OUTPUT A: SAS

The REG Procedure
Model: MODEL1
Dependent Variable: satis1

| | |
|---|---|
| **Number of Observations Read** | 330 |
| **Number of Observations Used** | 330 |

**Analysis of Variance**

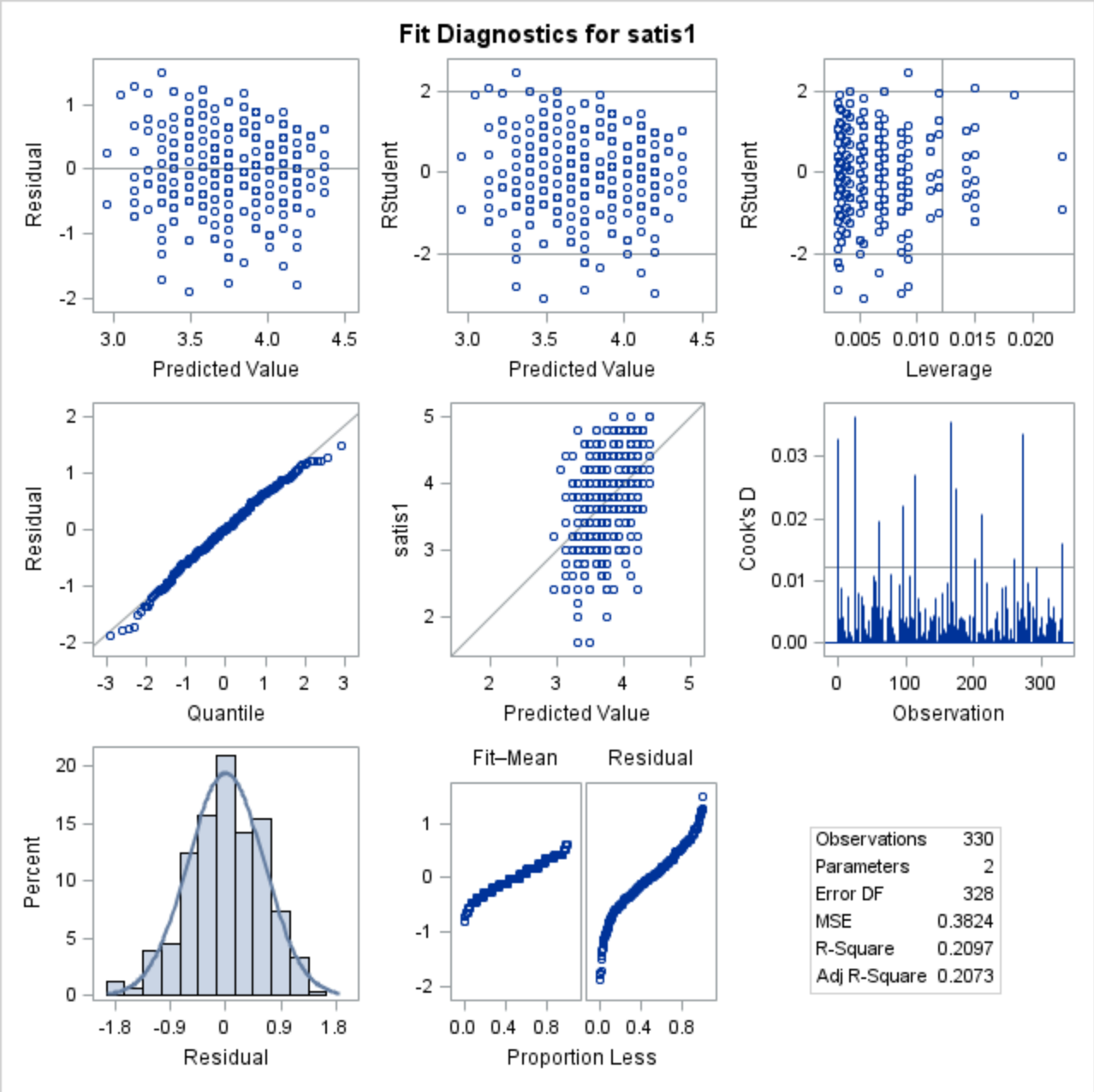
| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|---|---|---|---|---|---|
| **Model** | 1 | 33.28219 | 33.28219 | 87.04 | <.0001 |
| **Error** | 328 | 125.41369 | 0.38236 | | |
| **Corrected Total** | 329 | 158.69588 | | | |

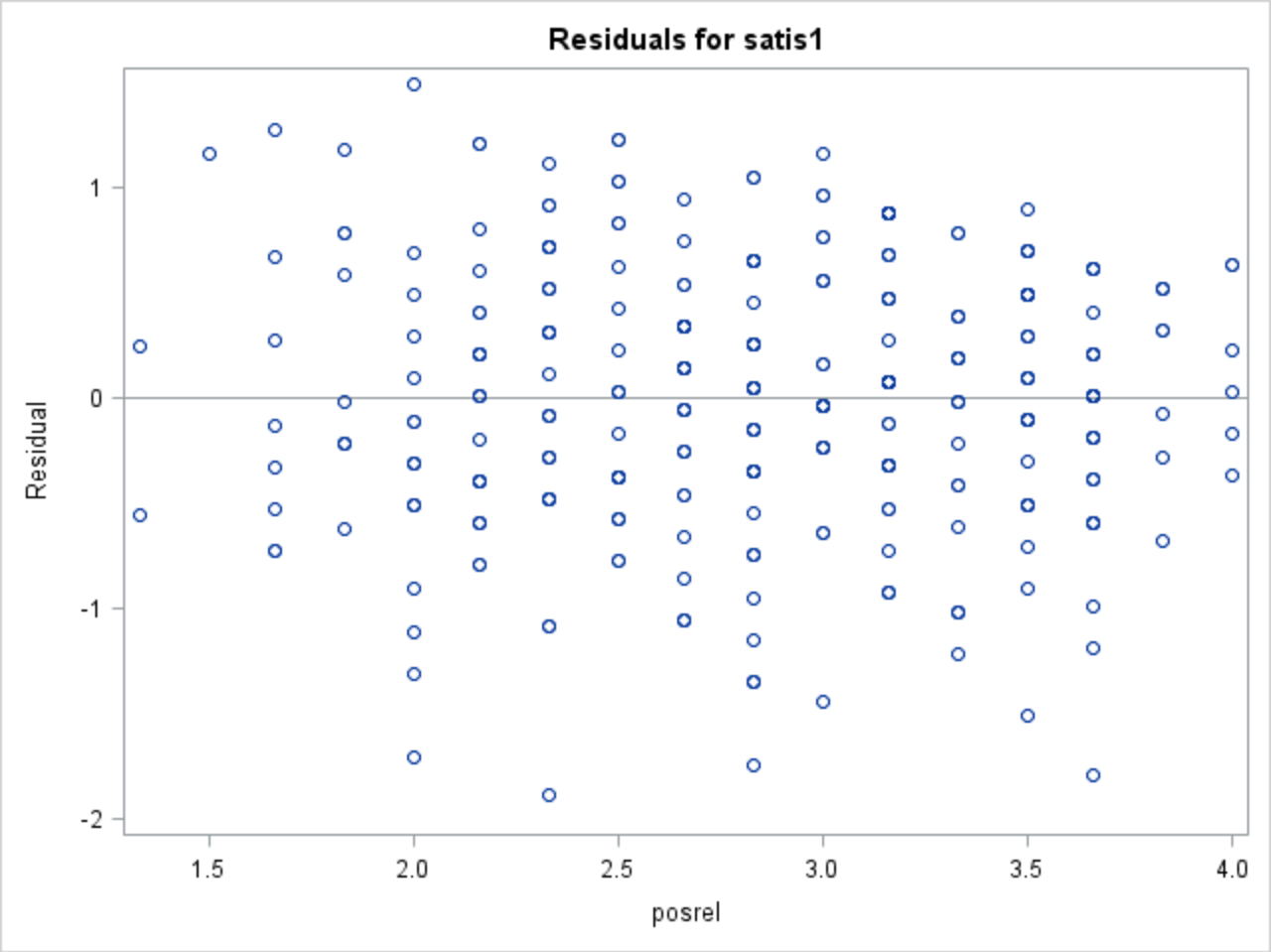
| | | | |
|---|---|---|---|
| **Root MSE** | 0.61835 | **R-Square** | 0.2097 |
| **Dependent Mean** | 3.75939 | **Adj R-Sq** | 0.2073 |
| **Coeff Var** | 16.44817 | | |

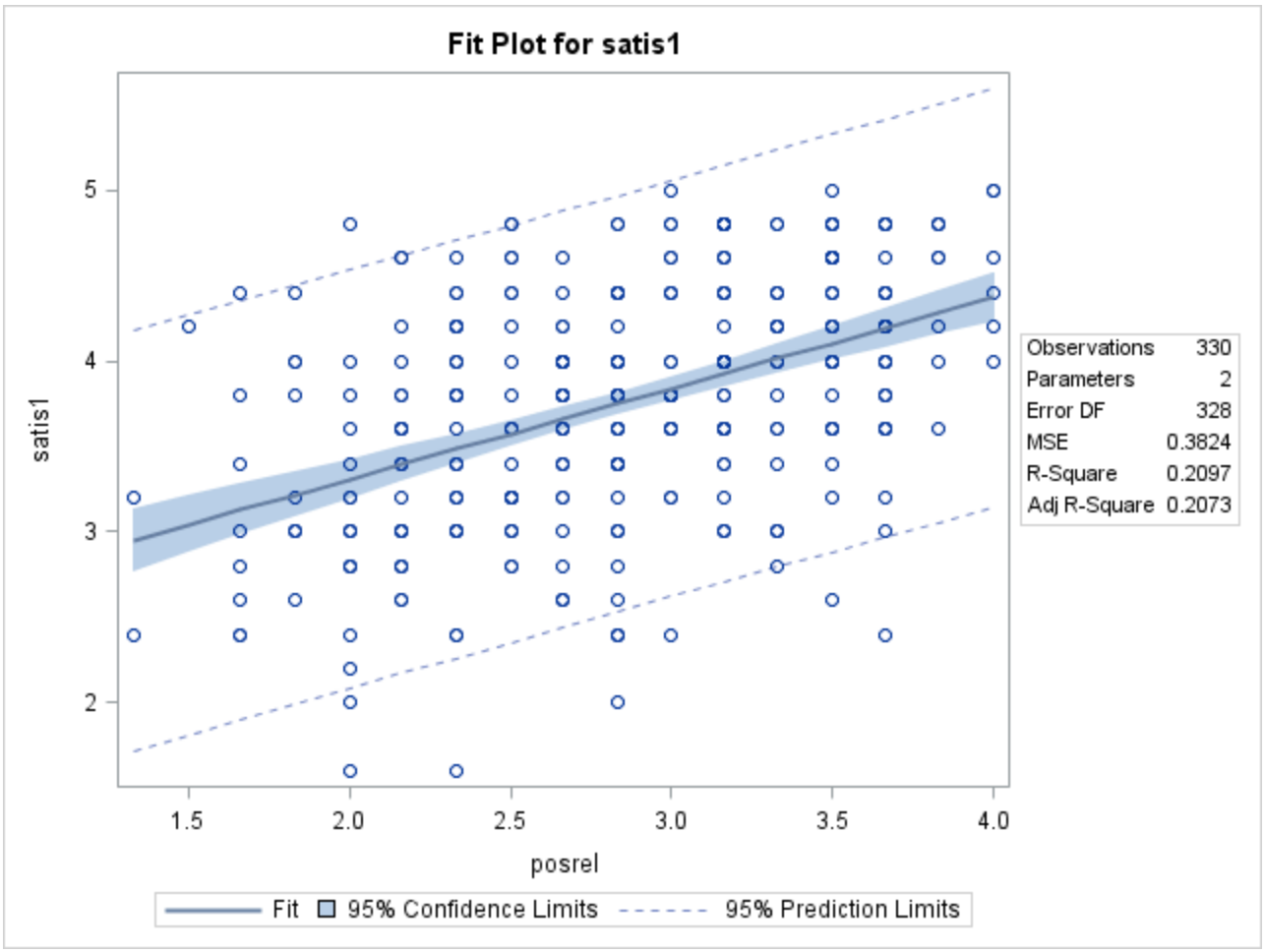
**Parameter Estimates**

| Variable | DF | Parameter Estimate | Standard Error | t Value | Pr > \|t\| | Standardized Estimate | 95% Confidence Limits | |
|---|---|---|---|---|---|---|---|---|
| **Intercept** | **1** | 2.24622 | 0.16572 | 13.55 | <.0001 | 0 | 1.92021 | 2.57223 |
| **posrel** | **1** | 0.53076 | 0.05689 | 9.33 | <.0001 | 0.45796 | 0.41884 | 0.64267 |

The REG Procedure
Model: MODEL1
Dependent Variable: satis1




Residuals for satis1
Residual
1
0
-1
-2
1.5
2.0
2.5
3.0
3.5
4.0
posrel


Fit Plot for satis1
satis1
posrel
5
4
3
2
1.5
2.0
2.5
3.0
3.5
4.0
Observations 330
Parameters 2
Error DF 328
MSE 0.3824
R-Square 0.2097
Adj R-Square 0.2073
Fit
95% Confidence Limits
95% Prediction Limits

OUTPUT A: SPSS

```
regression/statistics defaults ci/dep=satis1/method=enter posrel.
```

# Regression

**Variables Entered/Removed[a]**

| Model | Variables Entered | Variables Removed | Method |
|---|---|---|---|
| 1 | posrel[b] | . | Enter |

a. Dependent Variable: satis1

b. All requested variables entered.

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .458[a] | .210 | .207 | .61835 |

a. Predictors: (Constant), posrel

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 33.282 | 1 | 33.282 | 87.044 | .000[b] |
| | Residual | 125.414 | 328 | .382 | | |
| | Total | 158.696 | 329 | | | |

a. Dependent Variable: satis1

b. Predictors: (Constant), posrel

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 2.246 | .166 | | 13.554 | .000 |
| | posrel | .531 | .057 | .458 | 9.330 | .000 |

**Coefficients[a]**

| Model | | 95.0% Confidence Interval for B | |
|---|---|---|---|
| | | Lower Bound | Upper Bound |
| 1 | (Constant) | 1.920 | 2.572 |
| | posrel | .419 | .643 |

a. Dependent Variable: satis1

OUTPUT B: SAS

The REG Procedure
Model: MODEL1
Dependent Variable: satis1

| | |
|---|---|
| **Number of Observations Read** | 330 |
| **Number of Observations Used** | 330 |

**Analysis of Variance**

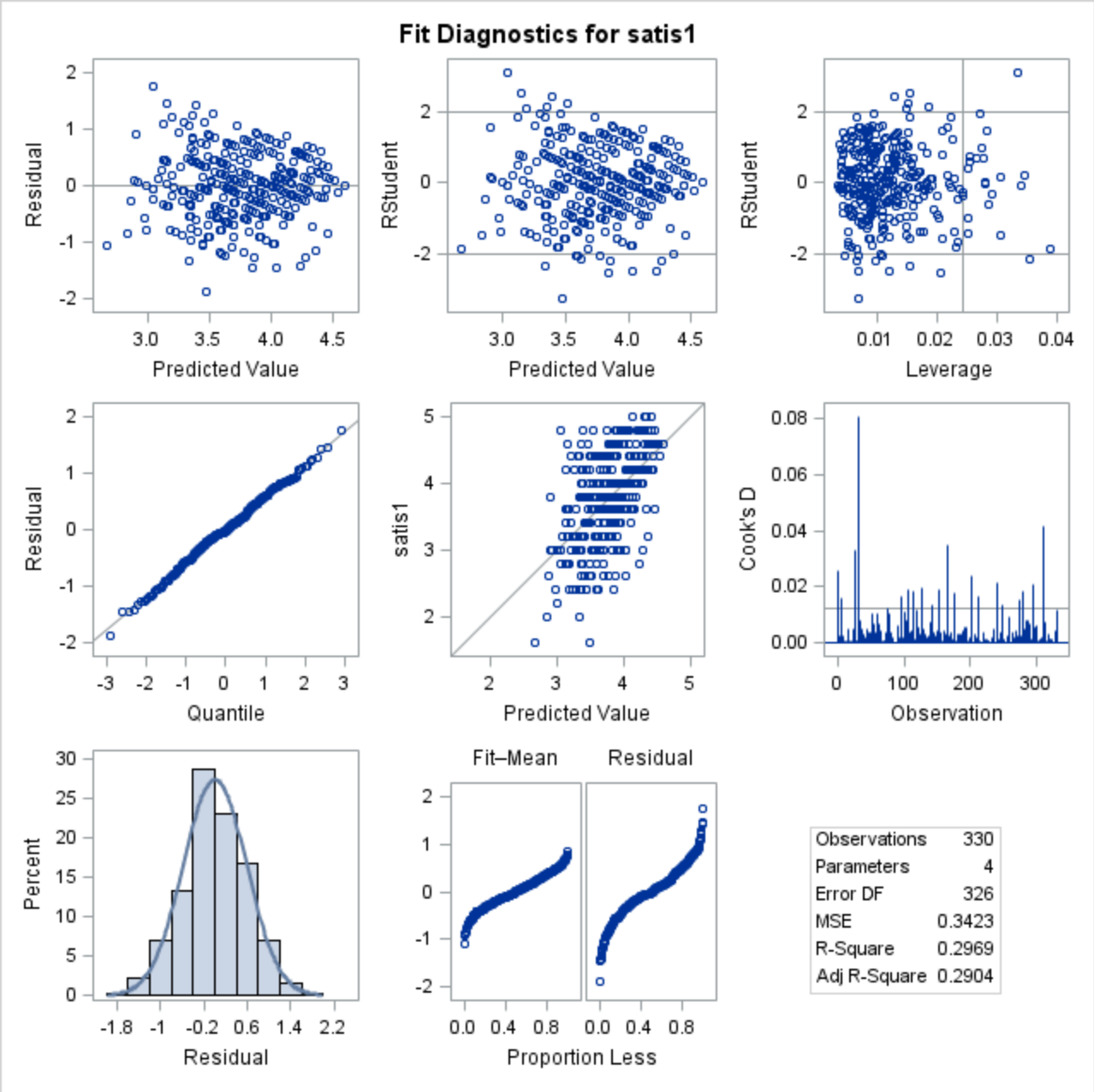
| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|---|---|---|---|---|---|
| **Model** | 3 | 47.11953 | 15.70651 | 45.89 | <.0001 |
| **Error** | 326 | 111.57635 | 0.34226 | | |
| **Corrected Total** | 329 | 158.69588 | | | |

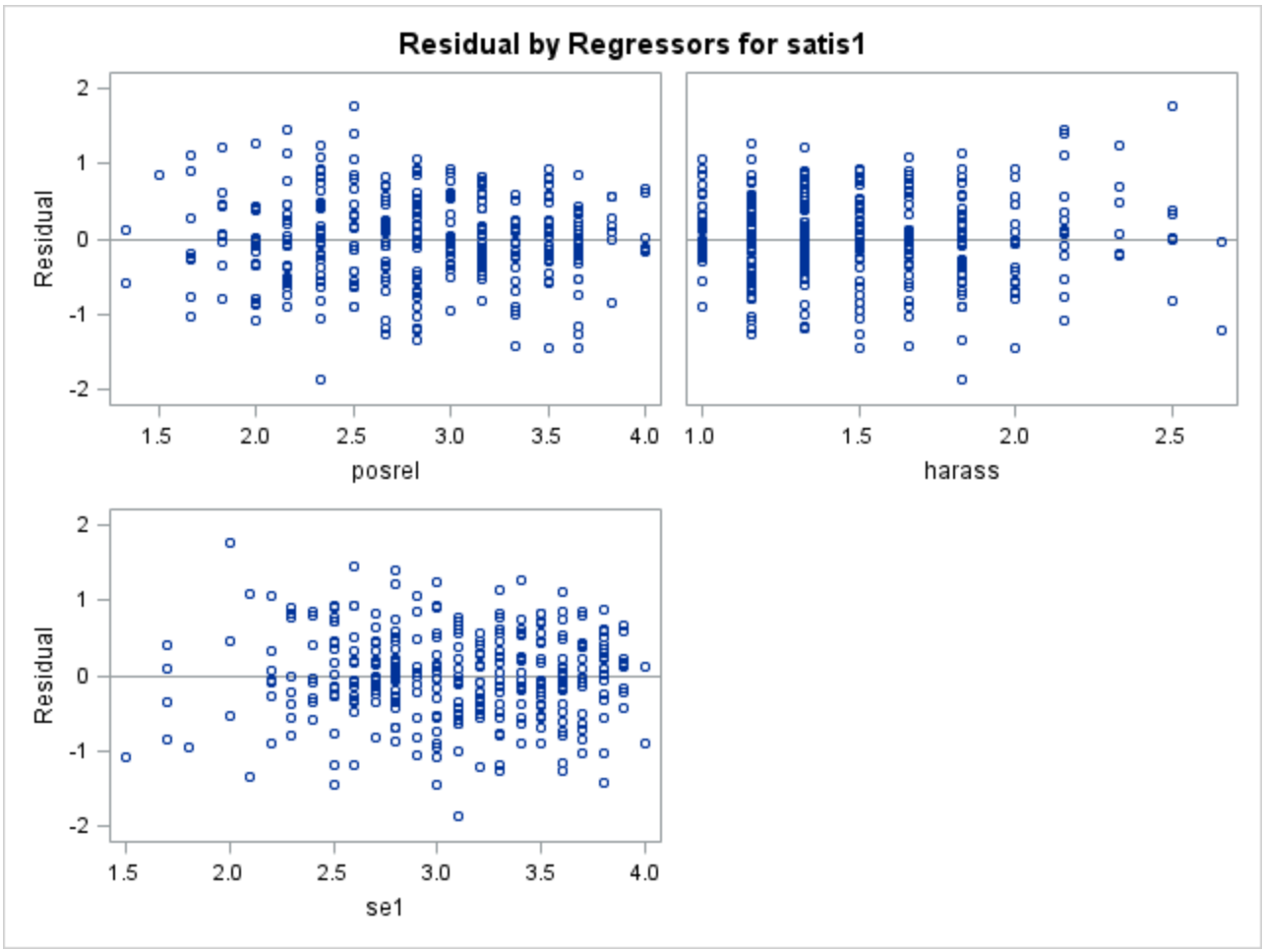
| | | | |
|---|---|---|---|
| **Root MSE** | 0.58503 | **R-Square** | 0.2969 |
| **Dependent Mean** | 3.75939 | **Adj R-Sq** | 0.2904 |
| **Coeff Var** | 15.56179 | | |

**Parameter Estimates**

| Variable | DF | Parameter Estimate | Standard Error | t Value | Pr > \|t\| | Standardized Estimate | 95% Confidence Limits | |
|---|---|---|---|---|---|---|---|---|
| **Intercept** | **1** | 1.47888 | 0.30890 | 4.79 | <.0001 | 0 | 0.87119 | 2.08658 |
| **posrel** | **1** | 0.47230 | 0.05544 | 8.52 | <.0001 | 0.40752 | 0.36323 | 0.58137 |
| **harass** | **1** | -0.14514 | 0.08997 | -1.61 | 0.1077 | -0.07784 | -0.32212 | 0.03185 |
| **se1** | **1** | 0.37292 | 0.06399 | 5.83 | <.0001 | 0.27588 | 0.24703 | 0.49881 |

The REG Procedure
Model: MODEL1
Dependent Variable: satis1




Residual by Regressors for satis1
Residual
2
1
0
-1
-2
1.5
2.0
2.5
3.0
3.5
4.0
posrel
1.0
1.5
2.0
2.5
harass
Residual
2
1
0
-1
-2
1.5
2.0
2.5
3.0
3.5
4.0
se1

OUTPUT B: SPSS

```
regression/statistics defaults ci/dep=satis1/method=enter posrel harass se1.
```

# Regression

**Variables Entered/Removed[a]**

| Model | Variables Entered | Variables Removed | Method |
|---|---|---|---|
| 1 | se1, posrel, harass[b] | . | Enter |

a. Dependent Variable: satis1

b. All requested variables entered.

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .545[a] | .297 | .290 | .58503 |

a. Predictors: (Constant), se1, posrel, harass

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 47.120 | 3 | 15.707 | 45.891 | .000[b] |
| | Residual | 111.576 | 326 | .342 | | |
| | Total | 158.696 | 329 | | | |

a. Dependent Variable: satis1

b. Predictors: (Constant), se1, posrel, harass

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.479 | .309 | | 4.788 | .000 |
| | posrel | .472 | .055 | .408 | 8.519 | .000 |
| | harass | -.145 | .090 | -.078 | -1.613 | .108 |
| | se1 | .373 | .064 | .276 | 5.828 | .000 |

**Coefficients**[a]

| Model | | 95.0% Confidence Interval for B | |
|---|---|---|---|
| | | Lower Bound | Upper Bound |
| 1 | (Constant) | .871 | 2.087 |
| | posrel | .363 | .581 |
| | harass | -.322 | .032 |
| | se1 | .247 | .499 |

a. Dependent Variable: satis1

OUTPUT C: SAS

********** PROCESS v3.1 for SAS **********

Written by Andrew F. Hayes, Ph.D. http://www.afhayes.com

Documentation available in Hayes (2018) www.guilford.com/p/hayes3

**********

**Model and Variables**

**Model:** 4

**Y:** LIKING

**X:** PROTEST

**M:** RESPAPPR

**Sample size:**

129

**********

**OUTCOME VARIABLE:**

RESPAPPR

**Model Summary**

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.4992 | 0.2492 | 1.3753 | 42.1550 | 1.0000 | 127.0000 | 0.0000 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **constant** | 3.8841 | 0.1831 | 21.2078 | 0.0000 | 3.5217 | 4.2466 |
| **PROTEST** | 1.4397 | 0.2217 | 6.4927 | 0.0000 | 1.0009 | 1.8785 |

**********

**OUTCOME VARIABLE:**

LIKING

**Model Summary**

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.4959 | 0.2459 | 0.8441 | 20.5483 | 2.0000 | 126.0000 | 0.0000 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **constant** | 3.7473 | 0.3058 | 12.2553 | 0.0000 | 3.1422 | 4.3524 |
| **PROTEST** | -0.1007 | 0.2005 | -0.5023 | 0.6163 | -0.4975 | 0.2960 |
| **RESPAPPR** | 0.4024 | 0.0695 | 5.7884 | 0.0000 | 0.2648 | 0.5400 |

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

**OUTCOME VARIABLE:**

LIKING

**Model Summary**

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.2131 | 0.0454 | 1.0601 | 6.0439 | 1.0000 | 127.0000 | 0.0153 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **constant** | 5.3102 | 0.16083 | 3.0244 | 0.0000 | 4.9921 | 5.6284 |
| **PROTEST** | 0.4786 | 0.1947 | 2.4584 | 0.0153 | 0.0934 | 0.8639 |

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

**Total effect of X on Y**

| Effect | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|
| 0.4786 | 0.1947 | 2.4584 | 0.0153 | 0.0934 | 0.8639 |

**Direct effect of X on Y**

| Effect | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|
| -0.1007 | 0.2005 | -0.5023 | 0.6163 | -0.4975 | 0.2960 |

**Indirect effect(s) of X on Y:**

| | Effect | BootSE | BootLLCI | BootULCI |
|---|---|---|---|---|
| **RESPAPPR** | 0.5793 | 0.1508 | 0.3218 | 0.9010 |

**Normal theory test for indirect effect(s):**

| | Effect | SE | Z | p |
|---|---|---|---|---|
| **RESPAPPR** | 0.5793 | 0.1350 | 4.2924 | 0.0000 |

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

**Level of confidence for all confidence intervals in output:**
95.0000

**Number of bootstrap samples for percentile bootstrap confidence intervals:**
10000

OUTPUT C: SPSS

```
*************** PROCESS Procedure for SPSS Version 3.1 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 4
    Y  : liking
    X  : protest
    M  : respappr

Sample
Size:  129

**************************************************************************
OUTCOME VARIABLE:
 respappr

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4992      .2492     1.3753    42.1550     1.0000   127.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant    3.8841      .1831    21.2078      .0000     3.5217     4.2466
protest     1.4397      .2217     6.4927      .0000     1.0009     1.8785

**************************************************************************
OUTCOME VARIABLE:
 liking

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4959      .2459      .8441    20.5483     2.0000   126.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant    3.7473      .3058    12.2553      .0000     3.1422     4.3524
protest     -.1007      .2005     -.5023      .6163     -.4975      .2960
respappr     .4024      .0695     5.7884      .0000      .2648      .5400

************************** TOTAL EFFECT MODEL ****************************
OUTCOME VARIABLE:
 liking

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .2131      .0454     1.0601     6.0439     1.0000   127.0000      .0153

Model
             coeff         se          t          p       LLCI       ULCI
constant    5.3102      .1608    33.0244      .0000     4.9921     5.6284
protest      .4786      .1947     2.4584      .0153      .0934      .8639

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

```
Total effect of X on Y
     Effect         se          t          p       LLCI       ULCI
      .4786      .1947     2.4584      .0153      .0934      .8639

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI
     -.1007      .2005     -.5023      .6163     -.4975      .2960

Indirect effect(s) of X on Y:
            Effect     BootSE   BootLLCI   BootULCI
respappr      .5793      .1518      .3097      .9060

   Normal theory test for indirect effect(s):
            Effect         se          Z          p
respappr      .5793      .1350     4.2924      .0000

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

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  10000
```

OUTPUT D: SAS

********** PROCESS Procedure for SAS Version 3.0 **********

Written by Andrew F. Hayes, Ph.D. http://www.afhayes.com

Documentation available in Hayes (2018) www.guilford.com/p/hayes3

**********

**Model and Variables**

**Model:** 4

**Y:** FAIL2

**X:** HARASS

**M:** SE2

**Covariates:**

SE1 FAIL1

**Sample size:**

330

**********

**OUTCOME VARIABLE:**

SE2

**Model Summary**

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.5450 | 0.2971 | 0.2224 | 45.9259 | 3.0000 | 326.0000 | 0.0000 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **constant** | 2.0280 | 0.2412 | 8.4095 | 0.0000 | 1.5536 | 2.5024 |
| **HARASS** | -0.2728 | 0.0717 | -3.8025 | 0.0002 | -0.4139 | -0.1317 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **SE1** | 0.4879 | 0.0536 | 9.1081 | 0.0000 | 0.3825 | 0.5933 |
| **FAIL1** | -0.1010 | 0.0606 | -1.6661 | 0.0967 | -0.2202 | 0.0182 |

**********

**OUTCOME VARIABLE:**

FAIL2

**Model Summary**

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.4059 | 0.1648 | 0.2105 | 16.0276 | 4.0000 | 325.0000 | 0.0000 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **constant** | 2.0934 | 0.2588 | 8.0900 | 0.0000 | 1.5843 | 2.6025 |
| **HARASS** | 0.0196 | 0.0713 | 0.2754 | 0.7832 | -0.1207 | 0.1599 |
| **SE2** | -0.2175 | 0.0539 | -4.0375 | 0.0001 | -0.3235 | -0.1115 |
| **SE1** | -0.0672 | 0.0584 | -1.1517 | 0.2503 | -0.1820 | 0.0476 |
| **FAIL1** | 0.2307 | 0.0592 | 3.8966 | 0.0001 | 0.1142 | 0.3471 |

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

**OUTCOME VARIABLE:**

FAIL2

**Model Summary**

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.3505 | 0.1229 | 0.2203 | 15.2219 | 3.0000 | 326.0000 | 0.0000 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **constant** | 1.6523 | 0.2400 | 6.8842 | 0.0000 | 1.1801 | 2.1245 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **HARASS** | 0.0790 | 0.0714 | 1.1060 | 0.2695 | -0.0615 | 0.2194 |
| **SE1** | -0.1733 | 0.0533 | -3.2513 | 0.0013 | -0.2782 | -0.0685 |
| **FAIL1** | 0.2526 | 0.0603 | 4.1886 | 0.0000 | 0.1340 | 0.3713 |

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

**Total effect of X on Y**

| Effect | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|
| 0.0790 | 0.0714 | 1.1060 | 0.2695 | -0.0615 | 0.2194 |

**Direct effect of X on Y**

| Effect | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|
| 0.0196 | 0.0713 | 0.2754 | 0.7832 | -0.1207 | 0.1599 |

**Indirect effect(s) of X on Y:**

| | Effect | BootSE | BootLLCI | BootULCI |
|---|---|---|---|---|
| **SE2** | 0.0593 | 0.0225 | 0.0207 | 0.1092 |

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

**Level of confidence for all confidence intervals in output:**

95.0000

**Number of bootstrap samples for percentile bootstrap confidence intervals:**

10000

OUTPUT D: SPSS

```
Run MATRIX procedure:

*************** PROCESS Procedure for SPSS Version 3.00 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 4
    Y  : fail2
    X  : harass
    M  : se2

Covariates:
 se1      fail1

Sample
Size:  330

**************************************************************************
OUTCOME VARIABLE:
 se2

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .5450      .2971      .2224    45.9259     3.0000   326.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant    2.0280      .2412     8.4095      .0000     1.5536     2.5024
harass      -.2728      .0717    -3.8025      .0002     -.4139     -.1317
se1          .4879      .0536     9.1081      .0000      .3825      .5933
fail1       -.1010      .0606    -1.6661      .0967     -.2202      .0182

**************************************************************************
OUTCOME VARIABLE:
 fail2

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4059      .1648      .2105    16.0276     4.0000   325.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant    2.0934      .2588     8.0900      .0000     1.5843     2.6025
harass       .0196      .0713      .2754      .7832     -.1207      .1599
se2         -.2175      .0539    -4.0375      .0001     -.3235     -.1115
se1         -.0672      .0584    -1.1517      .2503     -.1820      .0476
fail1        .2307      .0592     3.8966      .0001      .1142      .3471

************************ TOTAL EFFECT MODEL ****************************
OUTCOME VARIABLE:
 fail2

Model Summary
```

```
          R       R-sq        MSE          F        df1        df2          p
      .3505      .1229      .2203    15.2219     3.0000   326.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     1.6523      .2400     6.8842      .0000     1.1801     2.1245
harass        .0790      .0714     1.1060      .2695     -.0615      .2194
se1          -.1733      .0533    -3.2513      .0013     -.2782     -.0685
fail1         .2526      .0603     4.1886      .0000      .1340      .3713

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

Total effect of X on Y
     Effect         se          t          p       LLCI       ULCI
      .0790      .0714     1.1060      .2695     -.0615      .2194

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI
      .0196      .0713      .2754      .7832     -.1207      .1599

Indirect effect(s) of X on Y:
        Effect     BootSE   BootLLCI   BootULCI
se2      .0593      .0228      .0203      .1089

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

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  10000

------ END MATRIX -----
```

OUTPUT E: SAS

********** PROCESS Procedure for SAS Version 3.0 **********

Written by Andrew F. Hayes, Ph.D. http://www.afhayes.com

Documentation available in Hayes (2018) www.guilford.com/p/hayes3

**********

**Model and Variables**

**Model:** 4

**Y:** INTEREST

**X:** PRONO

**M1:** COMM

**M2:** DIFF

**Sample size:**

231

**********

**OUTCOME VARIABLE:**

COMM

**Model Summary**

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.3005 | 0.0903 | 1.5324 | 22.7252 | 1.0000 | 229.0000 | 0.0000 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **constant** | 3.1160 | 0.11352 | 7.4589 | 0.0000 | 2.8924 | 3.3396 |
| **PRONO** | 0.7769 | 0.1630 | 4.7671 | 0.0000 | 0.4558 | 1.0980 |

**********

**OUTCOME VARIABLE:**

DIFF

**Model Summary**

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.0636 | 0.0040 | 1.6769 | 0.9298 | 1.0000 | 229.0000 | 0.3359 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **constant** | 4.9412 | 0.1187 | 41.6247 | 0.0000 | 4.7073 | 5.1751 |
| **PRONO** | -0.1644 | 0.1705 | -0.9643 | 0.3359 | -0.5003 | 0.1715 |

**********

**OUTCOME VARIABLE:**

INTEREST

**Model Summary**

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.4390 | 0.1927 | 1.9696 | 18.0666 | 3.0000 | 227.0000 | 0.0000 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **constant** | 0.5156 | 0.4634 | 1.1125 | 0.2671 | -0.3976 | 1.4287 |
| **PRONO** | -0.0976 | 0.1938 | -0.5038 | 0.6149 | -0.4795 | 0.2843 |
| **COMM** | 0.5342 | 0.0753 | 7.0949 | 0.0000 | 0.3858 | 0.6826 |
| **DIFF** | 0.1328 | 0.0720 | 1.8446 | 0.0664 | -0.0091 | 0.2746 |

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

**OUTCOME VARIABLE:**

INTEREST

**Model Summary**

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.0954 | 0.0091 | 2.3965 | 2.1032 | 1.0000 | 229.0000 | 0.1484 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|

**Model Summary**

| | R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|---|
| **constant** | | 2.8361 | 0.14191 | 9.9853 | 0.0000 | 2.5565 | 3.1158 |
| **PRONO** | | 0.2956 | 0.2038 | 1.4502 | 0.1484 | -0.1060 | 0.6971 |

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

**Total effect of X on Y**

| Effect | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|
| 0.2956 | 0.2038 | 1.4502 | 0.1484 | -0.1060 | 0.6971 |

**Direct effect of X on Y**

| Effect | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|
| -0.0976 | 0.1938 | -0.5038 | 0.6149 | -0.4795 | 0.2843 |

**Indirect effect(s) of X on Y:**

| | Effect | BootSE | BootLLCI | BootULCI |
|---|---|---|---|---|
| **TOTAL** | 0.3932 | 0.1133 | 0.1922 | 0.6344 |
| **COMM** | 0.4150 | 0.1120 | 0.2180 | 0.6544 |
| **DIFF** | -0.0218 | 0.0275 | -0.0866 | 0.0258 |
| **(C1)** | 0.4368 | 0.1174 | 0.2272 | 0.6852 |

**Normal theory test for indirect effect(s):**

| | Effect | se | Z | p |
|---|---|---|---|---|
| **COMM** | 0.4150 | 0.1056 | 3.9301 | 0.0001 |
| **DIFF** | -0.0218 | 0.0283 | -0.7703 | 0.4411 |

**Specific indirect effect contrast definition(s):**

**(C1)** COMM minus DIFF

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

**Level of confidence for all confidence intervals inoutput:**

95.0000

**Number of bootstrap samples for percentile bootstrap confidence intervals:**

10000

Output E: SPSS

```
Run MATRIX procedure:

*************** PROCESS Procedure for SPSS Version 3.1 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 4
    Y  : interest
    X  : ProNo
   M1  : comm
   M2  : diff

Sample
Size:  232

**************************************************************************
OUTCOME VARIABLE:
 comm

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3031      .0919     1.5279    23.2670     1.0000   230.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant    3.1160      .1133    27.4994      .0000     2.8927     3.3392
ProNo        .7831      .1624     4.8236      .0000      .4632     1.1030

**************************************************************************
OUTCOME VARIABLE:
 diff

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .0594      .0035     1.6760      .8155     1.0000   230.0000      .3674

Model
             coeff         se          t          p       LLCI       ULCI
constant    4.9412      .1187    41.6352      .0000     4.7073     5.1750
ProNo       -.1536      .1700     -.9031      .3674     -.4886      .1815

**************************************************************************
OUTCOME VARIABLE:
 interest

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4418      .1952     1.9659    18.4348     3.0000   228.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant     .4898      .4618     1.0607      .2899     -.4201     1.3996
ProNo       -.0895      .1933     -.4630      .6438     -.4705      .2914
```

```
comm          .5367      .0752     7.1418      .0000      .3886      .6848
diff          .1364      .0718     1.9008      .0586     -.0050      .2778

************************** TOTAL EFFECT MODEL ****************************
OUTCOME VARIABLE:
 interest

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .1000      .0100     2.3974     2.3217     1.0000   230.0000      .1290

Model
             coeff         se          t          p       LLCI       ULCI
constant    2.8361      .1419    19.9817      .0000     2.5565     3.1158
ProNo        .3099      .2034     1.5237      .1290     -.0908      .7106

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

Total effect of X on Y
     Effect         se          t          p       LLCI       ULCI
      .3099      .2034     1.5237      .1290     -.0908      .7106

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI
     -.0895      .1933     -.4630      .6438     -.4705      .2914

Indirect effect(s) of X on Y:
         Effect     BootSE   BootLLCI   BootULCI
TOTAL     .3994      .1135      .1950      .6399
comm      .4203      .1128      .2171      .6594
diff     -.0209      .0282     -.0858      .0280
(C1)      .4413      .1189      .2251      .6927

   Normal theory test for indirect effect(s):
        Effect         se          Z          p
comm     .4203      .1059     3.9706      .0001
diff    -.0209      .0284     -.7367      .4613

Specific indirect effect contrast definition(s):
(C1)          comm      minus   diff

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

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  10000

------ END MATRIX -----
```

OUTPUT F: SAS

********** PROCESS Procedure for SAS Version 3.0 **********

Written by Andrew F. Hayes, Ph.D. http://www.afhayes.com

Documentation available in Hayes (2018) www.guilford.com/p/hayes3

**********

**Model and Variables**

**Model:** 6

**Y:** MCIVIL

**X:** BINLADEN

**M1:** STEREO

**M2:** RTHREAT

**Covariates:**

SEX AGE IDEO

**Sample size:**

661

**********

**OUTCOME VARIABLE:**

STEREO

**Model Summary**

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.3557 | 0.1265 | 0.6495 | 23.7609 | 4.0000 | 656.0000 | 0.0000 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **constant** | 1.9045 | 0.1322 | 14.4084 | 0.0000 | 1.6449 | 2.1640 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **BINLADEN** | 0.1358 | 0.0639 | 2.1258 | 0.0339 | 0.0104 | 0.2613 |
| **SEX** | 0.0398 | 0.0635 | 0.6262 | 0.5314 | -0.0849 | 0.1644 |
| **AGE** | 0.0504 | 0.0192 | 2.6220 | 0.0089 | 0.0127 | 0.0882 |
| **IDEO** | 0.1293 | 0.0143 | 9.0483 | 0.0000 | 0.1012 | 0.1574 |

**********

**OUTCOME VARIABLE:**

RTHREAT

**Model Summary**

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.6764 | 0.4575 | 0.6076 | 110.4916 | 5.0000 | 655.0000 | 0.0000 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **constant** | -0.2548 | 0.1467 | -1.7369 | 0.0829 | -0.5428 | 0.0332 |
| **BINLADEN** | 0.0374 | 0.0620 | 0.6038 | 0.5462 | -0.0843 | 0.1592 |
| **STEREO** | 0.7047 | 0.0378 | 18.6630 | 0.0000 | 0.6306 | 0.7789 |
| **SEX** | 0.1286 | 0.0614 | 2.0938 | 0.0367 | 0.0080 | 0.2492 |
| **AGE** | 0.0451 | 0.0187 | 2.4135 | 0.0161 | 0.0084 | 0.0818 |
| **IDEO** | 0.0898 | 0.0147 | 6.1257 | 0.0000 | 0.0610 | 0.1186 |

**********

**OUTCOME VARIABLE:**

MCIVIL

**Model Summary**

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.6727 | 0.4526 | 0.5890 | 90.1100 | 6.0000 | 654.0000 | 0.0000 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **constant** | 0.7165 | 0.1448 | 4.9499 | 0.0000 | 0.4323 | 1.0008 |
| **BINLADEN** | -0.0311 | 0.0611 | -0.5095 | 0.6106 | -0.1510 | 0.0888 |
| **STEREO** | 0.1057 | 0.0460 | 2.2965 | 0.0220 | 0.0153 | 0.1960 |
| **RTHREAT** | 0.5491 | 0.0385 | 14.2732 | 0.0000 | 0.4736 | 0.6247 |
| **SEX** | -0.1001 | 0.0607 | -1.6504 | 0.0993 | -0.2193 | 0.0190 |
| **AGE** | -0.0103 | 0.0185 | -0.5599 | 0.5758 | -0.0466 | 0.0259 |
| **IDEO** | 0.0545 | 0.0148 | 3.6696 | 0.0003 | 0.0253 | 0.0836 |

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

**OUTCOME VARIABLE:**

MCIVIL

**Model Summary**

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.3675 | 0.1351 | 0.9278 | 25.6100 | 4.0000 | 656.0000 | 0.0000 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **constant** | 1.5149 | 0.1580 | 9.5894 | 0.0000 | 1.2047 | 1.8251 |
| **BINLADEN** | 0.0564 | 0.0764 | 0.7380 | 0.4608 | -0.0936 | 0.2063 |
| **SEX** | -0.0099 | 0.0759 | -0.1310 | 0.8958 | -0.1589 | 0.1391 |
| **AGE** | 0.0393 | 0.0230 | 1.7085 | 0.0880 | -0.0059 | 0.0844 |
| **IDEO** | 0.1675 | 0.0171 | 9.8053 | 0.0000 | 0.1339 | 0.2010 |

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

**Total effect of X on Y**

| Effect | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|
| 0.0564 | 0.0764 | 0.7380 | 0.4608 | -0.0936 | 0.2063 |

**Direct effect of X on Y**

| Effect | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|
| -0.0311 | 0.0611 | -0.5095 | 0.6106 | -0.1510 | 0.0888 |

**Indirect effect(s) of X on Y:**

| | Effect | BootSE | BootLLCI | BootULCI |
|---|---|---|---|---|
| **TOTAL** | 0.0875 | 0.0465 | -0.0015 | 0.1804 |
| **Ind1** | 0.0144 | 0.0099 | -0.0003 | 0.0369 |
| **Ind2** | 0.0206 | 0.0338 | -0.0434 | 0.0885 |
| **Ind3** | 0.0526 | 0.0250 | 0.0057 | 0.1033 |

**Indirect effect key:**

Ind1 BINLADEN -> STEREO -> MCIVIL

Ind2 BINLADEN -> RTHREAT -> MCIVIL

Ind3 BINLADEN -> STEREO -> RTHREAT -> MCIVIL

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

**Level of confidence for all confidence intervals in output:**

95.0000

**Number of bootstrap samples for percentile bootstrap confidence intervals:**

10000

Output F: SPSS

```
Run MATRIX procedure:

*************** PROCESS Procedure for SPSS Version 3.00 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 6
    Y  : mcivil
    X  : binladen
   M1  : stereo
   M2  : rthreat

Covariates:
 sex      age      ideo

Sample
Size:  661

**************************************************************************
OUTCOME VARIABLE:
 stereo

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3557      .1265      .6495    23.7609     4.0000   656.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     1.9045      .1322    14.4084      .0000     1.6449     2.1640
binladen      .1358      .0639     2.1258      .0339      .0104      .2613
sex           .0398      .0635      .6262      .5314     -.0849      .1644
age           .0504      .0192     2.6220      .0089      .0127      .0882
ideo          .1293      .0143     9.0483      .0000      .1012      .1574

**************************************************************************
OUTCOME VARIABLE:
 rthreat

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .6764      .4575      .6076   110.4916     5.0000   655.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     -.2548      .1467    -1.7369      .0829     -.5428      .0332
binladen      .0374      .0620      .6038      .5462     -.0843      .1592
stereo        .7047      .0378    18.6630      .0000      .6306      .7789
sex           .1286      .0614     2.0938      .0367      .0080      .2492
age           .0451      .0187     2.4135      .0161      .0084      .0818
ideo          .0898      .0147     6.1257      .0000      .0610      .1186

**************************************************************************
OUTCOME VARIABLE:
```

mcivil

Model Summary

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| .6727 | .4526 | .5890 | 90.1100 | 6.0000 | 654.0000 | .0000 |

Model

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| constant | .7165 | .1448 | 4.9499 | .0000 | .4323 | 1.0008 |
| binladen | -.0311 | .0611 | -.5095 | .6106 | -.1510 | .0888 |
| stereo | .1057 | .0460 | 2.2965 | .0220 | .0153 | .1960 |
| rthreat | .5491 | .0385 | 14.2732 | .0000 | .4736 | .6247 |
| sex | -.1001 | .0607 | -1.6504 | .0993 | -.2193 | .0190 |
| age | -.0103 | .0185 | -.5599 | .5758 | -.0466 | .0259 |
| ideo | .0545 | .0148 | 3.6696 | .0003 | .0253 | .0836 |

************************ TOTAL EFFECT MODEL ***************************
OUTCOME VARIABLE:
mcivil

Model Summary

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| .3675 | .1351 | .9278 | 25.6100 | 4.0000 | 656.0000 | .0000 |

Model

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| constant | 1.5149 | .1580 | 9.5894 | .0000 | 1.2047 | 1.8251 |
| binladen | .0564 | .0764 | .7380 | .4608 | -.0936 | .2063 |
| sex | -.0099 | .0759 | -.1310 | .8958 | -.1589 | .1391 |
| age | .0393 | .0230 | 1.7085 | .0880 | -.0059 | .0844 |
| ideo | .1675 | .0171 | 9.8053 | .0000 | .1339 | .2010 |

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

Total effect of X on Y

| Effect | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|
| .0564 | .0764 | .7380 | .4608 | -.0936 | .2063 |

Direct effect of X on Y

| Effect | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|
| -.0311 | .0611 | -.5095 | .6106 | -.1510 | .0888 |

Indirect effect(s) of X on Y:

| | Effect | BootSE | BootLLCI | BootULCI |
|---|---|---|---|---|
| TOTAL | .0875 | .0460 | .0005 | .1798 |
| Ind1 | .0144 | .0098 | -.0002 | .0373 |
| Ind2 | .0206 | .0338 | -.0446 | .0895 |
| Ind3 | .0526 | .0248 | .0050 | .1021 |

Indirect effect key:
Ind1 binladen -> stereo -> mcivil
Ind2 binladen -> rthreat -> mcivil
Ind3 binladen -> stereo -> rthreat -> mcivil

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

Level of confidence for all confidence intervals in output:

```
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  10000

------ END MATRIX -----
```

OUTPUT G: SAS

The REG Procedure
Model: MODEL1
Dependent Variable: crave2

| | |
|---|---|
| **Number of Observations Read** | 168 |
| **Number of Observations Used** | 168 |

**Analysis of Variance**

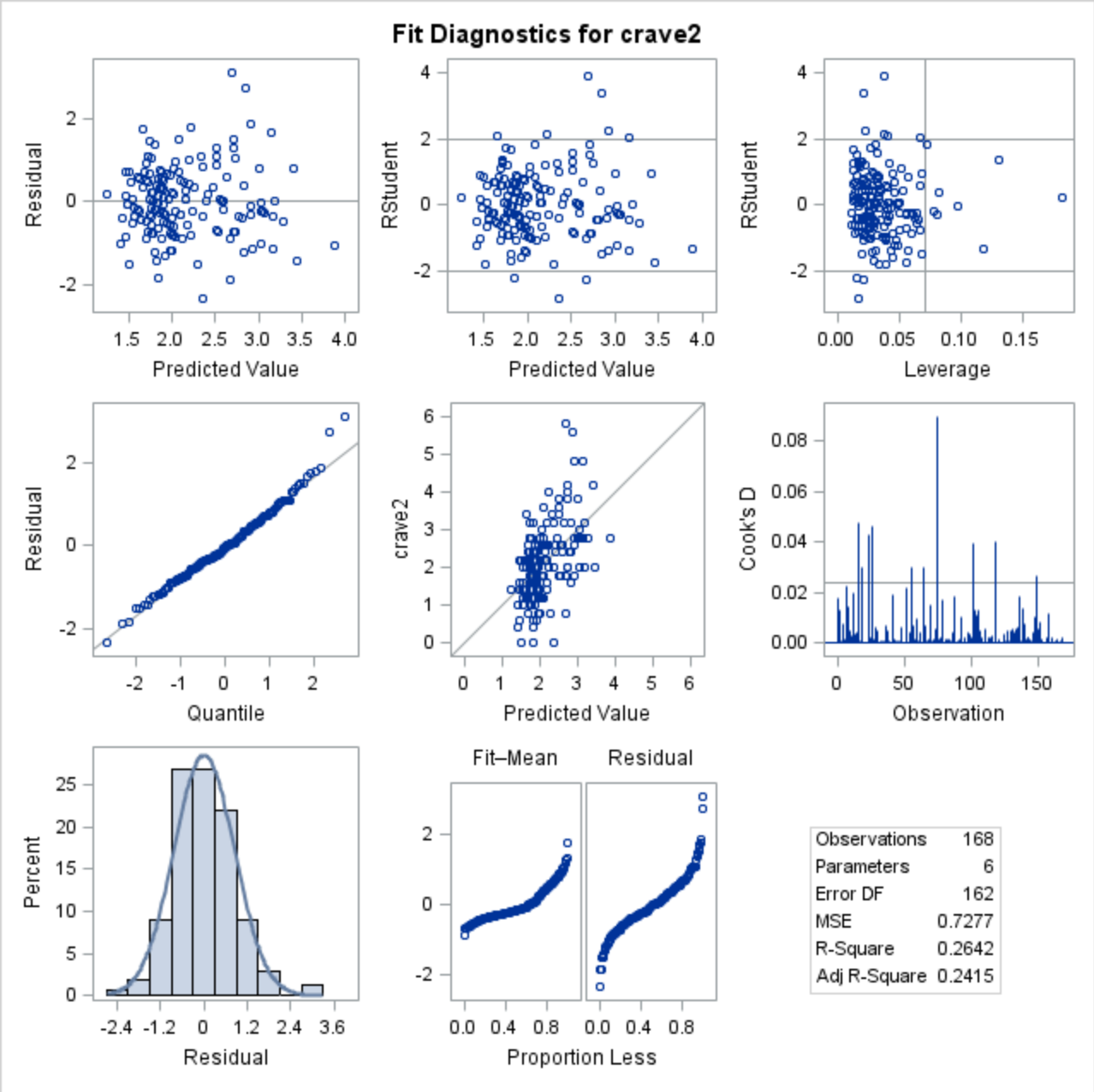
| Source | DF | Sum of Squares | Mean Square | F Value | Pr > F |
|---|---|---|---|---|---|
| **Model** | 5 | 42.32144 | 8.46429 | 11.63 | <.0001 |
| **Error** | 162 | 117.88427 | 0.72768 | | |
| **Corrected Total** | 167 | 160.20571 | | | |

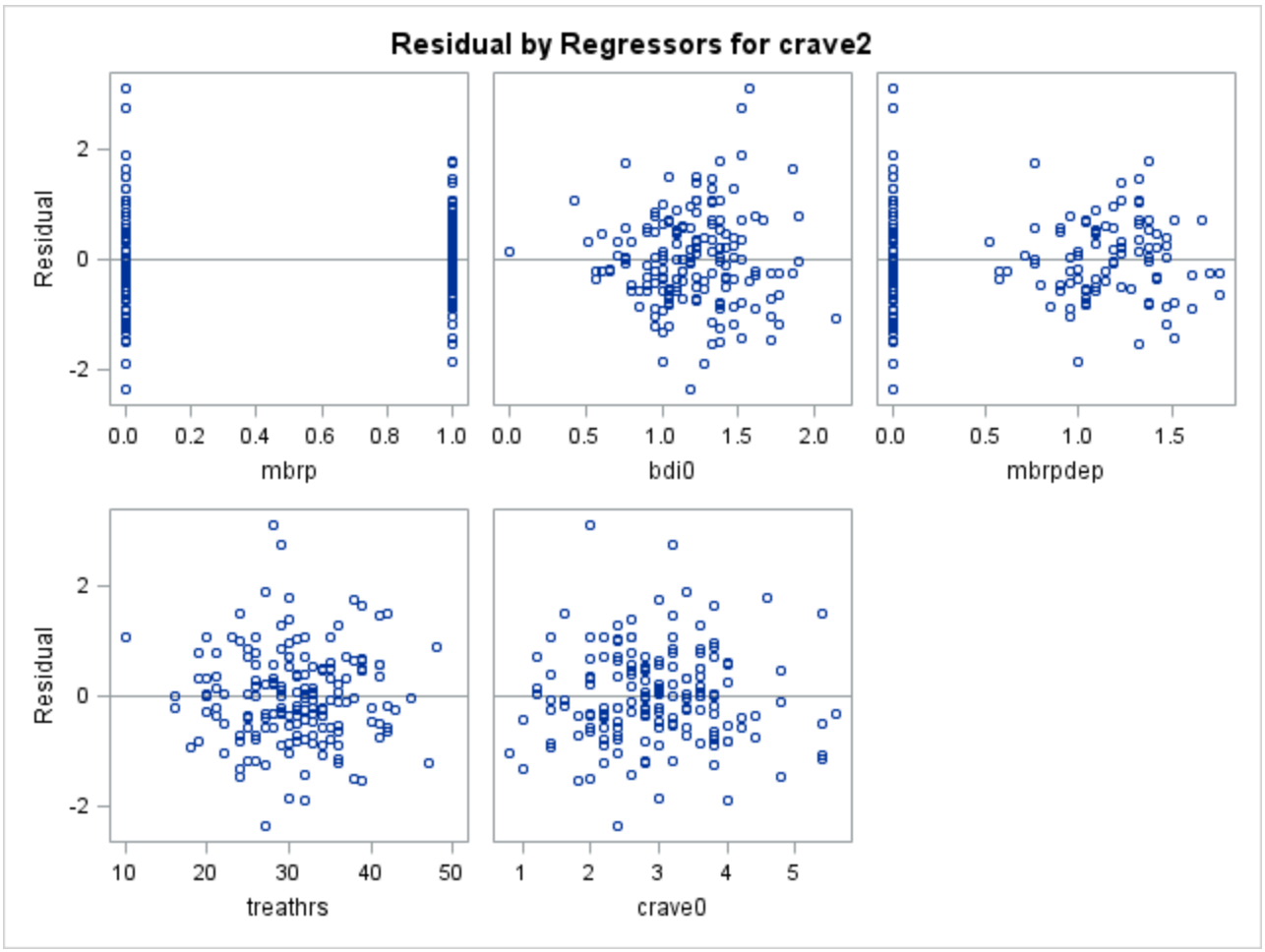
| | | | |
|---|---|---|---|
| **Root MSE** | 0.85304 | **R-Square** | 0.2642 |
| **Dependent Mean** | 2.11429 | **Adj R-Sq** | 0.2415 |
| **Coeff Var** | 40.34658 | | |

**Parameter Estimates**

| Variable | DF | Parameter Estimate | Standard Error | t Value | Pr > \|t\| |
|---|---|---|---|---|---|
| **Intercept** | **1** | 1.03847 | 0.47010 | 2.21 | 0.0286 |
| **mbrp** | **1** | 0.58724 | 0.52413 | 1.12 | 0.2642 |
| **bdi0** | **1** | 1.12208 | 0.27620 | 4.06 | <.0001 |
| **mbrpdep** | **1** | -0.94845 | 0.42346 | -2.24 | 0.0265 |
| **treathrs** | **1** | -0.01767 | 0.01028 | -1.72 | 0.0875 |
| **crave0** | **1** | 0.19204 | 0.07347 | 2.61 | 0.0098 |

The REG Procedure
Model: MODEL1
Dependent Variable: crave2




Residual by Regressors for crave2
Residual
2
0
-2
0.0
0.2
0.4
0.6
0.8
1.0
mbrp
0.0
0.5
1.0
1.5
2.0
bdi0
0.0
0.5
1.0
1.5
mbrpdep
Residual
2
0
-2
10
20
30
40
50
treathrs
1
2
3
4
5
crave0

# OUTPUT G: SPSS

**Variables Entered/Removed[a]**

| Model | Variables Entered | Variables Removed | Method |
|---|---|---|---|
| 1 | CRAVE0: Baseline craving, mbrpdep, TREATHRS: Hours of therapy, BDI0: Beck Depression Inventory baseline, MBRP: Therapy as usual (0) or MBRP therapy (1)[b] | . | Enter |

a. Dependent Variable: CRAVE2: Craving at two month follow-up

b. All requested variables entered.

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .514[a] | .264 | .241 | .8530 |

a. Predictors: (Constant), CRAVE0: Baseline craving, mbrpdep, TREATHRS: Hours of therapy, BDI0: Beck Depression Inventory baseline, MBRP: Therapy as usual (0) or MBRP therapy (1)

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 42.321 | 5 | 8.464 | 11.632 | .000[b] |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Residual | 117.884 | 162 | .728 | | |
| | Total | 160.206 | 167 | | | |

a. Dependent Variable: CRAVE2: Craving at two month follow-up

b. Predictors: (Constant), CRAVE0: Baseline craving, mbrpdep, TREATHRS: Hours of therapy, BDI0: Beck Depression Inventory baseline, MBRP: Therapy as usual (0) or MBRP therapy (1)

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.038 | .470 | | 2.209 | .029 |
| | MBRP: Therapy as usual (0) or MBRP therapy (1) | .587 | .524 | .299 | 1.120 | .264 |
| | BDI0: Beck Depression Inventory baseline | 1.122 | .276 | .366 | 4.063 | .000 |
| | mbrpdep | -.948 | .423 | -.598 | -2.240 | .026 |
| | TREATHRS: Hours of therapy | -.018 | .010 | -.120 | -1.719 | .088 |
| | CRAVE0: Baseline craving | .192 | .073 | .183 | 2.614 | .010 |

a. Dependent Variable: CRAVE2: Craving at two month follow-up

OUTPUT H: SAS

********** PROCESS Procedure for SAS Version 3.0 **********

Written by Andrew F. Hayes, Ph.D. http://www.afhayes.com

Documentation available in Hayes (2018) www.guilford.com/p/hayes3

**************************************************************************

**Model and Variables**

**Model:** 1

**Y:** CRAVE2

**X:** MBRP

**W:** BDI0

**Covariates:**

TREATHRS CRAVE0

**Sample size:**

168

**************************************************************************

**OUTCOME VARIABLE:**

CRAVE2

**Model Summary**

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.5140 | 0.2642 | 0.7277 | 11.6319 | 5.0000 | 162.0000 | 0.0000 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **constant** | 1.0385 | 0.4701 | 2.2090 | 0.0286 | 0.1102 | 1.9668 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **MBRP** | 0.5872 | 0.5241 | 1.1204 | 0.2642 | -0.4478 | 1.6222 |
| **BDI0** | 1.1221 | 0.2762 | 4.0625 | 0.0001 | 0.5767 | 1.6675 |
| **Int_1** | -0.9485 | 0.4235 | -2.2398 | 0.0265 | -1.7847 | -0.1122 |
| **TREATHRS** | -0.0177 | 0.0103 | -1.7190 | 0.0875 | -0.0380 | 0.0026 |
| **CRAVE0** | 0.1920 | 0.0735 | 2.6138 | 0.0098 | 0.0470 | 0.3371 |

**Product terms key:**

Int_1 : MBRP x BDI0

**Test(s) of highest order unconditional interactions:**

| | R2-chng | F | df1 | df2 | p |
|---|---|---|---|---|---|
| **X*W** | 0.0228 | 5.0166 | 1.0000 | 162.0000 | 0.0265 |

**----------**

Focal predict: MBRP (X)

Mod var: BDI0 (W)

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

| BDI0 | Effect | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| 0.8772 | -0.2447 | 0.1922 | -1.2733 | 0.2047 | -0.6243 | 0.1348 |
| 1.1962 | -0.5473 | 0.1375 | -3.9818 | 0.0001 | -0.8188 | -0.2759 |
| 1.5153 | -0.8500 | 0.1933 | -4.3973 | 0.0000 | -1.2317 | -0.4683 |

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

| Value | % below | % above |
|---|---|---|
| 0.9681 | 21.4286 | 78.5714 |

**Conditional effect of focal predictor at values of the moderator:**

| BDI0 | Effect | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| 0.0000 | 0.5872 | 0.5241 | 1.1204 | 0.2642 | -0.4478 | 1.6222 |
| 0.1070 | 0.4858 | 0.4806 | 1.0108 | 0.3136 | -0.4632 | 1.4347 |
| 0.2140 | 0.3843 | 0.4373 | 0.8787 | 0.3809 | -0.4793 | 1.2479 |
| 0.3210 | 0.2828 | 0.3946 | 0.7167 | 0.4746 | -0.4964 | 1.0620 |
| 0.4280 | 0.1813 | 0.3525 | 0.5144 | 0.6077 | -0.5147 | 0.8773 |
| 0.5350 | 0.0798 | 0.3112 | 0.2565 | 0.7979 | -0.5348 | 0.6944 |
| 0.6420 | -0.0217 | 0.2713 | -0.0798 | 0.9365 | -0.5574 | 0.5141 |
| 0.7490 | -0.1231 | 0.2334 | -0.5276 | 0.5985 | -0.5840 | 0.3377 |
| 0.8560 | -0.2246 | 0.1986 | -1.1312 | 0.2596 | -0.6167 | 0.1675 |
| 0.9630 | -0.3261 | 0.1688 | -1.9318 | 0.0551 | -0.6595 | 0.0072 |
| 0.9681 | -0.3309 | 0.1676 | -1.9747 | 0.0500 | -0.6618 | 0.0000 |
| 1.0700 | -0.4276 | 0.1472 | -2.9047 | 0.0042 | -0.7183 | -0.1369 |
| 1.1770 | -0.5291 | 0.1377 | -3.8435 | 0.0002 | -0.8009 | -0.2573 |
| 1.2840 | -0.6306 | 0.1426 | -4.4220 | 0.0000 | -0.9122 | -0.3490 |
| 1.3910 | -0.7321 | 0.1607 | -4.5553 | 0.0000 | -1.0494 | -0.4147 |
| 1.4980 | -0.8335 | 0.1882 | -4.4288 | 0.0000 | -1.2052 | -0.4619 |
| 1.6050 | -0.9350 | 0.2216 | -4.2186 | 0.0000 | -1.3727 | -0.4973 |
| 1.7120 | -1.0365 | 0.2587 | -4.0063 | 0.0001 | -1.5474 | -0.5256 |
| 1.8190 | -1.1380 | 0.2981 | -3.8178 | 0.0002 | -1.7266 | -0.5494 |
| 1.9260 | -1.2395 | 0.3389 | -3.6571 | 0.0003 | -1.9088 | -0.5702 |
| 2.0330 | -1.3410 | 0.3808 | -3.5216 | 0.0006 | -2.0929 | -0.5890 |
| 2.1400 | -1.4424 | 0.4234 | -3.4072 | 0.0008 | -2.2784 | -0.6064 |

Data for visualizing the conditional effect of the focal predictor:

| MBRP | BDI0 | CRAVE2 |
|---|---|---|
| 0.0000 | 0.8772 | 2.0456 |
| 1.0000 | 0.8772 | 1.8009 |
| 0.0000 | 1.1962 | 2.4037 |

| MBRP | BDI0 | CRAVE2 |
|---|---|---|
| 1.0000 | 1.1962 | 1.8563 |
| 0.0000 | 1.5153 | 2.7617 |
| 1.0000 | 1.5153 | 1.9117 |

********** 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

OUTPUT H: SPSS

```
Run MATRIX procedure:

*************** PROCESS Procedure for SPSS Version 3.00 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : crave2
    X  : mbrp
    W  : bdi0

Covariates:
 treathrs crave0

Sample
Size:  168

**************************************************************************
OUTCOME VARIABLE:
 crave2

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .5140      .2642      .7277    11.6319     5.0000   162.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     1.0385      .4701     2.2090      .0286      .1102     1.9668
mbrp          .5872      .5241     1.1204      .2642     -.4478     1.6222
bdi0         1.1221      .2762     4.0625      .0001      .5767     1.6675
Int_1        -.9485      .4235    -2.2398      .0265    -1.7847     -.1122
treathrs     -.0177      .0103    -1.7190      .0875     -.0380      .0026
crave0        .1920      .0735     2.6138      .0098      .0470      .3371

Product terms key:
 Int_1    :        mbrp     x        bdi0

Test(s) of highest order unconditional interaction(s):
       R2-chng          F        df1        df2          p
X*W      .0228     5.0166     1.0000   162.0000      .0265
----------
    Focal predict: mbrp     (X)
          Mod var: bdi0     (W)

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

       bdi0     Effect         se          t          p       LLCI       ULCI
      .8772     -.2447      .1922    -1.2733      .2047     -.6243      .1348
     1.1963     -.5473      .1375    -3.9818      .0001     -.8188     -.2759
     1.5153     -.8500      .1933    -4.3973      .0000    -1.2317     -.4683

Moderator value(s) defining Johnson-Neyman significance region(s):
      Value    % below    % above
```

```
      .9681    21.4286    78.5714

Conditional effect of focal predictor at values of the moderator:
       bdi0     Effect         se          t          p       LLCI       ULCI
      .0000      .5872      .5241     1.1204      .2642     -.4478     1.6222
      .1070      .4858      .4806     1.0108      .3136     -.4632     1.4347
      .2140      .3843      .4373      .8787      .3809     -.4793     1.2479
      .3210      .2828      .3946      .7167      .4746     -.4964     1.0620
      .4280      .1813      .3525      .5144      .6077     -.5147      .8773
      .5350      .0798      .3112      .2565      .7979     -.5348      .6944
      .6420     -.0217      .2713     -.0798      .9365     -.5574      .5141
      .7490     -.1231      .2334     -.5276      .5985     -.5840      .3377
      .8560     -.2246      .1986    -1.1312      .2596     -.6167      .1675
      .9630     -.3261      .1688    -1.9318      .0551     -.6595      .0072
      .9681     -.3309      .1676    -1.9747      .0500     -.6618      .0000
     1.0700     -.4276      .1472    -2.9047      .0042     -.7183     -.1369
     1.1770     -.5291      .1377    -3.8435      .0002     -.8009     -.2573
     1.2840     -.6306      .1426    -4.4220      .0000     -.9122     -.3490
     1.3910     -.7321      .1607    -4.5553      .0000    -1.0494     -.4147
     1.4980     -.8335      .1882    -4.4288      .0000    -1.2052     -.4619
     1.6050     -.9350      .2216    -4.2186      .0000    -1.3727     -.4973
     1.7120    -1.0365      .2587    -4.0063      .0001    -1.5474     -.5256
     1.8190    -1.1380      .2981    -3.8178      .0002    -1.7266     -.5494
     1.9260    -1.2395      .3389    -3.6571      .0003    -1.9088     -.5702
     2.0330    -1.3410      .3808    -3.5216      .0006    -2.0929     -.5890
     2.1400    -1.4424      .4234    -3.4072      .0008    -2.2784     -.6064

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/
   mbrp       bdi0       crave2     .
BEGIN DATA.
      .0000      .8772     2.0456
     1.0000      .8772     1.8009
      .0000     1.1963     2.4037
     1.0000     1.1963     1.8563
      .0000     1.5153     2.7617
     1.0000     1.5153     1.9117
END DATA.
GRAPH/SCATTERPLOT=
 bdi0     WITH     crave2   BY       mbrp     .

************************ 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.

------ END MATRIX -----
```

OUTPUT I: SAS

********** PROCESS Procedure for SAS Version 3.0 **********

Written by Andrew F. Hayes, Ph.D. http://www.afhayes.com

Documentation available in Hayes (2018) www.guilford.com/p/hayes3

**********

**Model and Variables**

**Model:** 1

**Y:** CRAVE2

**X:** BDI0

**W:** MBRP

**Covariates:**

TREATHRS CRAVE0

**Sample size:**

168

**********

**OUTCOME VARIABLE:**

CRAVE2

**Model Summary**

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.5140 | 0.2642 | 0.7277 | 11.6319 | 5.0000 | 162.0000 | 0.0000 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **constant** | 1.0385 | 0.4701 | 2.2090 | 0.0286 | 0.1102 | 1.9668 |
| **BDI0** | 1.1221 | 0.2762 | 4.0625 | 0.0001 | 0.5767 | 1.6675 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **MBRP** | 0.5872 | 0.5241 | 1.1204 | 0.2642 | -0.4478 | 1.6222 |
| **Int_1** | -0.9485 | 0.4235 | -2.2398 | 0.0265 | -1.7847 | -0.1122 |
| **TREATHRS** | -0.0177 | 0.0103 | -1.7190 | 0.0875 | -0.0380 | 0.0026 |
| **CRAVE0** | 0.1920 | 0.0735 | 2.6138 | 0.0098 | 0.0470 | 0.3371 |

**Product terms key:**

Int_1 : BDI0 x MBRP

**Test(s) of highest order unconditional interactions:**

| | R2-chng | F | df1 | df2 | p |
|---|---|---|---|---|---|
| **X*W** | 0.0228 | 5.0166 | 1.0000 | 162.0000 | 0.0265 |

**----------**

Focal predict: BDI0 (X)

Mod var: MBRP (W)

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

| MBRP | Effect | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| 0.0000 | 1.1221 | 0.2762 | 4.0625 | 0.0001 | 0.5767 | 1.6675 |
| 1.0000 | 0.1736 | 0.3281 | 0.5291 | 0.5974 | -0.4744 | 0.8216 |

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

**Level of confidence for all confidence intervals in output:**

95.0000

OUTPUT I: SPSS

```
Run MATRIX procedure:

*************** PROCESS Procedure for SPSS Version 3.00 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 1
    Y  : crave2
    X  : bdi0
    W  : mbrp

Covariates:
 treathrs crave0

Sample
Size:  168

**************************************************************************
OUTCOME VARIABLE:
 crave2

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .5140      .2642      .7277    11.6319     5.0000   162.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     1.0385      .4701     2.2090      .0286      .1102     1.9668
bdi0         1.1221      .2762     4.0625      .0001      .5767     1.6675
mbrp          .5872      .5241     1.1204      .2642     -.4478     1.6222
Int_1        -.9485      .4235    -2.2398      .0265    -1.7847     -.1122
treathrs     -.0177      .0103    -1.7190      .0875     -.0380      .0026
crave0        .1920      .0735     2.6138      .0098      .0470      .3371

Product terms key:
 Int_1    :        bdi0     x        mbrp

Test(s) of highest order unconditional interaction(s):
       R2-chng          F        df1        df2          p
X*W      .0228     5.0166     1.0000   162.0000      .0265
----------
    Focal predict: bdi0     (X)
          Mod var: mbrp     (W)

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

       mbrp     Effect         se          t          p       LLCI       ULCI
      .0000     1.1221      .2762     4.0625      .0001      .5767     1.6675
     1.0000      .1736      .3281      .5291      .5974     -.4744      .8216

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

Level of confidence for all confidence intervals in output:
```

```
  95.0000

------ END MATRIX -----
```

OUTPUT J: SAS

********** PROCESS Procedure for SAS Version 3.0 **********

Written by Andrew F. Hayes, Ph.D. http://www.afhayes.com

Documentation available in Hayes (2018) www.guilford.com/p/hayes3

**********

**Model and Variables**

**Model:** 14

**Y:** PERFORM

**X:** DYSFUNC

**M:** NEGTONE

**W:** NEGEXP

**Covariates:**

D1 D2 D3

**Sample size:**

60

**********

**OUTCOME VARIABLE:**

NEGTONE

**Model Summary**

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.5026 | 0.2526 | 0.2213 | 4.6462 | 4.0000 | 55.0000 | 0.0027 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **constant** | -0.2057 | 0.1305 | -1.5760 | 0.1208 | -0.4672 | 0.0559 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **DYSFUNC** | 0.6095 | 0.1668 | 3.6546 | 0.0006 | 0.2753 | 0.9437 |
| **D1** | 0.3487 | 0.1715 | 2.0332 | 0.0469 | 0.0050 | 0.6923 |
| **D2** | 0.2951 | 0.2122 | 1.3906 | 0.1700 | -0.1302 | 0.7204 |
| **D3** | 0.2507 | 0.1663 | 1.5078 | 0.1373 | -0.0825 | 0.5840 |

**********

**OUTCOME VARIABLE:**

PERFORM

**Model Summary**

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.5937 | 0.3524 | 0.2006 | 4.0428 | 7.0000 | 52.0000 | 0.0013 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **constant** | -0.1754 | 0.1305 | -1.3444 | 0.1847 | -0.4373 | 0.0864 |
| **DYSFUNC** | 0.3729 | 0.1808 | 2.0622 | 0.0442 | 0.0100 | 0.7357 |
| **NEGTONE** | -0.4886 | 0.1377 | -3.5485 | 0.0008 | -0.7649 | -0.2123 |
| **NEGEXP** | -0.0221 | 0.1176 | -0.1875 | 0.8520 | -0.2581 | 0.2140 |
| **Int_1** | -0.4498 | 0.2451 | -1.8353 | 0.0722 | -0.9417 | 0.0420 |
| **D1** | 0.1815 | 0.1720 | 1.0556 | 0.2960 | -0.1635 | 0.5266 |
| **D2** | 0.0841 | 0.2099 | 0.4004 | 0.6905 | -0.3372 | 0.5053 |
| **D3** | 0.2816 | 0.1648 | 1.7087 | 0.0935 | -0.0491 | 0.6123 |

**Product terms key:**

Int_1 : NEGTONE x NEGEXP

**Test(s) of highest order unconditional interactions:**

| | R2-chng | F | df1 | df2 | p |
|---|---|---|---|---|---|
| **M*W** | 0.0419 | 3.3684 | 1.0000 | 52.0000 | 0.0722 |

---

Focal predict: NEGTONE (M)

Mod var: NEGEXP (W)

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

| NEGEXP | Effect | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| -0.5308 | -0.2498 | 0.2196 | -1.1379 | 0.2604 | -0.6904 | 0.1907 |
| -0.0600 | -0.4616 | 0.1434 | -3.2188 | 0.0022 | -0.7494 | -0.1738 |
| 0.6000 | -0.7585 | 0.1633 | -4.6451 | 0.0000 | -1.0862 | -0.4308 |

Data for visualizing the conditional effect of the focal predictor:

| NEGTONE | NEGEXP | PERFORM |
|---|---|---|
| -0.4500 | -0.5308 | 0.1258 |
| -0.0350 | -0.5308 | 0.0222 |
| 0.5224 | -0.5308 | -0.1171 |
| -0.4500 | -0.0600 | 0.2108 |
| -0.0350 | -0.0600 | 0.0192 |
| 0.5224 | -0.0600 | -0.2381 |
| -0.4500 | 0.6000 | 0.3298 |
| -0.0350 | 0.6000 | 0.0150 |
| 0.5224 | 0.6000 | -0.4078 |

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

**Direct effect of X on Y**

| Effect | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|
| 0.3729 | 0.1808 | 2.0622 | 0.0442 | 0.0100 | 0.7357 |

Conditional indirect effects of X on Y:

**INDIRECT EFFECT:**

DYSFUNC -> NEGTONE -> PERFORM

| NEGEXP | Effect | BootSE | BootLLCI | BootULCI |
|---|---|---|---|---|
| -0.5308 | -0.1523 | 0.1517 | -0.4393 | 0.1830 |
| -0.0600 | -0.2813 | 0.1250 | -0.5451 | -0.0571 |
| 0.6000 | -0.4623 | 0.1690 | -0.8083 | -0.1472 |

**Index of moderated mediation:**

| | Index | BootSE | BootLLCI | BootULCI |
|---|---|---|---|---|
| **NEGEXP** | -0.2742 | 0.1768 | -0.7025 | -0.0234 |

---

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

**Level of confidence for all confidence intervals in output:**

95.0000

**Number of bootstrap samples for percentile bootstrap confidence intervals:**

10000

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

**NOTE: Some bootstrap samples had to be replaced. The number of such replacements was:**

OUTPUT J: SPSS

```
Run MATRIX procedure:

*************** PROCESS Procedure for SPSS Version 3.00 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 14
    Y  : perform
    X  : dysfunc
    M  : negtone
    W  : negexp

Covariates:
 d1       d2       d3

Sample
Size:  60

**************************************************************************
OUTCOME VARIABLE:
 negtone

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .5026      .2526      .2213     4.6462     4.0000    55.0000      .0027

Model
              coeff         se          t          p       LLCI       ULCI
constant     -.2057      .1305    -1.5760      .1208     -.4672      .0559
dysfunc       .6095      .1668     3.6546      .0006      .2753      .9437
d1            .3487      .1715     2.0332      .0469      .0050      .6923
d2            .2951      .2122     1.3906      .1700     -.1302      .7204
d3            .2507      .1663     1.5078      .1373     -.0825      .5840

**************************************************************************
OUTCOME VARIABLE:
 perform

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .5937      .3524      .2006     4.0428     7.0000    52.0000      .0013

Model
              coeff         se          t          p       LLCI       ULCI
constant     -.1754      .1305    -1.3444      .1847     -.4373      .0864
dysfunc       .3729      .1808     2.0622      .0442      .0100      .7357
negtone      -.4886      .1377    -3.5485      .0008     -.7649     -.2123
negexp       -.0221      .1176     -.1875      .8520     -.2581      .2140
Int_1        -.4498      .2451    -1.8353      .0722     -.9417      .0420
d1            .1815      .1720     1.0556      .2960     -.1635      .5266
d2            .0841      .2099      .4004      .6905     -.3372      .5053
d3            .2816      .1648     1.7087      .0935     -.0491      .6123
```

```
Product terms key:
 Int_1    :        negtone  x        negexp

Test(s) of highest order unconditional interaction(s):
       R2-chng          F        df1        df2          p
M*W      .0419     3.3684     1.0000    52.0000      .0722
----------
    Focal predict: negtone  (M)
          Mod var: negexp   (W)

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

     negexp     Effect         se          t          p       LLCI       ULCI
     -.5308     -.2498      .2196    -1.1379      .2604     -.6904      .1907
     -.0600     -.4616      .1434    -3.2188      .0022     -.7494     -.1738
      .6000     -.7585      .1633    -4.6451      .0000    -1.0862     -.4308

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

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI
      .3729      .1808     2.0622      .0442      .0100      .7357

Conditional indirect effects of X on Y:

INDIRECT EFFECT:
 dysfunc     ->    negtone     ->    perform

     negexp     Effect     BootSE   BootLLCI   BootULCI
     -.5308     -.1523      .1497     -.4365      .1726
     -.0600     -.2813      .1249     -.5472     -.0569
      .6000     -.4623      .1683     -.8113     -.1543

      Index of moderated mediation:
            Index     BootSE   BootLLCI   BootULCI
negexp     -.2742      .1727     -.6833     -.0243
---

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

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  10000

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

------ END MATRIX -----
```

OUTPUT K: SAS

********** PROCESS Procedure for SAS Version 3.0 **********

Written by Andrew F. Hayes, Ph.D. http://www.afhayes.com

Documentation available in Hayes (2018) www.guilford.com/p/hayes3

**********

**Model and Variables**

**Model:** 7

**Y:** USE4

**X:** MBRP

**M:** CRAVE2

**W:** BDI0

**Covariates:**

CRAVE0 TREATHRS

**Sample size:**

168

**********

**OUTCOME VARIABLE:**

CRAVE2

**Model Summary**

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.5140 | 0.2642 | 0.7277 | 11.6319 | 5.0000 | 162.0000 | 0.0000 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **constant** | 1.0385 | 0.4701 | 2.2090 | 0.0286 | 0.1102 | 1.9668 |
| **MBRP** | 0.5872 | 0.5241 | 1.1204 | 0.2642 | -0.4478 | 1.6222 |
| **BDI0** | 1.1221 | 0.2762 | 4.0625 | 0.0001 | 0.5767 | 1.6675 |
| **Int_1** | -0.9485 | 0.4235 | -2.2398 | 0.0265 | -1.7847 | -0.1122 |
| **CRAVE0** | 0.1920 | 0.0735 | 2.6138 | 0.0098 | 0.0470 | 0.3371 |
| **TREATHRS** | -0.0177 | 0.0103 | -1.7190 | 0.0875 | -0.0380 | 0.0026 |

**Product terms key:**

Int_1 : MBRP x BDI0

**Test(s) of highest order unconditional interactions:**

| | R2-chng | F | df1 | df2 | p |
|---|---|---|---|---|---|
| **X*W** | 0.0228 | 5.0166 | 1.0000 | 162.0000 | 0.0265 |

---

Focal predict: MBRP (X)

Mod var: BDI0 (W)

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

| BDI0 | Effect | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| 0.9020 | -0.2683 | 0.1850 | -1.4500 | 0.1490 | -0.6336 | 0.0971 |
| 1.1900 | -0.5414 | 0.1375 | -3.9384 | 0.0001 | -0.8129 | -0.2699 |
| 1.5180 | -0.8525 | 0.1941 | -4.3923 | 0.0000 | -1.2358 | -0.4692 |

**********

**OUTCOME VARIABLE:**

USE4

**Model Summary**

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.7304 | 0.5335 | 0.2105 | 46.6070 | 4.0000 | 163.0000 | 0.0000 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **constant** | 1.1298 | 0.2150 | 5.2545 | 0.0000 | 0.7052 | 1.5544 |
| **MBRP** | 0.0926 | 0.0773 | 1.1979 | 0.2327 | -0.0601 | 0.2453 |
| **CRAVE2** | 0.4810 | 0.0402 | 11.9547 | 0.0000 | 0.4015 | 0.5604 |
| **CRAVE0** | -0.0884 | 0.0397 | -2.2246 | 0.0275 | -0.1668 | -0.0099 |
| **TREATHRS** | -0.0199 | 0.0056 | -3.5720 | 0.0005 | -0.0309 | -0.0089 |

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

**Direct effect of X on Y**

| Effect | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|
| 0.0926 | 0.0773 | 1.1979 | 0.2327 | -0.0601 | 0.2453 |

Conditional indirect effects of X on Y:

**INDIRECT EFFECT:**

MBRP -> CRAVE2 -> USE4

| BDI0 | Effect | BootSE | BootLLCI | BootULCI |
|---|---|---|---|---|
| 0.9020 | -0.1290 | 0.0756 | -0.2858 | 0.0179 |
| 1.1900 | -0.2604 | 0.0856 | -0.4445 | -0.1122 |
| 1.5180 | -0.4100 | 0.1365 | -0.7073 | -0.1770 |

**Index of moderated mediation:**

| | Index | BootSE | BootLLCI | BootULCI |
|---|---|---|---|---|
| **BDI0** | -0.4562 | 0.2162 | -0.9372 | -0.0890 |

---

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

**Level of confidence for all confidence intervals in output:**

95.0000

**Number of bootstrap samples for percentile bootstrap confidence intervals:**

10000

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

OUTPUT K: SPSS

```
Run MATRIX procedure:

*************** PROCESS Procedure for SPSS Version 3.00 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 7
    Y  : use4
    X  : mbrp
    M  : crave2
    W  : bdi0

Covariates:
 crave0   treathrs

Sample
Size:  168

**************************************************************************
OUTCOME VARIABLE:
 crave2

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .5140      .2642      .7277    11.6319     5.0000   162.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     1.0385      .4701     2.2090      .0286      .1102     1.9668
mbrp          .5872      .5241     1.1204      .2642     -.4478     1.6222
bdi0         1.1221      .2762     4.0625      .0001      .5767     1.6675
Int_1        -.9485      .4235    -2.2398      .0265    -1.7847     -.1122
crave0        .1920      .0735     2.6138      .0098      .0470      .3371
treathrs     -.0177      .0103    -1.7190      .0875     -.0380      .0026

Product terms key:
 Int_1    :        mbrp     x        bdi0

Test(s) of highest order unconditional interaction(s):
       R2-chng          F        df1        df2          p
X*W      .0228     5.0166     1.0000   162.0000      .0265
----------
    Focal predict: mbrp     (X)
          Mod var: bdi0     (W)

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

       bdi0     Effect         se          t          p       LLCI       ULCI
      .9020     -.2683      .1850    -1.4500      .1490     -.6336      .0971
     1.1900     -.5414      .1375    -3.9384      .0001     -.8129     -.2699
     1.5180     -.8525      .1941    -4.3923      .0000    -1.2358     -.4692

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

OUTCOME VARIABLE:
 use4

Model Summary

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| .7304 | .5335 | .2105 | 46.6070 | 4.0000 | 163.0000 | .0000 |

Model

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| constant | 1.1298 | .2150 | 5.2545 | .0000 | .7052 | 1.5544 |
| mbrp | .0926 | .0773 | 1.1979 | .2327 | -.0601 | .2453 |
| crave2 | .4810 | .0402 | 11.9547 | .0000 | .4015 | .5604 |
| crave0 | -.0884 | .0397 | -2.2246 | .0275 | -.1668 | -.0099 |
| treathrs | -.0199 | .0056 | -3.5720 | .0005 | -.0309 | -.0089 |

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

Direct effect of X on Y

| Effect | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|
| .0926 | .0773 | 1.1979 | .2327 | -.0601 | .2453 |

Conditional indirect effects of X on Y:

INDIRECT EFFECT:
 mbrp -> crave2 -> use4

| bdi0 | Effect | BootSE | BootLLCI | BootULCI |
|---|---|---|---|---|
| .9020 | -.1290 | .0770 | -.2869 | .0183 |
| 1.1900 | -.2604 | .0862 | -.4458 | -.1090 |
| 1.5180 | -.4100 | .1367 | -.7080 | -.1767 |

Index of moderated mediation:

| | Index | BootSE | BootLLCI | BootULCI |
|---|---|---|---|---|
| bdi0 | -.4562 | .2172 | -.9463 | -.0934 |

---

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

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  10000

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

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

OUTPUT L: SAS

********** PROCESS Procedure for SAS Version 3.0 **********

Written by Andrew F. Hayes, Ph.D. http://www.afhayes.com

Documentation available in Hayes (2018) www.guilford.com/p/hayes3

**************************************************************************

**Model and Variables**

**Model:** 4

**Y:** LIKING

**X:** COND

**M:** RESPAPPR

**Sample size:**

129

**Coding of categorical X variable for analysis:**

| COND | X1 | X2 |
|---|---|---|
| 0 | 0 | 0 |
| 1 | 1 | 0 |
| 2 | 0 | 1 |

**************************************************************************

**OUTCOME VARIABLE:**

RESPAPPR

**Model Summary**

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.5106 | 0.2607 | 1.3649 | 22.2190 | 2.0000 | 126.0000 | 0.0000 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **constant** | 3.8841 | 0.1825 | 21.2881 | 0.0000 | 3.5231 | 4.2452 |
| **X1** | 1.2612 | 0.2550 | 4.9456 | 0.0000 | 0.7565 | 1.7659 |
| **X2** | 1.6103 | 0.2522 | 6.3842 | 0.0000 | 1.1111 | 2.1095 |

**********

**OUTCOME VARIABLE:**

LIKING

**Model Summary**

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.5031 | 0.2531 | 0.8427 | 14.1225 | 3.0000 | 125.0000 | 0.0000 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **constant** | 3.7103 | 0.3074 | 12.0711 | 0.0000 | 3.1020 | 4.3187 |
| **X1** | -0.0037 | 0.2190 | -0.0169 | 0.9865 | -0.4371 | 0.4297 |
| **X2** | -0.2202 | 0.2280 | -0.9658 | 0.3360 | -0.6715 | 0.2310 |
| **RESPAPPR** | 0.4119 | 0.0700 | 5.8844 | 0.0000 | 0.2734 | 0.5504 |

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

**OUTCOME VARIABLE:**

LIKING

**Model Summary**

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.2151 | 0.0463 | 1.0676 | 3.0552 | 2.0000 | 126.0000 | 0.0506 |

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|

**Model**

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **constant** | 5.3102 | 0.1614 | 32.9083 | 0.0000 | 4.9909 | 5.6296 |
| **X1** | 0.5158 | 0.2255 | 2.2870 | 0.0239 | 0.0695 | 0.9621 |
| **X2** | 0.4431 | 0.2231 | 1.9863 | 0.0492 | 0.0016 | 0.8845 |

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

**Relative total effects of X on Y:**

| | Effect | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **X1** | 0.5158 | 0.2255 | 2.2870 | 0.0239 | 0.0695 | 0.9621 |
| **X2** | 0.4431 | 0.2231 | 1.9863 | 0.0492 | 0.0016 | 0.8845 |

**Omnibus test of total effect of X on Y:**

| R2-chng | F | df1 | df2 | p |
|---|---|---|---|---|
| 0.0463 | 3.0552 | 2.0000 | 126.0000 | 0.0506 |

---

**Relative direct effects of X on Y**

| | Effect | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| **X1** | -0.0037 | 0.2190 | -0.0169 | 0.9865 | -0.4371 | 0.4297 |
| **X2** | -0.2202 | 0.2280 | -0.9658 | 0.3360 | -0.6715 | 0.2310 |

**Omnibus test of direct effect of X on Y:**

| R2-chng | F | df1 | df2 | p |
|---|---|---|---|---|
| 0.0087 | 0.7286 | 2.0000 | 125.0000 | 0.4846 |

---

Relative indirect effects of X on Y

COND -> RESPAPPR -> LIKING

| | Effect | BootSE | BootLLCI | BootULCI |
|---|---|---|---|---|
| **X1** | 0.5195 | 0.1509 | 0.2471 | 0.8401 |
| **X2** | 0.6633 | 0.1657 | 0.3593 | 1.0059 |

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

**Level of confidence for all confidence intervals in output:**

95.0000

**Number of bootstrap samples for percentile bootstrap confidence intervals:**

10000

OUTPUT L: SPSS

```
Run MATRIX procedure:

*************** PROCESS Procedure for SPSS Version 3.00 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 7
    Y  : use4
    X  : mbrp
    M  : crave2
    W  : bdi0

Covariates:
 crave0   treathrs

Sample
Size:  168

**************************************************************************
OUTCOME VARIABLE:
 crave2

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .5140      .2642      .7277    11.6319     5.0000   162.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     1.0385      .4701     2.2090      .0286      .1102     1.9668
mbrp          .5872      .5241     1.1204      .2642     -.4478     1.6222
bdi0         1.1221      .2762     4.0625      .0001      .5767     1.6675
Int_1        -.9485      .4235    -2.2398      .0265    -1.7847     -.1122
crave0        .1920      .0735     2.6138      .0098      .0470      .3371
treathrs     -.0177      .0103    -1.7190      .0875     -.0380      .0026

Product terms key:
 Int_1    :        mbrp     x        bdi0

Test(s) of highest order unconditional interaction(s):
       R2-chng          F        df1        df2          p
X*W      .0228     5.0166     1.0000   162.0000      .0265
----------
    Focal predict: mbrp     (X)
          Mod var: bdi0     (W)

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

       bdi0     Effect         se          t          p       LLCI       ULCI
      .9020     -.2683      .1850    -1.4500      .1490     -.6336      .0971
     1.1900     -.5414      .1375    -3.9384      .0001     -.8129     -.2699
     1.5180     -.8525      .1941    -4.3923      .0000    -1.2358     -.4692

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

OUTCOME VARIABLE:
 use4

Model Summary

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| .7304 | .5335 | .2105 | 46.6070 | 4.0000 | 163.0000 | .0000 |

Model

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| constant | 1.1298 | .2150 | 5.2545 | .0000 | .7052 | 1.5544 |
| mbrp | .0926 | .0773 | 1.1979 | .2327 | -.0601 | .2453 |
| crave2 | .4810 | .0402 | 11.9547 | .0000 | .4015 | .5604 |
| crave0 | -.0884 | .0397 | -2.2246 | .0275 | -.1668 | -.0099 |
| treathrs | -.0199 | .0056 | -3.5720 | .0005 | -.0309 | -.0089 |

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

Direct effect of X on Y

| Effect | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|
| .0926 | .0773 | 1.1979 | .2327 | -.0601 | .2453 |

Conditional indirect effects of X on Y:

INDIRECT EFFECT:
 mbrp -> crave2 -> use4

| bdi0 | Effect | BootSE | BootLLCI | BootULCI |
|---|---|---|---|---|
| .9020 | -.1290 | .0770 | -.2869 | .0183 |
| 1.1900 | -.2604 | .0862 | -.4458 | -.1090 |
| 1.5180 | -.4100 | .1367 | -.7080 | -.1767 |

Index of moderated mediation:

| | Index | BootSE | BootLLCI | BootULCI |
|---|---|---|---|---|
| bdi0 | -.4562 | .2172 | -.9463 | -.0934 |

---

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

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  10000

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

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

OUTPUT M: SAS

********** MEMORE Procedure for SAS Version 1.1 **********

Written by Amanda K. Montoya and Andrew F. Hayes

Documentation available at afhayes.com

**************************************************************************

Variables:

Y = PAIN2 PAIN1

M = HORMONE2 HORMONE1

Computed Variables:

Ydiff = PAIN2 - PAIN1

Mdiff = HORMONE2 - HORMONE1

Mavg = ( HORMONE2 + HORMONE1 ) /2 centered

Sample Size:

20

**************************************************************************

Outcome:

Ydiff = PAIN2 - PAIN1

Model

| | Effect | SE | t | df | p | LLCI | ULCI |
|---|---|---|---|---|---|---|---|
| 'X' | -6.5000 | 2.0654 | -3.1471 | 19.0000 | 0.0053 | -10.8232 | -2.1768 |

**************************************************************************

Outcome:

Mdiff = HORMONE2 - HORMONE1

Model

| | Effect | SE | t | df | p | LLCI | ULCI |
|---|---|---|---|---|---|---|---|
| 'X' | -2.2500 | 0.9173 | -2.4528 | 19.0000 | 0.0240 | -4.1701 | -0.3299 |

**************************************************************************

Outcome:

Ydiff = PAIN2 - PAIN1

Model Summary

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| 0.5554 | 0.3085 | 65.9384 | 3.7918 | 2.0000 | 17.0000 | 0.0435 |

Model

| | Effect | SE | t | df | p | LLCI | ULCI |
|---|---|---|---|---|---|---|---|
| 'X' | -3.7654 | 2.0869 | -1.8043 | 17.0000 | 0.0889 | -8.1687 | 0.6379 |
| Mdiff | 1.2154 | 0.4572 | 2.6583 | 17.0000 | 0.0166 | 0.2507 | 2.1801 |
| Mavg | -0.1302 | 0.3209 | -0.4057 | 17.0000 | 0.6900 | -0.8074 | 0.5470 |

************ TOTAL, DIRECT, AND INDIRECT EFFECTS ******************

Total effect of X on Y

| Effect | SE | t | df | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| -6.5000 | 2.0654 | -3.1471 | 19.0000 | 0.0053 | -10.8232 | -2.1768 |

Direct effect of X on Y

| Effect | SE | t | df | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| -3.7654 | 2.0869 | -1.8043 | 17.0000 | 0.0889 | -8.1687 | 0.6379 |

Indirect Effect of X on Y through M

| | Effect | Boot SE | BootLLCI | BootULCI |
|---|---|---|---|---|
| Ind1 | -2.7346 | 1.3262 | -5.6979 | -0.5390 |

Indirect effect key

Ind1 X -> M1diff -> Ydiff

****************** ANALYSIS NOTES AND WARNINGS **********************

**Check SAS log for errors. Do not interpret output if errors are found.**

**Bootstrap confidence interval method: Percentile**

| Number of samples for bootstrap confidence intervals: | 10000 |
|---|---|

| Level of confidence for all confidence intervals in output: | 95 |
|---|---|

OUTPUT M: SPSS

```
Run MATRIX procedure:

****************** MEMORE Procedure for SPSS Version 1.1 *********************

                          Written by Amanda Montoya

                    Documentation available at afhayes.com

***************************************************************************

Variables:
Y = pain2    pain1
M = hormone2 hormone1

Computed Variables:
Ydiff =          pain2     -       pain1
Mdiff =          hormone2  -       hormone1
Mavg =  (        hormone2  +       hormone1 )        /2       Centered

Sample Size:
  20

***************************************************************************
Outcome: Ydiff =  pain2     -       pain1

Model
        Effect         SE          t         df          p       LLCI       ULCI
'X'    -6.5000     2.0654    -3.1471    19.0000      .0053   -10.8233    -2.1767

***************************************************************************
Outcome: Mdiff =  hormone2  -       hormone1

Model
        Effect         SE          t         df          p       LLCI       ULCI
'X'    -2.2500      .9173    -2.4528    19.0000      .0240    -4.1701     -.3299

***************************************************************************
Outcome: Ydiff =  pain2     -       pain1

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .5554      .3085    65.9384     3.7918     2.0000    17.0000      .0435

Model
          coeff         SE          t         df          p       LLCI       ULCI
'X'      -3.7654     2.0869    -1.8043    17.0000      .0889    -8.1689      .6381
Mdiff     1.2154      .4572     2.6583    17.0000      .0166      .2506     2.1801
Mavg      -.1302      .3209     -.4057    17.0000      .6900     -.8074      .5470

********************** TOTAL, DIRECT, AND INDIRECT EFFECTS ***********************

Total effect of X on Y
     Effect         SE          t         df          p       LLCI       ULCI
    -6.5000     2.0654    -3.1471    19.0000      .0053   -10.8233    -2.1767

Direct effect of X on Y
     Effect         SE          t         df          p       LLCI       ULCI
    -3.7654     2.0869    -1.8043    17.0000      .0889    -8.1689      .6381

Indirect Effect of X on Y through M
          Effect     BootSE   BootLLCI   BootULCI
```

```
Ind1     -2.7346     1.3069    -5.6645     -.5186

Indirect Key
Ind1  X        ->       M1diff   ->       Ydiff

************************ ANALYSIS NOTES AND WARNINGS *************************

Bootstrap confidence interval method used: Percentile bootstrap.

Number of bootstrap samples for bootstrap confidence intervals:
  10000

Level of confidence for all confidence intervals in output:
      95.00

The following variables were mean centered prior to analysis:
 (        hormone2  +       hormone1 )        /2

------ END MATRIX -----
```