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| **Window** | **Final model 1** |
| W1 (160-216 ms) | lmer(microvolts ~ (1|participant)+ time+ (1|participant:time)+  (1| electrode)+ (1|electrode:participant)+ (1| condition:  participant)+ (1| electrode: participant: condition)+ location  + Lefthanded + location : condition + location: group +  condition : s\_Age\_months + condition: group: location,  data=EEG.window1[!EEG.window1$group=='null',],  control = lmerControl(optCtrl=list(maxfun=10000000))) |
| W2 (270-370 ms) | lmer(microvolts ~ (1|participant)+ time+ (1|participant:time)+  (1| electrode)+ (1|electrode:participant)+ (1| condition:  participant)+ (1| electrode: participant: condition)+ location  + condition + location: condition + group : location,  data=EEG.window2[!EEG.window2$group=='null',],  control = lmerControl(optCtrl=list(maxfun=10000000))) |
| W3 (350-550 ms) | lmer(microvolts ~ (1|participant)+ time+ (1|participant: time)  + (1|electrode) +(1|electrode: participant)+ (1|condition:  participant)+ (1| group: time)+ (1| electrode: participant:  condition)+ location+ condition + group : location,  data=EEG.window3[!EEG.window3$group=='null',],  control = lmerControl(optCtrl=list(maxfun=10000000))) |
| W4 (500-750 ms) | lmer(microvolts ~ (1|participant)+ time+ (1|participant: time)+  (1|electrode) +(1|electrode: participant) +(1|condition:  participant)+ (1| group: time)+ (1| electrode: participant:  condition)+ s\_Age\_months + condition,  data=EEG.window4,  control = lmerControl(optCtrl=list(maxfun=10000000))) |

1 Maximal, random slope models built through stepwise additions based on the likelihodd ratio test (Barr, Levy, Scheepers, & Tily, 2013). Coded and shown here in R language (R Core Development Team, 2008).

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| **Critical results 1** | | | | | |
| Data | Variable | Levels or contrasts | Estimate | Statistical test | *R*2 |
| All W1 | Modality  transition | (1) Visual / Visual | NA | χ2(2, *N* = 47)= 1.78, *p* = .411 | .800 |
| (2) Haptic / Visual | NA |
| (3) Auditory / Visual | NA |
| Group | Quick | NA | χ2(1, *N* = 42)= 1.57, *p* = .210 |
| Self-paced | NA |
| Location | Anterior | Intercept | χ2(1, *N* = 47)= 13.00, *p* < .001 |
| Posterior | 0.26 |
| Transition  x Location | – | – | χ2(4, *N* = 47)= 71.15, *p* < .001 |
| Transition  x Group | – | NA | χ2(2, *N* = 42)= 3.31, *p* = .191 |
| Transition  x Location  x Group | – | – | χ2(4, *N* = 42)= 26.85, *p* < .001 |
| W1: Quick,  anterior | Modality transition | (3) versus (1) | 0.18 | *F*(54, 13049) = 258.90*,*  *t* = 11.04, *p* < .001 | .515 |
| (3) versus (2) | 0.14 | *t* = 4.98, *p* < .001 2 |
| W1: Quick,  posterior | Modality transition | (3) versus (1) | 0.20 | *F*(54, 13049) = 127.90*,*  *t* = 11.69, *p* < .001 | .343 |
| (3) versus (2) | –0.06 | *t* = –2.09, *p* = .037 2 |
| W1:  Self-paced,  anterior | Modality transition | (3) versus (1) | –0.19 | *F*(54, 13049) = 307.20*,*  *t* = –10.81, *p* < .001 | .558 |
| (3) versus (2) | 0.34 | *t* = 11.25, *p* < .001 2 |
| W1:  Self-paced,  posterior | Modality transition | (3) versus (1) | 0.05 | *F*(54, 13049) = 109.70*,*  *t* = 2.21, *p* = .027 | .309 |
| (3) versus (2) | 0.10 | *t* = 2.73, *p* = .006 2 |
| All W2 | Modality  transition | (1) Visual / Visual | Intercept | χ2(2, *N* = 47)= 8.44, *p* = .015 | .866 |
| (2) Haptic / Visual | –0.25 |
| (3) Auditory / Visual | –0.48 |
| Group | Quick | NA | χ2(1, *N* = 42)= 1.88, *p* = .170 |
| Self-paced | NA |
| Location | Anterior | Intercept | χ2(1, *N* = 47)= 86.13, *p* < .001 |
| Posterior | 3.43 |
| Transition  x Location | – | – | χ2(2, *N* = 47)= 7.71, *p* = .021 |
| Transition  x Group | – | NA | χ2(2, *N* = 42)= 1.35, *p* = .509 |
| Transition  x Location  x Group | – | – | χ2(4, *N* = 42)= 28.16, *p* < .001 |
| W2: Quick,  anterior | Modality transition | (3) versus (1) | 0.26 | *F*(59, 21234) = 667.20*,*  *t* = 19.62, *p* < .001 | .649 |
| (3) versus (2) | 0.06 | *t* = 2.75, *p* = .006 2 |
| W2: Quick,  posterior | Modality transition | (3) versus (1) | 0.23 | *F*(59, 21234) = 244.80*,*  *t* = 15.21, *p* < .001 | .403 |
| (3) versus (2) | 0.04 | *t* = 1.53, *p* = .125 2 |
| W2:  Self-paced,  anterior | Modality transition | (3) versus (1) | –0.01 | *F*(59, 21234) = 427.00*,*  *t* = –0.90, *p* = .369 | .541 |
| (3) versus (2) | 0.17 | *t* = 6.58, *p* < .001 2 |
| W2:  Self-paced,  posterior | Modality transition | (3) versus (1) | 0.18 | *F*(59, 21234) = 290.10*,*  *t* = 11.64, *p* < .001 | .445 |
| (3) versus (2) | –0.06 | *t* = –2.12, *p* = .034 2 |
| All W3 | Modality  transition | (1) Visual / Visual | Intercept | χ2(2, *N* = 47)= 11.63, *p* = .003 | .809 |
| (2) Haptic / Visual | –0.72 |
| (3) Auditory / Visual | –0.69 |
| Group | Quick | NA | χ2(1, *N* = 42)= 0.04, *p* = .835 |
| Self-paced | NA |
| Location | Anterior | Intercept | χ2(1, *N* = 47)= 66.17, *p* < .001 |
| Posterior | 2.00 |
| Transition  x Location | – | NA | χ2(2, *N* = 47)= 2.13, *p* = .345 |
| Transition  x Group | – | NA | χ2(2, *N* = 42)= 0.64, *p* = .727 |
| Transition  x Location  x Group | NA | NA | [Rank deficiency] |
| Transition contrasts | (3) versus (1) | 0.28 | *F*(123, 183176) = 692.90*,*  *t* = 47.78, *p* < .001 | .317 |
| (3) versus (2) | –0.12 | *t* = –11.42, *p* < .001 2 | .317 |
| All W4 | Modality  transition | (1) Visual / Visual | Intercept | χ2(2, *N* = 47)= 9.45, *p* = .009 | .711 |
| (2) Haptic / Visual | –0.91 |
| (3) Auditory / Visual | –0.82 |
| Group | Quick | NA | χ2(1, *N* = 42)= 1.67, *p* = .196 |
| Self-paced | NA |
| Location | Anterior | NA | χ2(1, *N* = 47)= 2.00, *p* = .157 |
| Posterior | NA |
| Transition  x Location | – | NA | χ2(3, *N* = 47)= 6.33, *p* = .096 |
| Transition  x Group | – | NA | χ2(3, *N* = 42)= 3.45, *p* = .327 |
| Transition  x Location  x Group | NA | NA | [Rank deficiency] |
| Transition contrasts | (3) versus (1) | 0.29 | *F*(129, 227126) = 473.00*,*  *t* = 55.22, *p* < .001 | .211 |
| (3) versus (2) | –0.04 | *t* = –4.92, *p* < .001 2 | .211 |

1 A hyphen appears instead of data that do exist but are already reflected in the follow-ups and in the plots. The *R*2 provided for full models is of the standard, ‘multiple’ type, whereas the *R*2 for the follow-up anovas is the one ‘adjusted’ for the number of predictors.

2 The corresponding *F* statistic is the one immediately above.