

Parameters*	Fixed-effects BIC sum		Mixed-effects BIC_{int}	
	C	J	C	J
α, β, κ_1	35873	34670	35717	34538
α, β, κ_2	36581	35191	36444	35170
α, β, κ	35814	34133	35679	34043
α, β, λ	36330	35157	36149	35171
$\alpha_1, \alpha_2, \beta$	36511	35671	36494	35700
α, β_1, β_2	36532	35682	36393	35596
$\alpha_1, \alpha_2, \beta_1, \beta_2$	36615	35770	36464	35775
$\alpha_1, \alpha_2, \beta, \kappa_1$	35822	34759	35689	34588
$\alpha_1, \alpha_2, \beta, \kappa_2$	36584	35295	36430	35274
$\alpha_1, \alpha_2, \beta, \kappa$	35821	34252	35687	34087
$\alpha_1, \alpha_2, \beta, \lambda$	36335	35267	36116	35231
$\alpha, \beta_1, \beta_2, \kappa_1$	35785	34742	35455	34458
$\alpha, \beta_1, \beta_2, \kappa_2$	36619	35306	36348	35175
$\alpha, \beta_1, \beta_2, \kappa$	35934	34267	35637	34022
$\alpha, \beta_1, \beta_2, \lambda$	36447	35260	36163	35176
$\alpha, \beta, \kappa_1, \kappa_2$	35908	34256	35624	34069
$\alpha, \beta, \kappa_1, \lambda$	35723	34415	35424	34185
$\alpha, \beta, \kappa_2, \lambda$	36403	34825	36095	34791
$\alpha, \beta, \kappa, \lambda$	35697[†]	33931[†]	35420	33750[†]
$\alpha_1, \alpha_2, \beta_1, \beta_2, \kappa_1$	35895	34859	35494	34509
$\alpha_1, \alpha_2, \beta_1, \beta_2, \kappa_2$	37797	35690	36765	35698
$\alpha_1, \alpha_2, \beta_1, \beta_2, \kappa$	35949	34388	35723	34088
$\alpha_1, \alpha_2, \beta_1, \beta_2, \lambda$	36478	35360	36142	35272
$\alpha, \beta_1, \beta_2, \kappa_1, \kappa_2$	35873	34370	35408	34049
$\alpha, \beta_1, \beta_2, \kappa_1, \lambda$	35794	34553	35319	34183
$\alpha, \beta_1, \beta_2, \kappa_2, \lambda$	36531	34888	36117	34774
$\alpha, \beta_1, \beta_2, \kappa, \lambda$	35856	34058	35385	33754
$\alpha_1, \alpha_2, \beta, \kappa_1, \kappa_2$	35891	34373	36074	34133
$\alpha_1, \alpha_2, \beta, \kappa_1, \lambda$	35707	34539	35356	34240
$\alpha_1, \alpha_2, \beta, \kappa_2, \lambda$	36426	34936	36074	34856
$\alpha_1, \alpha_2, \beta, \kappa, \lambda$	35725	34061	35382	33788
$\alpha, \beta, \kappa_1, \kappa_2, \lambda$	35784	34055	35348	33780
$\alpha_1, \alpha_2, \beta_1, \beta_2, \kappa_1, \kappa_2$	35983	34494	35439	34087
$\alpha_1, \alpha_2, \beta_1, \beta_2, \kappa_1, \lambda$	35858	34677	35311	34233
$\alpha_1, \alpha_2, \beta_1, \beta_2, \kappa_2, \lambda$	36566	34994	36090	34865
$\alpha_1, \alpha_2, \beta_1, \beta_2, \kappa, \lambda$	35858	34188	35331	33796
$\alpha, \beta_1, \beta_2, \kappa_1, \kappa_2, \lambda$	35880	34186	35266	33766
$\alpha_1, \alpha_2, \beta, \kappa_1, \kappa_2, \lambda$	35791	34186	35287	33824
$\alpha_1, \alpha_2, \beta_1, \beta_2, \kappa_1, \kappa_2, \lambda$	35946	34312	35260[†]	33825

*Abbreviations: learning rate for first-stage (α_1) and second-stage (α_2); α is when $\alpha_1 = \alpha_2$; inverse temperature for first-stage (β_1) and second-stage (β_2); β is when $\beta_1 = \beta_2$; perseveration for first-stage (κ_1) and second-stage (κ_2); κ is when $\kappa_1 = \kappa_2$; eligibility trace (λ).

[†]Best fitting *SARSA* model variant for the respective subject and analysis type.