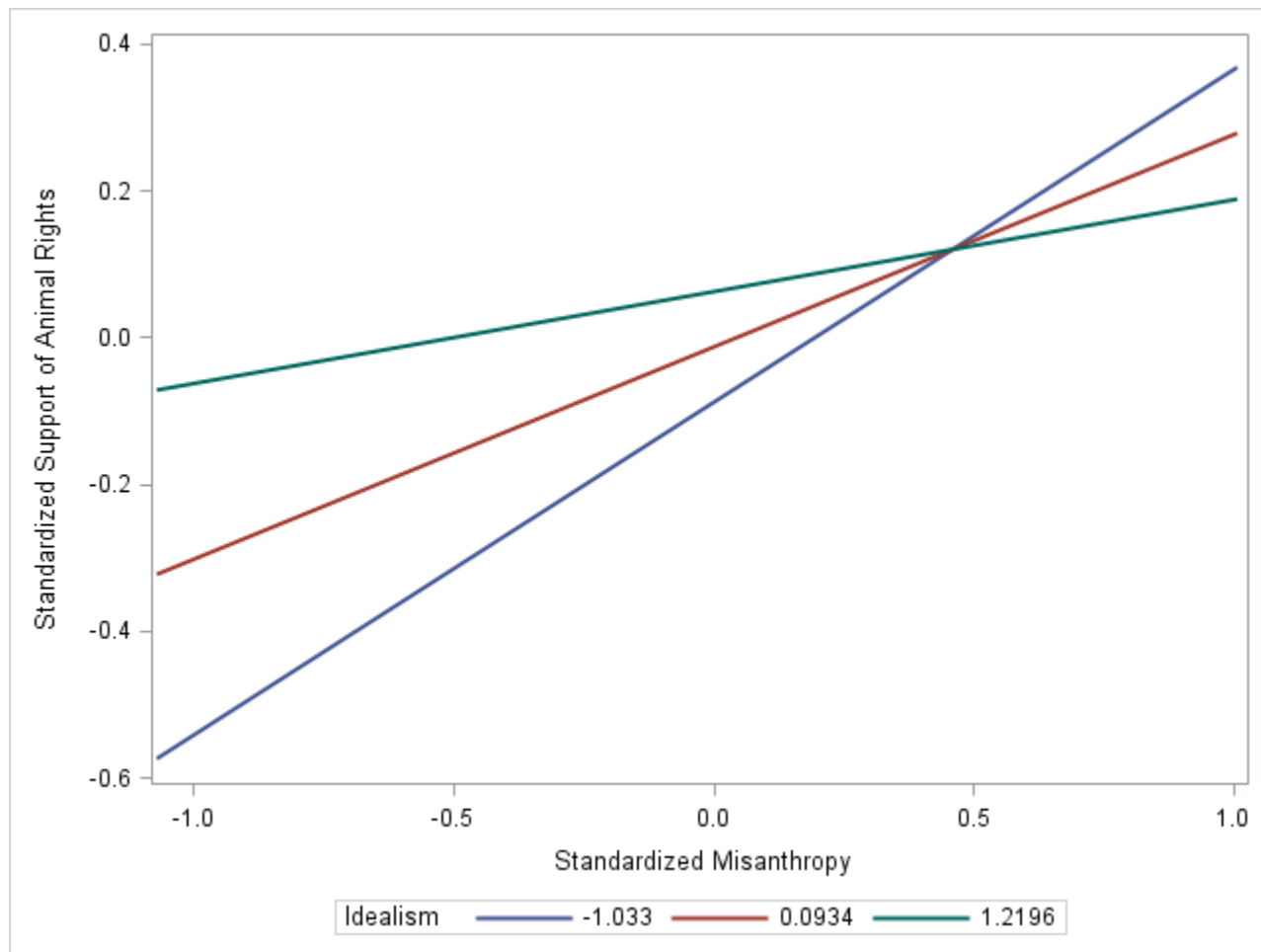
-1.0703 -1.0328 -0.5746
-0.1793 -1.0328 -0.1709
1.0085 -1.0328 0.3675
-1.0703 0.0934 -0.3235
-0.1793 0.0934 -0.0658
1.0085 0.0934 0.2777
-1.0703 1.2196 -0.0723
-0.1793 1.2196 0.0392
1.0085 1.2196 0.1879

```

```

;
proc sgplot; reg x = misanthropy y = Animal_Rights / group = Idealism nomarkers;
  yaxis label='Standardized Support of Animal Rights';
  xaxis label='Standardized Misanthropy'; run;

```



The plot below was made using the statistics in the two leftmost and two rightmost columns of the table “Conditional effect of X on Y at values of the moderator (M).”

```

data JN; input Idealism Effect llci ulci;
cards;

```

```

-2.5343 0.6719 0.2722 1.0716
-2.2809 0.6350 0.2690 1.0010
-2.0275 0.5981 0.2650 0.9312
-1.7742 0.5612 0.2603 0.8622
-1.5208 0.5243 0.2543 0.7943
-1.2674 0.4874 0.2467 0.7281
-1.0140 0.4505 0.2368 0.6642

```

-0.7606	0.4136	0.2236	0.6036
-0.5072	0.3767	0.2057	0.5476
-0.2538	0.3398	0.1816	0.4980
-0.0004	0.3029	0.1494	0.4563
0.2529	0.2660	0.1086	0.4233
0.5063	0.2291	0.0598	0.3984
0.7597	0.1922	0.0044	0.3800
0.7788	0.1894	0.0000	0.3788
1.0131	0.1553	-0.0558	0.3664
1.2665	0.1184	-0.1195	0.3562
1.5199	0.0815	-0.1855	0.3484
1.7733	0.0446	-0.2532	0.3423
2.0267	0.0076	-0.3221	0.3374
2.2800	-0.0293	-0.3919	0.3333
2.5334	-0.0662	-0.4623	0.3300

```

proc sgplot;
series x=Idealism y=ulci/curvelabel = '95% Upper Limit' lineattrs=(color=red pattern=ShortDash);
series x=Idealism y=effect/curvelabel = 'Point Estimate' lineattrs=(color=blue pattern=Solid);
series x=Idealism y=lci/curvelabel = '95% Lower Limit' lineattrs=(color=red pattern=ShortDash);
axis label = 'Idealism';
yaxis label = 'Conditional effect of Misanthropy';
refline 0/axis=y transparency=0.3;
refline .7788/axis=x transparency=0.3; run;

```

