

# Addressing lack of convergence

Warning message:

```
In checkConv(attr(opt, "derivs"), opt$par, ctrl = control$checkConv,  :  
Model failed to converge with max|gradl| = 0.0171702 (tol = 0.001, component 1)
```

If you see this message (which you will - again and again and again and again and again), it means you have to simplify your random effects structure so that a model can be identified.

# Addressing lack of convergence

Simplify your random effects structure step by step. For an experiment with two factors (Factor 1 and Factor 2) we could simplify the participant and item random effects like this:

`(1 + Factor 1*Factor 2 | Participant) + (1 + Factor 1*Factor 2 | Item)`

`(1 + Factor 1*Factor 2 | Participant) + (1 + Factor 1+Factor 2 | Item)`

`(1 + Factor 1+Factor 2 | Participant) + (1 + Factor 1+Factor 2 | Item)`

`(1 + Factor 1+Factor 2 | Participant) + (1 + Factor 1 | Item)`

...