Question:

I am interested in a model containing an interaction between two L1-predictors and one L2-predictor. This is the model:

within = x w xw;
between = z;

model:
%within%
y on x w;
s| y on xw;

%between%
y on z;
[s];
s on z;
y with s;

How can I plot the interaction and calculate simple slopes adapting the input from example 9.2b? I would like to calculate slopes for low/ high values of w and z.

Thank you.

Answer:

You can just play with the regression equations for your model:

y = a_j + b1*x + b2*w + b3_j*w + error

a_j = a + g1*z + error

b3_j = b + g2*z + error

Here a_j is your random intercept which appears as Y on Between and b3_j is your random slope s in the regression of y on the xw interaction. Plugging the last 2 equations into the first, you have

y = a + g1*z + b1*x + b2*w + (b + g2*z)*xw + error terms,

where the terms involving x can be summarized as

[b1 + (b + g2*z)*w]*x.

That would be the simple slope that can be evaluated as a function of x for different combinations of values of z and w. This can be done like the plot of ex 9.2b where you just have a different simple slope formula as given above and you have not only 2 expressions you want to plot but perhaps 4 (low/high z combined with low/high w).