Figure S1. Posterior predictive plots for Model 1 (pre-registered analysis) with a condition effect on starting point

Observed response times for each quantile (10%, 30%, 50%, 70%, 90%) for correct trials and observed accuracy for each participant plotted against those predicted by the model, for each cue condition (neutral, valid, invalid). The diagonal line is the line $y = x$. 
Figure S2. Graphical representation of Model 2 presented in exploratory results with a condition effect on drift rate

\[
\begin{align*}
\beta &= 0.5 \\
\mu_0 &\sim N(1, 0.5) \\
\mu_1 &\sim N(0.4, 0.1) \\
\mu_2 &\sim N(2, 2)T(0,) \\
\sigma_2 &\sim N(0, 0.1)T(0,) \\
\sigma_3 &\sim N(0, 0.1)T(0,) \\
\sigma_e &\sim IG(2, 0.5) \\
\sigma_{\theta_0} &\sim IG(2, 0.5) \\
\theta_0 &\sim N(0, \sigma_{\theta_0}) \\
\alpha &\sim N(\mu_0, \sigma_2)T(0.2, 4) \\
\tau &\sim N(\mu_1, \sigma_1)T(0, 1, 2) \\
\delta_{(p1)} &\sim N(\mu_0 - \sigma_2(2^{-1/2} \theta_0), \sigma_2)T(0, 7) \\
\delta_{(p2)} &\sim N(\mu_0 + \sigma_2(2^{-1/2} \theta_0), \sigma_2)T(0, 7) \\
\delta_{(p3)} &\sim 2\delta_{(p1)} - \delta_{(p2)} \\
\end{align*}
\]

Figure S3. Graphical representation of Model 3 presented in exploratory results with condition effects on both starting point and drift rate

\[
\begin{align*}
\mu_0 &\sim N(1, 0.5) \\
\mu_1 &\sim N(0.4, 0.1) \\
\mu_2 &\sim N(2, 2)T(0,) \\
\sigma_2 &\sim N(0, 0.1)T(0,) \\
\sigma_3 &\sim N(0, 0.1)T(0,) \\
\sigma_e &\sim IG(2, 0.5) \\
\sigma_{\theta_0} &\sim IG(2, 0.5) \\
\theta_0 &\sim N(0, \sigma_{\theta_0}) \\
\theta_\beta &\sim N(0, \sigma_{\theta_\beta}) \\
\alpha &\sim N(\mu_0, \sigma_2)T(0.2, 4) \\
\tau &\sim N(\mu_1, \sigma_1)T(0, 1, 2) \\
\delta_{(p1)} &\sim N(\mu_0 - \sigma_2(2^{-1/2} \theta_0), \sigma_2)T(0, 7) \\
\delta_{(p2)} &\sim N(\mu_0 + \sigma_2(2^{-1/2} \theta_0), \sigma_2)T(0, 7) \\
\delta_{(p3)} &\sim 2\delta_{(p1)} - \delta_{(p2)} \\
\beta_{(p1)} &= 0.5 \\
\beta_{(p2)} &\sim N(0.5 + \sigma_2 \theta, \sigma_2)T(0.001, 0.999) \\
\beta_{(p3)} &= 1 - \beta_{(p2)} \\
\end{align*}
\]
Figure S4. Posterior predictives for Model 2 with a condition effect on drift rate

Observed response times for each quantile (10%, 30%, 50%, 70%, 90%) for correct trials and observed accuracy for each participant plotted against those predicted by the model, for each cue condition (neutral, valid, invalid). The diagonal line is the line $y = x$. 
Figure S5. Posterior predictives for Model 3 with a condition effect on both starting point and drift rate

Observed response times for each quantile (10%, 30%, 50%, 70%, 90%) for correct trials and observed accuracy for each participant plotted against those predicted by the model, for each cue condition (neutral, valid, invalid). The diagonal line is the line $y = x$. 
Figure S6. Plots showing the relationship between autism spectrum quotient (AQ) scores and change in starting point between validly cued and neutral trials, for Model 3.

The left panel plots posterior mean estimates of change in starting point (i.e., $\beta_{p(2)} - 0.5$) for each participant as a function of AQ score. The middle panel shows the distribution of plausible correlations $r$ between change in starting point and AQ in the sample. The right panel shows the distribution of the plausible population correlation, $\rho$. The 95% equal tail credible interval spanned 0 ([−0.13, 0.16], Bayesian p-value = 0.41).
Figure S7. Plots showing the relationship between autism spectrum quotient (AQ) scores and boundary separation, for Model 3.

The left panel plots posterior mean estimates of boundary separation $\alpha$ for each participant as a function of AQ score. The middle panel shows the distribution of plausible correlations $r$ between boundary separation and AQ in the sample. The right panel shows the distribution of the plausible population correlation, $\rho$. The 95% equal tail credible interval spanned 0 ($[-0.16, 0.11]$, Bayesian $p$-value = 0.34).

Figure S8. Plots showing the relationship between autism spectrum quotient (AQ) scores and change in drift rate, for Model 3.

The left panel plots posterior mean estimates of change in drift rate ($\delta(p_2) - \delta(p_1)$) for each participant as a function of AQ score. The middle panel shows the distribution of plausible correlations $r$ between change in drift rate and AQ in the sample. The right panel shows the distribution of the plausible population correlation, $\rho$. 