Appendix 3: Full models

a. Critical Trial GAMM

The critical trial model was built with condition, age category, and response (condAgeRESP) as the predictor. Random smooths were created for both Subject and Item as well as random smooths by condition alone and condAgeRESP respectively.

bam.critical.model <- bam(objectAOI ~ Condition\_by\_Age\_by\_CorrectResponse +

 s(Time, by = Condition\_by\_Age\_by\_CorrectResponse, bs = "tp", k = 10)+

 s(Subject, bs = "re") +

 s(Item, bs = "re") +

 s(Subject, by = Condition, bs = "re")+

 s(Item, by = Condition\_by\_Age\_by\_CorrectResponse, bs = "re"),

 data = Gazedata\_Critical,

 family = binomial())

b. Switchers GAMM

The critical trial model was built with whether the subject was a switcher or not and whether the trials were the first 3 or the last 3 (switchPart) as the predictor. Random smooths were created for both Subject and Item as well as random smooths by trial position (i.e., First 3 trials or last 3 trials) and switchPart respectively.

bam.switchers <- bam(objectAOI ~ SwitchingStatus\_by\_TrialPart +

 s(Time, by = SwitchingStatus\_by\_TrialPart, bs = "tp", k = 10)+

 s(Subject, bs = "re") +

 s(Item, bs = "re") +

 s(Subject, by = TrialPart, bs = "re")+

 s(Item, by = SwitchingStatus\_by\_TrialPart, bs = "re"),

 data = Gazedata\_Critical\_switchPart,

 family = binomial())

c. Filler GAMM

The filler trial model was built with condition, age category, and response (condAgeRESP) as the predictor. Random smooths were created for both Subject and Item as well as random smooths by condition alone and condAgeRESP respectively.

bam.filler.model <- bam(objectAOI ~ Condition\_by\_Age\_by\_CorrectResponse +

 s(Time, by = Condition\_by\_Age\_by\_CorrectResponse, bs = "tp", k = 10)+

 s(Subject, bs = "re") +

 s(Item, bs = "re") +

 s(Subject, by = Condition, bs = "re")+

 s(Item, by = Condition\_by\_Age\_by\_CorrectResponse, bs = "re"),

 data = Gazedata\_Filler,

 family = binomial())