Kevin Jenkins' Potthoff Analysis

```
proc format; value I 0='NonIdealist' 1='Idealist';
data kevin; infile 'C:\Users\Vati\Documents\StatData\potthoff.dat'; input ar misanth
idealism;
format idealism I. ;        MxI = misanth * idealism;
proc corr; var ar--idealism; run;
```

The CORR Procedure

3 Variables: ar misanth idealism

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
ar	154	2.37968	0.53500	366.47000	1.21400	4.21400
misanth	154	2.32078	0.67346	357.40000	1.00000	4.00000
idealism	154	0.40909	0.49327	63.00000	0	1.00000

Pearson Correlation Coefficients, N = 154
Prob > |r| under H0: Rho=0

	ar	misanth	idealism
ar	1.00000	0.22067	0.09237
		0.0060	0.2546
misanth	0.22067	1.00000	-0.09855
	0.0060		0.2240
idealism	0.09237	-0.09855	1.00000
	0.2546	0.2240	

```
proc ttest; class idealism; var ar misanth; run;
```

The TTEST Procedure

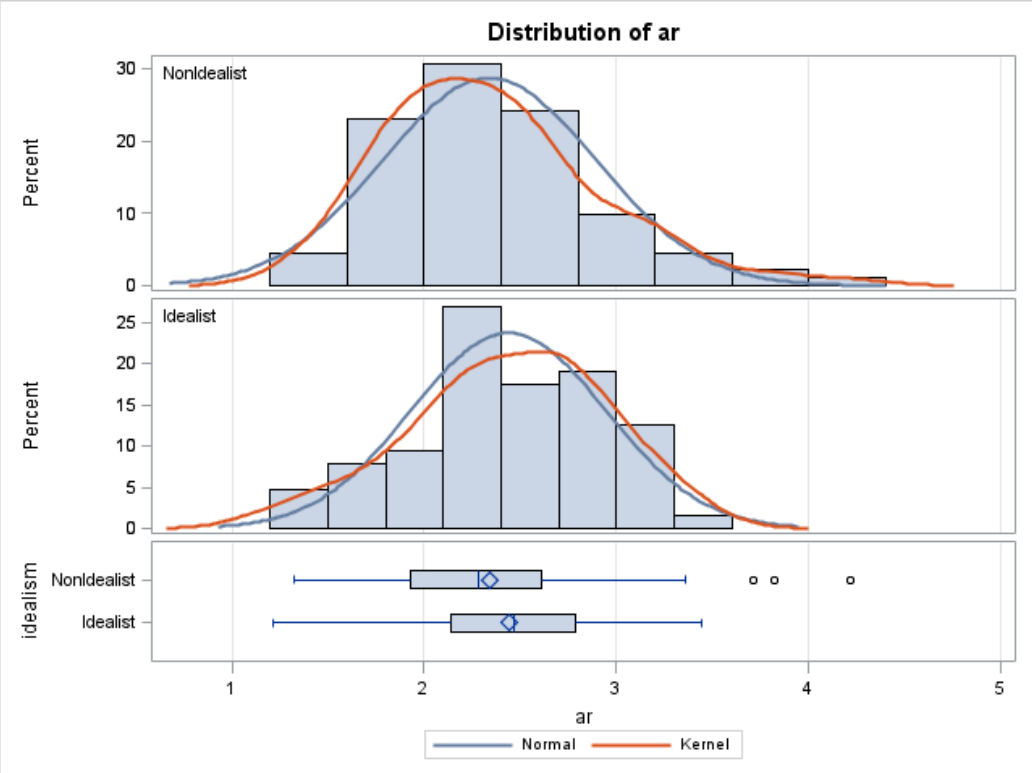
Variable: ar

idealism	N	Mean	Std Dev	Std Err	Minimum	Maximum
NonIdealist	91	2.3387	0.5551	0.0582	1.3210	4.2140
Idealist	63	2.4389	0.5031	0.0634	1.2140	3.4400
Diff (1-2)		-0.1002	0.5345	0.0876		

idealism	Method	Mean	95% CL Mean		Std Dev	95% CL Std Dev	
NonIdealist		2.3387	2.2231	2.4543	0.5551	0.4845	0.6499
Idealist		2.4389	2.3122	2.5656	0.5031	0.4280	0.6103
Diff (1-2)	**Pooled**	-0.1002	-0.2732	0.0729	0.5345	0.4805	0.6021
Diff (1-2)	**Satterthwaite**	-0.1002	-0.2703	0.0699			

Method	Variances	DF	t Value	Pr > |t|
Pooled	Equal	152	-1.14	0.2546
Satterthwaite	Unequal	141.37	-1.16	0.2462

Equality of Variances				
Method	**Num DF**	**Den DF**	**F Value**	**Pr > F**
Folded F	90	62	1.22	0.4123



Variable: misanth

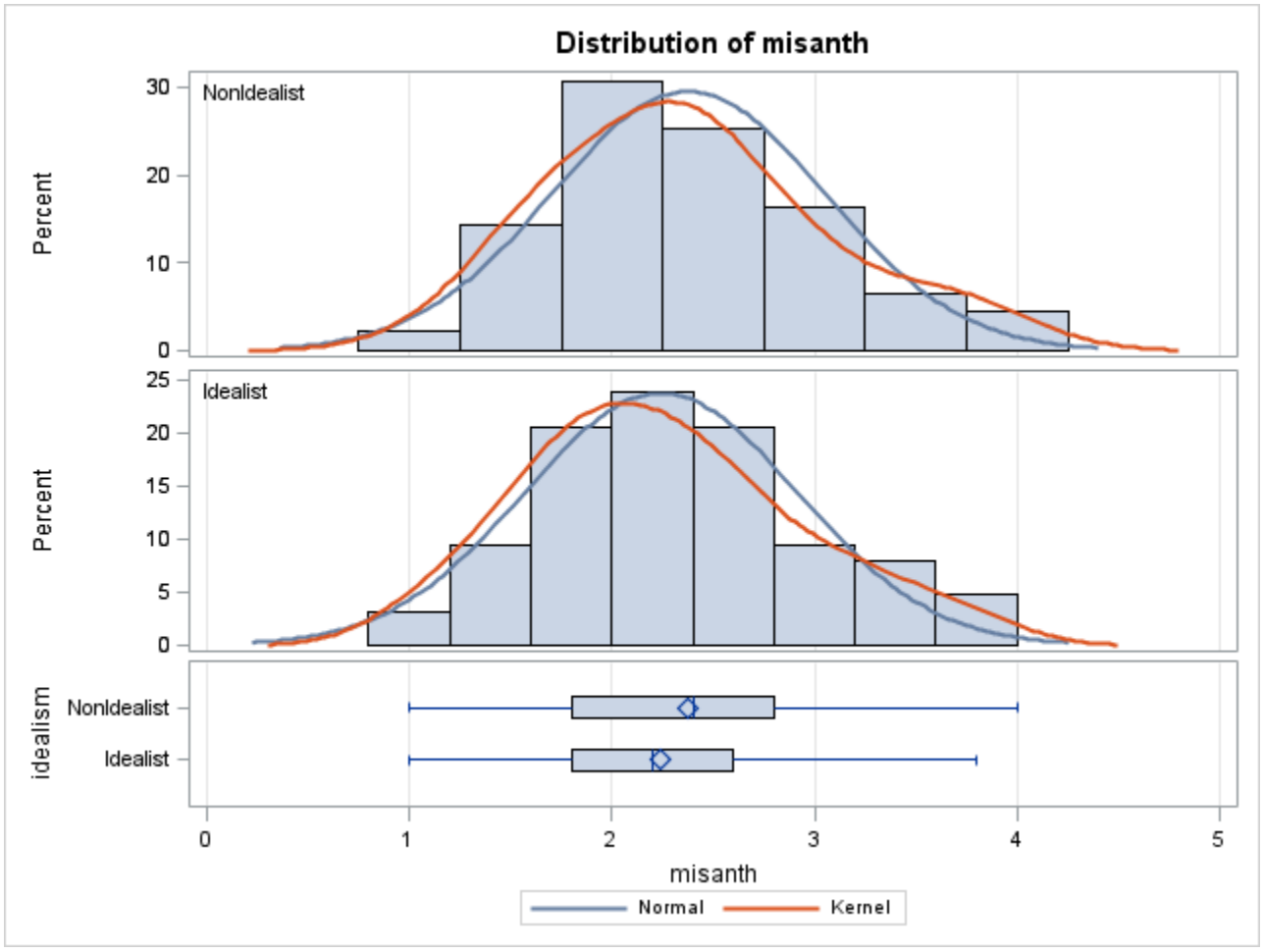
idealism	N	Mean	Std Dev	Std Err	Minimum	Maximum
NonIdealist	91	2.3758	0.6732	0.0706	1.0000	4.0000
Idealist	63	2.2413	0.6712	0.0846	1.0000	3.8000
Diff (1-2)		0.1346	0.6724	0.1102		

idealism	Method	Mean	95% CL Mean		Std Dev	95% CL Std Dev	
NonIdealist		2.3758	2.2356	2.5160	0.6732	0.5876	0.7882
Idealist		2.2413	2.0722	2.4103	0.6712	0.5711	0.8143
Diff (1-2)	**Pooled**	0.1346	-0.0832	0.3523	0.6724	0.6045	0.7575
Diff (1-2)	**Satterthwaite**	0.1346	-0.0833	0.3524			

Method	Variances	DF	t Value	Pr > |t|
Pooled	Equal	152	1.22	0.2240

Method	Variances	DF	t Value	Pr > |t|
Satterthwaite	Unequal	133.74	1.22	0.2240

Equality of Variances				
Method	**Num DF**	**Den DF**	**F Value**	**Pr > F**
Folded F	90	62	1.01	0.9914




```
proc reg; CGI: model ar = misanth idealism MxI;
 C: model ar=misanth;
 CG: model ar = misanth idealism;
 CI: model ar = misanth MxI; RUN; QUIT;
```

The REG Procedure
Model: CGI
Dependent Variable: ar

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	4.05237	1.35079	5.10	0.0022

Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Error	150	39.73945	0.26493		
Corrected Total	153	43.79182			

Root MSE	0.51471	**R-Square**	0.0925
Dependent Mean	2.37968	**Adj R-Sq**	0.0744
Coeff Var	21.62956		

Parameter Estimates					
Variable	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
Intercept	**1**	1.62581	0.19894	8.17	<.0001
misanth	**1**	0.30006	0.08059	3.72	0.0003
idealism	**1**	0.77869	0.30236	2.58	0.0110
MxI	**1**	-0.28472	0.12641	-2.25	0.0258

The REG Procedure
Model: C
Dependent Variable: ar

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	1	2.13252	2.13252	7.78	0.0060
Error	152	41.65930	0.27407		
Corrected Total	153	43.79182			

Root MSE	0.52352	**R-Square**	0.0487
Dependent Mean	2.37968	**Adj R-Sq**	0.0424
Coeff Var	21.99968		

Parameter Estimates					
Variable	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**
Intercept	**1**	1.97284	0.15183	12.99	<.0001
misanth	**1**	0.17530	0.06285	2.79	0.0060

The REG Procedure
Model: CG
Dependent Variable: ar

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	2	2.70839	1.35419	4.98	0.0081
Error	151	41.08343	0.27208		
Corrected Total	153	43.79182			

Root MSE	0.52161	**R-Square**	0.0618
Dependent Mean	2.37968	**Adj R-Sq**	0.0494
Coeff Var	21.91933		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	**1**	1.90077	0.15918	11.94	<.0001
misanth	**1**	0.18432	0.06292	2.93	0.0039
idealism	**1**	0.12498	0.08591	1.45	0.1478

The REG Procedure
Model: CI
Dependent Variable: ar

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	2	2.29525	1.14763	4.18	0.0172
Error	151	41.49657	0.27481		
Corrected Total	153	43.79182			

Root MSE	0.52422	**R-Square**	0.0524
Dependent Mean	2.37968	**Adj R-Sq**	0.0399
Coeff Var	22.02926		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	1.96289	0.15258	12.86	<.0001
misanth	1	0.16862	0.06353	2.65	0.0088
MxI	1	0.02778	0.03610	0.77	0.4428

```
*Easier way to get the test of coincidence -- using the TEST statement;
proc reg; model ar = misanth idealism MxI;
 TEST idealism=0, MxI=0; run; QUIT;
```

The REG Procedure
Model: MODEL1
Dependent Variable: ar

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	4.05237	1.35079	5.10	0.0022
Error	150	39.73945	0.26493		
Corrected Total	153	43.79182			

Root MSE	0.51471	R-Square	0.0925
Dependent Mean	2.37968	Adj R-Sq	0.0744
Coeff Var	21.62956		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	1.62581	0.19894	8.17	<.0001
misanth	1	0.30006	0.08059	3.72	0.0003
idealism	1	0.77869	0.30236	2.58	0.0110
MxI	1	-0.28472	0.12641	-2.25	0.0258

The REG Procedure
Model: MODEL1

Test 1 Results for Dependent Variable ar				
Source	DF	Mean Square	F Value	Pr > F
Numerator	2	0.95992	3.62	0.0291

Test 1 Results for Dependent Variable ar				
Source	**DF**	**Mean Square**	**F Value**	**Pr > F**
Denominator	150	0.26493		

```
proc sort; by idealism; run;
proc reg simple corr; model ar=misanth; by idealism; RUN; QUIT;
```

The REG Procedure
idealism=NonIdealist

Number of Observations Read	91
Number of Observations Used	91

Descriptive Statistics					
Variable	**Sum**	**Mean**	**Uncorrected SS**	**Variance**	**Standard Deviation**
Intercept	91.00000	1.00000	91.00000	0	0
misanth	216.20000	2.37582	554.44000	0.45319	0.67319
ar	212.82100	2.33869	525.45037	0.30808	0.55505

Correlation		
Variable	**misanth**	**ar**
misanth	1.0000	0.3639
ar	0.3639	1.0000

The REG Procedure
Model: MODEL1
Dependent Variable: ar
idealism=NonIdealist

Number of Observations Read	91
Number of Observations Used	91

Analysis of Variance				
Source	**DF**	**Sum of Squares**	**Mean Square**	**F Value**	**Pr > F**
Model	1	3.67218	3.67218	13.59	0.0004
Error	89	24.05535	0.27028		
Corrected Total	90	27.72753			

Root MSE	0.51989	**R-Square**	0.1324
Dependent Mean	2.33869	**Adj R-Sq**	0.1227
Coeff Var	22.22991		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	1	1.62581	0.20094	8.09	<.0001
misanth	1	0.30006	0.08140	3.69	0.0004

Kevin Jenkins' Potthoff Analysis

The REG Procedure
Model: MODEL1
Dependent Variable: ar
idealism=Idealist

Number of Observations Read	63
Number of Observations Used	63

Descriptive Statistics					
Variable	Sum	Mean	Uncorrected SS	Variance	Standard Deviation
Intercept	63.00000	1.00000	63.00000	0	0
misanth	141.20000	2.24127	344.40000	0.45053	0.67121
ar	153.64900	2.43887	390.42107	0.25308	0.50307

Correlation		
Variable	misanth	ar
misanth	1.0000	0.0205
ar	0.0205	1.0000

Kevin Jenkins' Potthoff Analysis

The REG Procedure
Model: MODEL1
Dependent Variable: ar
idealism=Idealist

Number of Observations Read	63
Number of Observations Used	63

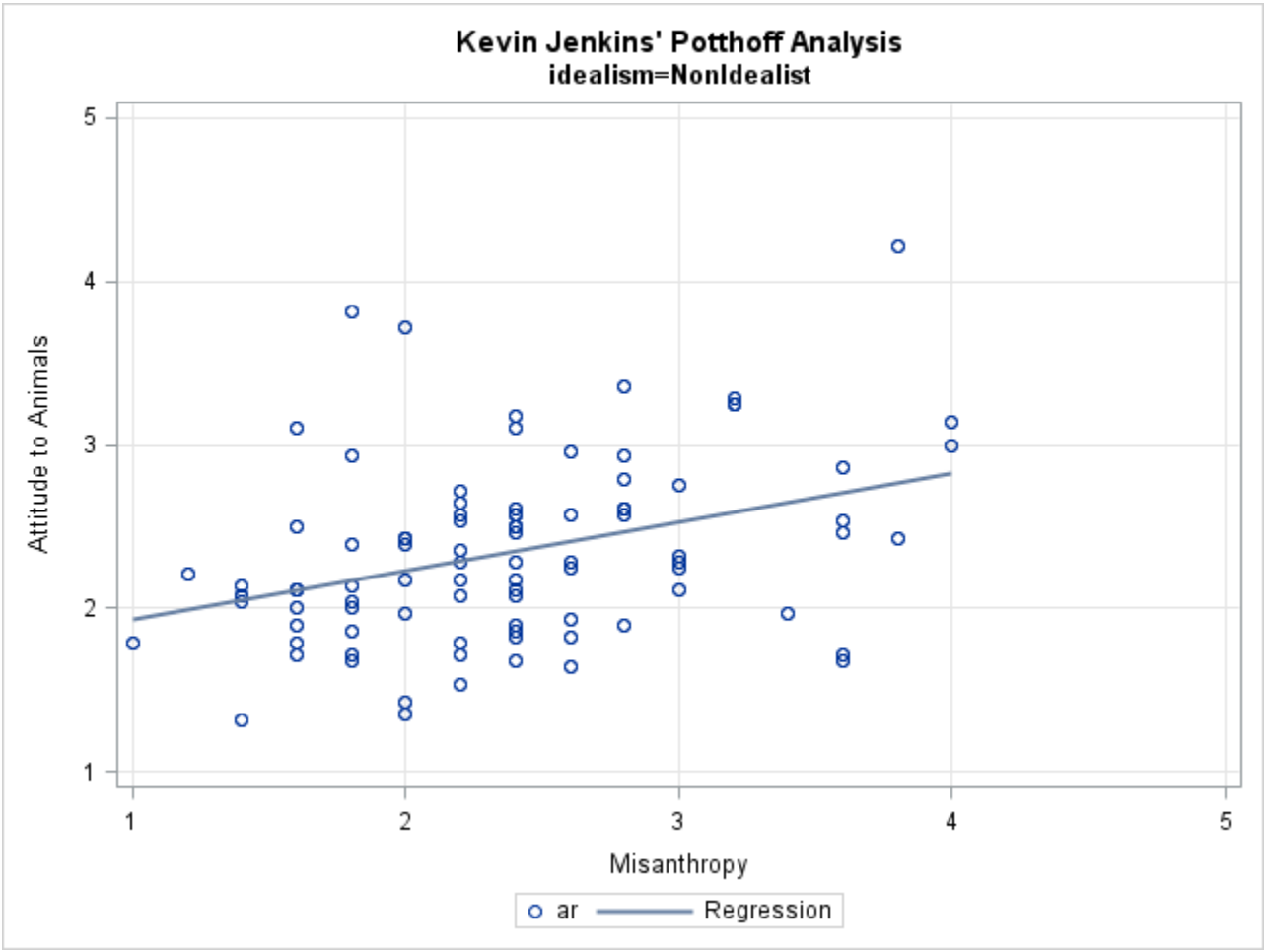
Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	0.00657	0.00657	0.03	0.8735
Error	61	15.68410	0.25712		
Corrected Total	62	15.69067			

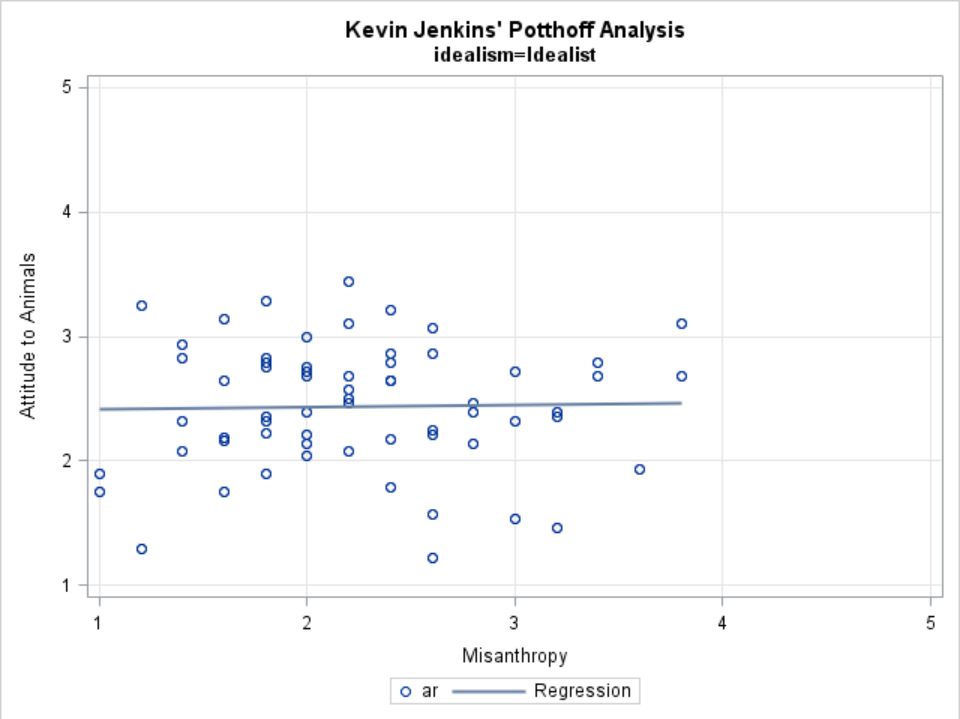
Root MSE	0.50707	**R-Square**	0.0004
Dependent Mean	2.43887	**Adj R-Sq**	-0.0160
Coeff Var	20.79102		

Parameter Estimates

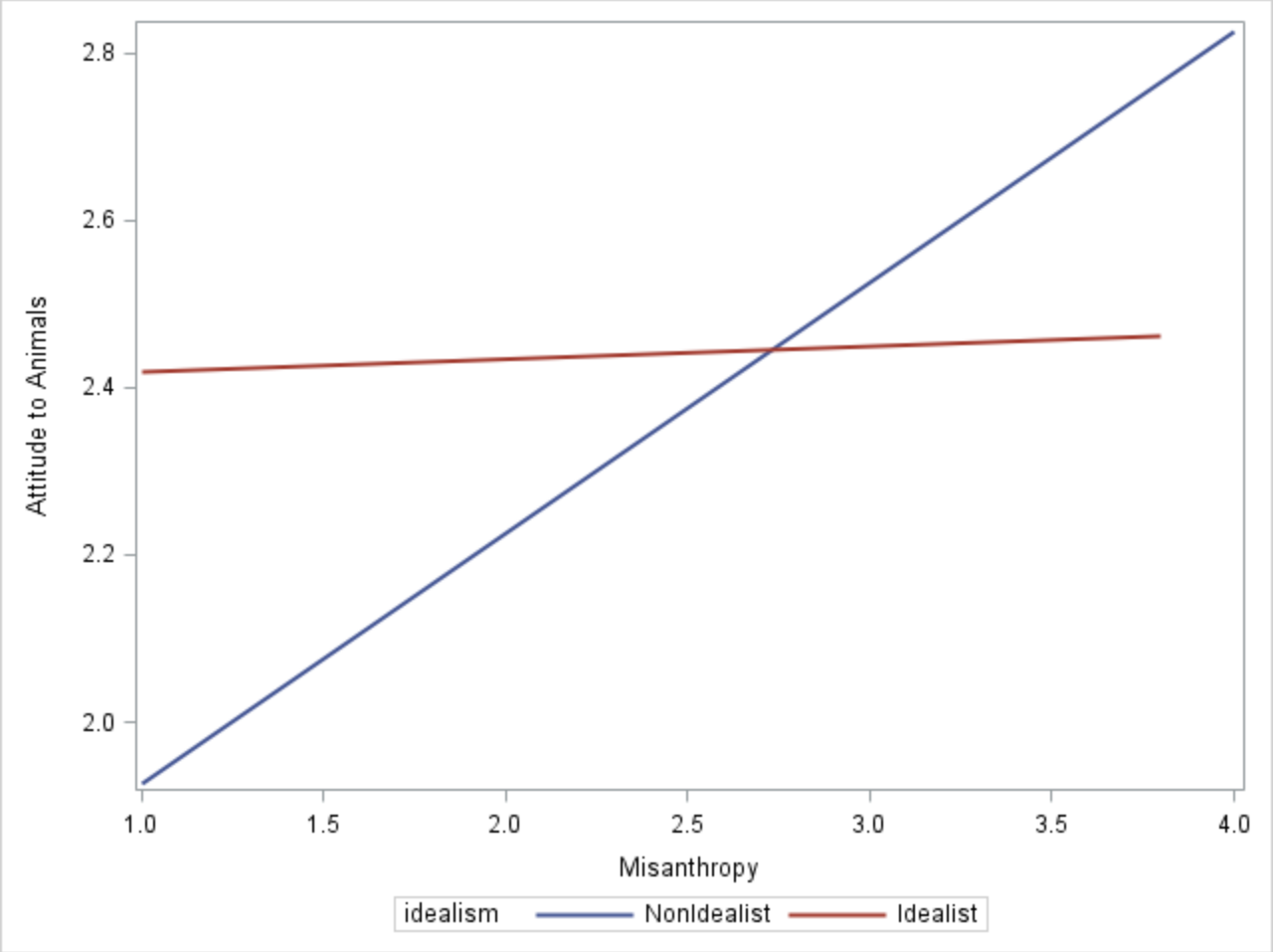
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	**1**	2.40450	0.22432	10.72	<.0001
misanth	**1**	0.01533	0.09594	0.16	0.8735

```
proc sgplot; scatter x = misanth y = ar; reg  x = misanth y = ar;
 yaxis label='Attitude to Animals' grid values=(1 to 5 by 1);
 xaxis label='Misanthropy' grid values=(1 to 5 by 1);
 by idealism; run;
```






```
proc sgplot; reg x = misanth y = ar / group = idealism nomarkers;
  yaxis label='Attitude to Animals';
  xaxis label='Misanthropy'; run;
```



```
Data Centered; set kevin;
MisanthLow = misanth - 1.65; InteractLow = MisanthLow * Idealism;
MisanthMean = misanth - 2.32; InteractMean = MisanthMean * Idealism;
MisanthHigh = misanth - 2.99; InteractHigh = MisanthHigh * Idealism;
proc reg;
Low: model ar = MisanthLow idealism InteractLow;
Mean: model ar = MisanthMean idealism InteractMean;
Low: model ar = MisanthHigh idealism InteractHigh; run; Quit;
```

The REG Procedure
Model: Low
Dependent Variable: ar

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	4.05237	1.35079	5.10	0.0022
Error	150	39.73945	0.26493		
Corrected Total	153	43.79182			

Root MSE	0.51471	**R-Square**	0.0925
Dependent Mean	2.37968	**Adj R-Sq**	0.0744
Coeff Var	21.62956		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	**1**	2.12090	0.07958	26.65	<.0001
MisanthLow	**1**	0.30006	0.08059	3.72	0.0003
idealism	**1**	0.30890	0.11770	2.62	0.0096
InteractLow	**1**	-0.28472	0.12641	-2.25	0.0258

The REG Procedure
Model: Mean
Dependent Variable: ar

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	4.05237	1.35079	5.10	0.0022
Error	150	39.73945	0.26493		
Corrected Total	153	43.79182			

Root MSE	0.51471	**R-Square**	0.0925
Dependent Mean	2.37968	**Adj R-Sq**	0.0744
Coeff Var	21.62956		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	**1**	2.32194	0.05414	42.88	<.0001
MisanthMean	**1**	0.30006	0.08059	3.72	0.0003
idealism	**1**	0.11814	0.08483	1.39	0.1658
InteractMean	**1**	-0.28472	0.12641	-2.25	0.0258

The REG Procedure
Model: High
Dependent Variable: ar

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	4.05237	1.35079	5.10	0.0022
Error	150	39.73945	0.26493		
Corrected Total	153	43.79182			

Root MSE	0.51471	**R-Square**	0.0925
Dependent Mean	2.37968	**Adj R-Sq**	0.0744
Coeff Var	21.62956		

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	**1**	2.52298	0.07322	34.46	<.0001
MisanthHigh	**1**	0.30006	0.08059	3.72	0.0003
idealism	**1**	-0.07263	0.12200	-0.60	0.5525
InteractHigh	**1**	-0.28472	0.12641	-2.25	0.0258