

# Supplementary material A

Below we report the model summaries for the GLMM fits for a range of reasonable cutoff values for including item views. Specifically we report the summaries for cutoff values: 60, 80, 100, 140, 160, 180 ms.

## Cutoff = 60 ms

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Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) ['glmerMod']
Family: binomial ( logit )
Formula: placed ~ cumul_view_time * delay + trial_number + after_nth_view_ses + (1 + cumul_view_time * delay | id)
Data: df
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| AIC     | BIC     | logLik  | deviance | df.resid |
|---------|---------|---------|----------|----------|
| 19373.7 | 19499.5 | -9670.9 | 19341.7  | 19178    |

Scaled residuals:

| Min      | 1Q     | Median | 3Q    | Max    |
|----------|--------|--------|-------|--------|
| -157.545 | -0.641 | 0.311  | 0.642 | 11.533 |

Random effects:

| Groups | Name                  | Variance | Std.Dev. | Corr             |
|--------|-----------------------|----------|----------|------------------|
| id     | (Intercept)           | 0.64757  | 0.80472  |                  |
|        | cumul_view_time       | 0.81730  | 0.90404  | -0.43            |
|        | delay                 | 0.03311  | 0.18197  | -0.29 -0.39      |
|        | cumul_view_time:delay | 0.00394  | 0.06277  | 0.18 -0.04 -0.75 |

Number of obs: 19194, groups: id, 46

Fixed effects:

|                       | Estimate  | Std. Error | z value | Pr(> z )     |
|-----------------------|-----------|------------|---------|--------------|
| (Intercept)           | 0.384013  | 0.149887   | 2.562   | 0.0104 *     |
| cumul_view_time       | 0.884757  | 0.155173   | 5.702   | 1.19e-08 *** |
| delay                 | -0.367893 | 0.030862   | -11.921 | < 2e-16 ***  |
| trial_number          | 0.038887  | 0.002157   | 18.032  | < 2e-16 ***  |
| after_nth_view_ses    | 0.070831  | 0.009018   | 7.854   | 4.03e-15 *** |
| cumul_view_time:delay | 0.076554  | 0.018477   | 4.143   | 3.42e-05 *** |

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Correlation of Fixed Effects:

|             | (Intr) | cml_v_ | delay  | trl_nm | aft__  |
|-------------|--------|--------|--------|--------|--------|
| cumul_vw_tm | -0.513 |        |        |        |        |
| delay       | -0.420 | -0.116 |        |        |        |
| trial_numbr | -0.241 | 0.028  | -0.009 |        |        |
| aft_rnth_v_ | -0.241 | -0.005 | 0.019  | 0.154  |        |
| cml_vw_tm:d | 0.379  | -0.388 | -0.664 | -0.022 | -0.014 |

optimizer (Nelder\_Mead) convergence code: 0 (OK)

Model failed to converge with max|grad| = 0.0160274 (tol = 0.002, component 1)

## Cutoff = 80 ms

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) ['glmerMod']

Family: binomial (logit)  
Formula: placed ~ cumul\_view\_time \* delay + trial\_number + after\_nth\_view\_ses + (1 + cumul\_view\_time \* delay | id)  
Data: df

| AIC     | BIC     | logLik  | deviance | df.resid |
|---------|---------|---------|----------|----------|
| 19147.7 | 19273.2 | -9557.9 | 19115.7  | 18782    |

Scaled residuals:

| Min     | 1Q     | Median | 3Q    | Max    |
|---------|--------|--------|-------|--------|
| -90.524 | -0.653 | 0.336  | 0.642 | 39.881 |

Random effects:

| Groups | Name                  | Variance | Std.Dev. | Corr            |
|--------|-----------------------|----------|----------|-----------------|
| id     | (Intercept)           | 0.638683 | 0.79918  |                 |
|        | cumul_view_time       | 0.654822 | 0.80921  | -0.42           |
|        | delay                 | 0.031050 | 0.17621  | -0.34 -0.35     |
|        | cumul_view_time:delay | 0.004231 | 0.06505  | 0.23 0.01 -0.79 |

Number of obs: 18798, groups: id, 46

Fixed effects:

|                       | Estimate  | Std. Error | z value | Pr(> z )     |
|-----------------------|-----------|------------|---------|--------------|
| (Intercept)           | 0.467154  | 0.149753   | 3.120   | 0.00181 **   |
| cumul_view_time       | 0.820546  | 0.143486   | 5.719   | 1.07e-08 *** |
| delay                 | -0.358929 | 0.030070   | -11.936 | < 2e-16 ***  |
| trial_number          | 0.037717  | 0.002166   | 17.409  | < 2e-16 ***  |
| after_nth_view_ses    | 0.071271  | 0.009083   | 7.846   | 4.28e-15 *** |
| cumul_view_time:delay | 0.072939  | 0.018515   | 3.939   | 8.17e-05 *** |

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Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Correlation of Fixed Effects:

|             | (Intr) | cml_v_ | delay  | trl_nm | aft__  |
|-------------|--------|--------|--------|--------|--------|
| cumul_vw_tm | -0.516 |        |        |        |        |
| delay       | -0.461 | -0.056 |        |        |        |
| trial_numbr | -0.242 | 0.027  | -0.011 |        |        |
| aft_rnth_v_ | -0.243 | -0.005 | 0.019  | 0.154  |        |
| cml_vw_tm:d | 0.401  | -0.394 | -0.698 | -0.015 | -0.013 |

optimizer (Nelder-Mead) convergence code: 0 (OK)

Model failed to converge with max|grad| = 0.0198533 (tol = 0.002, component 1)

## Cutoff = 100 ms

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) ['glmerMod']

Family: binomial (logit)  
Formula: placed ~ cumul\_view\_time \* delay + trial\_number + after\_nth\_view\_ses + (1 + cumul\_view\_time \* delay | id)  
Data: df

| AIC     | BIC     | logLik  | deviance | df.resid |
|---------|---------|---------|----------|----------|
| 18935.8 | 19060.9 | -9451.9 | 18903.8  | 18383    |

Scaled residuals:

| Min    | 1Q    | Median | 3Q   | Max    |
|--------|-------|--------|------|--------|
| -32.57 | -0.67 | 0.36   | 0.65 | 695.28 |

Random effects:

| Groups | Name                  | Variance | Std.Dev. | Corr            |
|--------|-----------------------|----------|----------|-----------------|
| id     | (Intercept)           | 0.507921 | 0.7127   |                 |
|        | cumul_view_time       | 0.525228 | 0.7247   | -0.37           |
|        | delay                 | 0.022771 | 0.1509   | -0.25 -0.42     |
|        | cumul_view_time:delay | 0.002895 | 0.0538   | 0.03 0.10 -0.73 |

Number of obs: 18399, groups: id, 46

Fixed effects:

|                       | Estimate  | Std. Error | z value | Pr(> z )     |
|-----------------------|-----------|------------|---------|--------------|
| (Intercept)           | 0.514354  | 0.139906   | 3.676   | 0.000237 *** |
| cumul_view_time       | 0.760876  | 0.132612   | 5.738   | 9.60e-09 *** |
| delay                 | -0.343401 | 0.026650   | -12.886 | < 2e-16 ***  |
| trial_number          | 0.036596  | 0.002173   | 16.843  | < 2e-16 ***  |
| after_nth_view_ses    | 0.071896  | 0.009134   | 7.872   | 3.50e-15 *** |
| cumul_view_time:delay | 0.068108  | 0.017008   | 4.004   | 6.22e-05 *** |

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Correlation of Fixed Effects:

|             | (Intr) | cml_v_ | delay  | trl_nm | aft__  |
|-------------|--------|--------|--------|--------|--------|
| cumul_vw_tm | -0.501 |        |        |        |        |
| delay       | -0.424 | -0.060 |        |        |        |
| trial_numbr | -0.260 | 0.028  | -0.012 |        |        |
| aft_rnth_v_ | -0.261 | -0.005 | 0.019  | 0.156  |        |
| cml_vw_tm:d | 0.349  | -0.398 | -0.672 | -0.014 | -0.011 |

optimizer (Nelder-Mead) convergence code: 0 (OK)

Model failed to converge with max|grad| = 0.0329213 (tol = 0.002, component 1)

## Cutoff = 140 ms

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) ['glmerMod']

Family: binomial (logit)  
Formula: placed ~ cumul\_view\_time \* delay + trial\_number + after\_nth\_view\_ses + (1 + cumul\_view\_time \* delay | id)  
Data: df

| AIC     | BIC     | logLik  | deviance | df.resid |
|---------|---------|---------|----------|----------|
| 18412.4 | 18536.9 | -9190.2 | 18380.4  | 17651    |

Scaled residuals:

| Min     | 1Q     | Median | 3Q    | Max     |
|---------|--------|--------|-------|---------|
| -35.592 | -0.693 | 0.390  | 0.639 | 287.363 |

Random effects:

| Groups | Name                  | Variance | Std.Dev. | Corr            |
|--------|-----------------------|----------|----------|-----------------|
| id     | (Intercept)           | 0.405150 | 0.63651  |                 |
|        | cumul_view_time       | 0.292333 | 0.54068  | -0.20           |
|        | delay                 | 0.027754 | 0.16659  | -0.41 -0.36     |
|        | cumul_view_time:delay | 0.003643 | 0.06036  | 0.13 0.20 -0.85 |

Number of obs: 17667, groups: id, 46

Fixed effects:

|                       | Estimate  | Std. Error | z value | Pr(> z )     |
|-----------------------|-----------|------------|---------|--------------|
| (Intercept)           | 0.671277  | 0.132122   | 5.081   | 3.76e-07 *** |
| cumul_view_time       | 0.590576  | 0.110645   | 5.338   | 9.42e-08 *** |
| delay                 | -0.332910 | 0.028627   | -11.629 | < 2e-16 ***  |
| trial_number          | 0.035204  | 0.002197   | 16.021  | < 2e-16 ***  |
| after_nth_view_ses    | 0.072299  | 0.009281   | 7.790   | 6.72e-15 *** |
| cumul_view_time:delay | 0.071625  | 0.016897   | 4.239   | 2.25e-05 *** |

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Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Correlation of Fixed Effects:

|             | (Intr) | cml_v_ | delay  | trl_nm | aft__  |
|-------------|--------|--------|--------|--------|--------|
| cumul_vw_tm | -0.450 |        |        |        |        |
| delay       | -0.510 | 0.020  |        |        |        |
| trial_numbr | -0.281 | 0.034  | -0.009 |        |        |
| aft_rnth_v_ | -0.280 | -0.005 | 0.014  | 0.159  |        |
| cml_vw_tm:d | 0.401  | -0.413 | -0.739 | -0.015 | -0.007 |

optimizer (Nelder-Mead) convergence code: 0 (OK)

Model failed to converge with max|grad| = 0.0462475 (tol = 0.002, component 1)

## Cutoff = 160 ms

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) ['glmerMod']

Family: binomial (logit)  
Formula: placed ~ cumul\_view\_time \* delay + trial\_number + after\_nth\_view\_ses + (1 + cumul\_view\_time \* delay | id)  
Data: df

| AIC     | BIC     | logLik  | deviance | df.resid |
|---------|---------|---------|----------|----------|
| 18177.9 | 18302.0 | -9072.9 | 18145.9  | 17282    |

Scaled residuals:

| Min     | 1Q     | Median | 3Q    | Max     |
|---------|--------|--------|-------|---------|
| -20.224 | -0.710 | 0.408  | 0.639 | 267.329 |

Random effects:

| Groups | Name                  | Variance | Std.Dev. | Corr            |
|--------|-----------------------|----------|----------|-----------------|
| id     | (Intercept)           | 0.402244 | 0.63423  |                 |
|        | cumul_view_time       | 0.215314 | 0.46402  | -0.20           |
|        | delay                 | 0.020745 | 0.14403  | -0.39 -0.38     |
|        | cumul_view_time:delay | 0.002668 | 0.05165  | 0.10 0.26 -0.85 |

Number of obs: 17298, groups: id, 46

Fixed effects:

|                       | Estimate  | Std. Error | z value | Pr(> z )     |
|-----------------------|-----------|------------|---------|--------------|
| (Intercept)           | 0.704101  | 0.131986   | 5.335   | 9.57e-08 *** |
| cumul_view_time       | 0.529067  | 0.101602   | 5.207   | 1.92e-07 *** |
| delay                 | -0.310155 | 0.025527   | -12.150 | < 2e-16 ***  |
| trial_number          | 0.034771  | 0.002209   | 15.739  | < 2e-16 ***  |
| after_nth_view_ses    | 0.070623  | 0.009317   | 7.580   | 3.46e-14 *** |
| cumul_view_time:delay | 0.064494  | 0.015527   | 4.154   | 3.27e-05 *** |

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Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Correlation of Fixed Effects:

|             | (Intr) | cml_v_ | delay  | trl_nm | aft__  |
|-------------|--------|--------|--------|--------|--------|
| cumul_vw_tm | -0.469 |        |        |        |        |
| delay       | -0.515 | 0.072  |        |        |        |
| trial_numbr | -0.285 | 0.039  | -0.007 |        |        |
| aft_rnth_v_ | -0.282 | -0.004 | 0.016  | 0.159  |        |
| cml_vw_tm:d | 0.402  | -0.446 | -0.744 | -0.021 | -0.008 |

optimizer (Nelder-Mead) convergence code: 0 (OK)

Model failed to converge with max|grad| = 0.0505777 (tol = 0.002, component 1)

## Cutoff = 180 ms

Generalized linear mixed model fit by maximum likelihood (Laplace Approximation) ['glmerMod']

Family: binomial (logit)  
Formula: placed ~ cumul\_view\_time \* delay + trial\_number + after\_nth\_view\_ses + (1 + cumul\_view\_time \* delay | id)  
Data: df

| AIC     | BIC     | logLik  | deviance | df.resid |
|---------|---------|---------|----------|----------|
| 17898.6 | 18022.5 | -8933.3 | 17866.6  | 16954    |

Scaled residuals:

| Min     | 1Q     | Median | 3Q    | Max     |
|---------|--------|--------|-------|---------|
| -19.147 | -0.716 | 0.416  | 0.635 | 240.610 |

Random effects:

| Groups | Name                  | Variance | Std.Dev. | Corr            |
|--------|-----------------------|----------|----------|-----------------|
| id     | (Intercept)           | 0.363128 | 0.60260  |                 |
|        | cumul_view_time       | 0.156921 | 0.39613  | -0.15           |
|        | delay                 | 0.019284 | 0.13887  | -0.45 -0.25     |
|        | cumul_view_time:delay | 0.002811 | 0.05302  | 0.14 0.12 -0.85 |

Number of obs: 16970, groups: id, 46

Fixed effects:

|                       | Estimate  | Std. Error | z value | Pr(> z )     |
|-----------------------|-----------|------------|---------|--------------|
| (Intercept)           | 0.734725  | 0.128745   | 5.707   | 1.15e-08 *** |
| cumul_view_time       | 0.478942  | 0.094434   | 5.072   | 3.94e-07 *** |
| delay                 | -0.297404 | 0.024739   | -12.022 | < 2e-16 ***  |
| trial_number          | 0.034513  | 0.002224   | 15.517  | < 2e-16 ***  |
| after_nth_view_ses    | 0.070997  | 0.009405   | 7.549   | 4.39e-14 *** |
| cumul_view_time:delay | 0.059991  | 0.015374   | 3.902   | 9.54e-05 *** |

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Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Correlation of Fixed Effects:

|             | (Intr) | cml_v_ | delay  | trl_nm | aft__  |
|-------------|--------|--------|--------|--------|--------|
| cumul_vw_tm | -0.472 |        |        |        |        |
| delay       | -0.548 | 0.175  |        |        |        |
| trial_numbr | -0.294 | 0.042  | -0.008 |        |        |
| aft_rnth_v_ | -0.294 | -0.001 | 0.018  | 0.160  |        |
| cml_vw_tm:d | 0.420  | -0.521 | -0.756 | -0.020 | -0.010 |

optimizer (Nelder-Mead) convergence code: 0 (OK)

Model failed to converge with max|grad| = 0.0269237 (tol = 0.002, component 1)