Group Level code in NIRS toolbox

grouplevelpipeline1=nirs.modules.MixedEffects();

grouplevelpipeline1.formula ='beta ~ lwidr \* Task + age + (1|Subject)';

grouplevelpipeline1.dummyCoding=’reference’

GroupStats = grouplevelpipeline1.run(SubjStats);

The above code block in a conventional group level code for linear mixed effect model in the second level NIRS-toolbox analysis. The formula can be expressed using the following equation:

Beta = b0 \* 1 + b1 \* age + b2 \* lwid + b3 \* Task + b4 \* lwid \* Task + error (eq. 1)

Note, the brain activation is not consider in this formula because:

-1 + Task:cond = 1

In this equation, for example, if PA is the reference term, in the eq. 1 above, Task is the dummy variable that can be 1 and 0

When Task = 1, MA: Beta = b0 + b1 \* age + b2 \* lwid + b3 + b4 \* lwid

Beta = (b0 + b3) + b1 \* age + (b2 + b4) \* lwid

When Task = 0, PA: Beta = b0 + b1 \* age + b2 \* lwid

Such dummy code equation means if there is no language ability (lwid = 0), ***b3*** will be showing how brain activation is greater in MA than PA. While ***b4*** means the amount of brain activation that lwid contribute more to MA than PA