

Regression Models

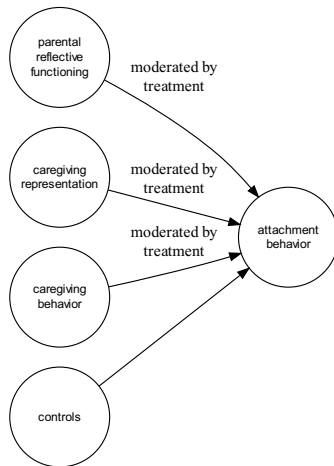
Andy Grogan-Kaylor

2022-03-16

Contents

1	Conceptual Model	1
2	Equation	1
3	Syntax	2
3.1	Basic Models	2
3.2	Interactions	2

1 Conceptual Model



2 Equation

$$\text{attachment} = \beta_0 + \beta_1 \text{PRF} + \beta_2 \text{CR} + \beta_3 \text{CB} + \beta_4 x + \beta_5 z + e_i$$

3 Syntax

Assuming variables PRF, CR, CB and **attachment**. Additionally, Tx is an indicator for treatment, and x and z represent the control variables.

3.1 Basic Models

SPSS ¹	Stata ²
REGRESSION	<code>regress attachment PRF CR</code>
	<code>CB Tx x z</code>
<code>/MISSING LISTWISE</code>	
<code>/STATISTICS COEFF OUTS</code>	
<code>/CRITERIA=PIN(.05) POUT(.10)</code>	
<code>/NOORIGIN</code>	
<code>/DEPENDENT attachment</code>	
<code>/METHOD=ENTER PRF CR CB Tx x z.</code>	

3.2 Interactions

If we think there is moderation, we need to include $\beta_6 \text{PRF} * \text{Tx} + \beta_7 \text{CR} * \text{Tx} + \beta_8 \text{CB} * \text{Tx}$ terms in the equation.

SPSS	Stata
In SPSS interaction terms need to be created <i>by hand</i> .	Stata is able to create interactions <i>on the fly</i> .
<code>COMPUTE PRF_Tx = PRF * Tx.</code>	<code>regress attachment (PRF</code>
<code>COMPUTE CR_Tx = CR * Tx.</code>	<code>CR CB)##Tx x z</code>
<code>COMPUTE CB_Tx = CB * Tx.</code>	
These terms would need to be entered into the equation above.	

¹SPSS syntax is constantly in flux, but this is a best guess at appropriate commands. Of course one potential advantage of SPSS is that models can be run using menus.

²Stata makes things easy! However, if it is not used in your department, there may be too high of a learning cost.