



This is a repository copy of *Neural correlates of response inhibition in early childhood: Evidence from a Go/No-go task.*

White Rose Research Online URL for this paper:  
<http://eprints.whiterose.ac.uk/119892/>

Version: Supplemental Material

---

**Article:**

Rahman, A.A., Carroll, D.J., Espy, K.A. et al. (1 more author) (2017) Neural correlates of response inhibition in early childhood: Evidence from a Go/No-go task. *Developmental Neuropsychology*, 42 (5). pp. 336-350. ISSN 8756-5641

<https://doi.org/10.1080/87565641.2017.1355917>

---

**Reuse**

Items deposited in White Rose Research Online are protected by copyright, with all rights reserved unless indicated otherwise. They may be downloaded and/or printed for private study, or other acts as permitted by national copyright laws. The publisher or other rights holders may allow further reproduction and re-use of the full text version. This is indicated by the licence information on the White Rose Research Online record for the item.

**Takedown**

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing [eprints@whiterose.ac.uk](mailto:eprints@whiterose.ac.uk) including the URL of the record and the reason for the withdrawal request.



[eprints@whiterose.ac.uk](mailto:eprints@whiterose.ac.uk)  
<https://eprints.whiterose.ac.uk/>

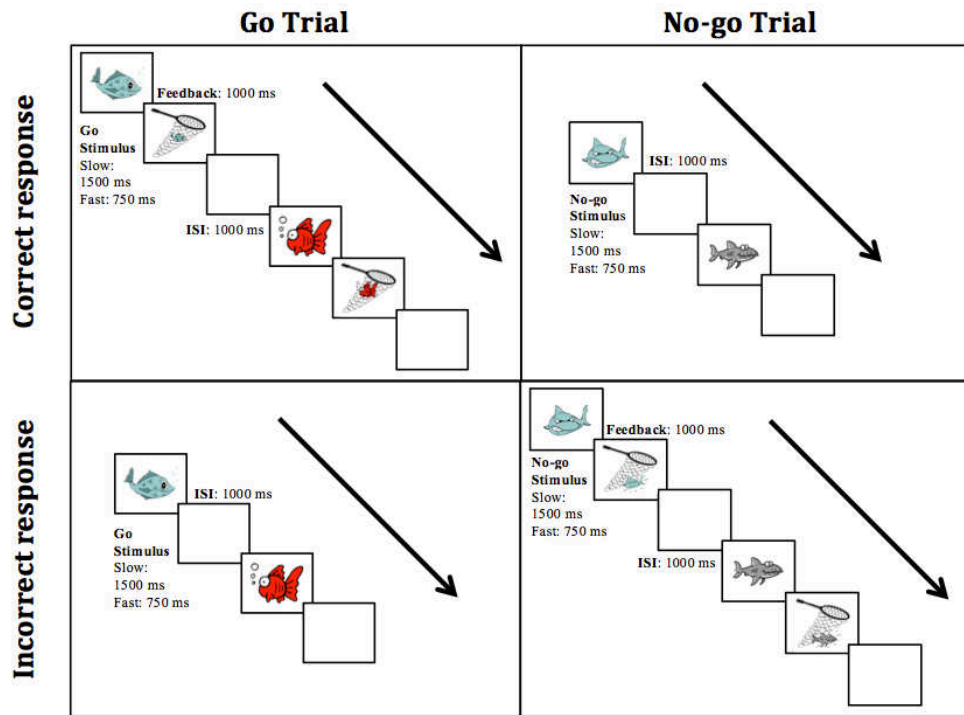
**Table 1:** Means and standard deviations (in parentheses) for accuracy (proportion correct) and reaction time (milliseconds) by trial type and speed condition.

	Go Trials		No-go Trials	
	Slow	Fast	Slow	Fast
<b>Accuracy</b>	.98 (.03)	.87 (.07)	.91 (.04)	.88 (.08)
<b>Reaction Time</b>	664 (100.6)	550 (43.3)	537 (151.4)	437 (63.6)

*Note.* Reaction times represent correct go trials and incorrect no-go trials.

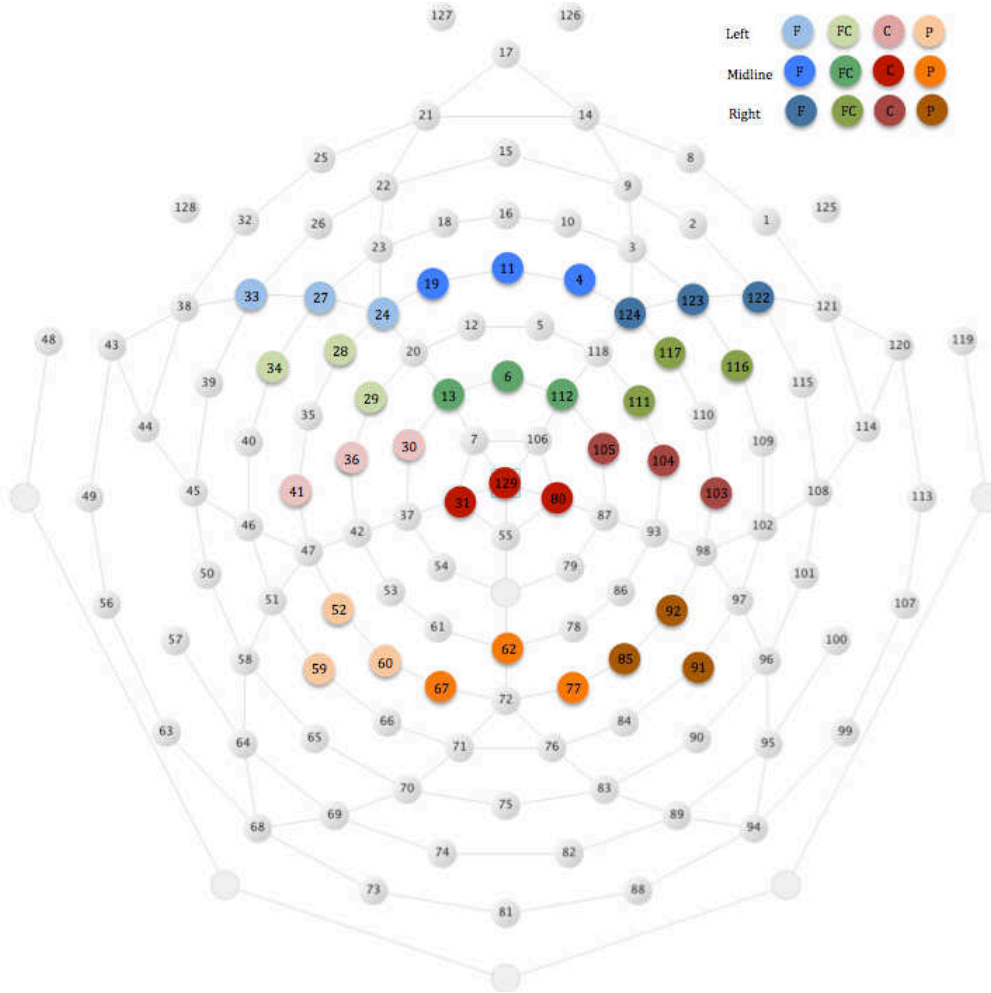
**Table 2:** Means and standard deviations (in parentheses) for ERP waveform characteristics (amplitude and latency), by trial type and speed condition.

Component Region Laterality	Go		No-go	
	Slow	Fast	Slow	Fast
<b>N2 Amplitude (<math>\mu\text{V}</math>)</b>				
<b>Frontal</b>				
Midline	-5.07 (4.67)	-5.71 (4.19)	-4.53 (5.57)	-4.91 (5.00)
Right	-5.18 (4.94)	-4.78 (2.82)	-4.52 (6.23)	-4.62 (3.39)
Left	-5.01 (5.47)	-5.72 (4.49)	-5.74 (7.02)	-7.74 (4.44)
<b>Frontocentral</b>				
Midline	-5.21 (4.99)	-4.81 (3.30)	-4.44 (6.26)	-4.63 (4.58)
Right	-4.13 (4.44)	-4.22 (3.33)	-2.85 (7.28)	-3.30 (3.66)
Left	-4.28 (4.33)	-4.89 (3.55)	-5.09 (6.34)	-6.93 (4.38)
<b>Central</b>				
Midline	-.97 (5.34)	-1.86 (3.49)	-1.99 (3.32)	-.68 (6.71)
Right	-.81 (3.80)	-2.07 (4.10)	-.39 (6.85)	-.31 (3.60)
Left	-1.67 (3.72)	-3.43 (3.43)	-1.90 (5.51)	-4.39 (3.49)
<b>N2 Latency (ms)</b>				
<b>Frontal</b>				
Midline	400 (67.1)	384 (71.2)	427 (63.1)	429 (51.6)
Right	378 (48.6)	347 (34.9)	408 (58.5)	355 (33.9)
Left	402 (68.9)	393 (75.8)	436 (66.7)	422 (58.2)
<b>Frontocentral</b>				
Midline	365 (44.1)	365 (44.9)	383 (53.2)	396 (58.9)
Right	361 (34.5)	348 (36.3)	378 (51.2)	351 (40.0)
Left	378 (63.1)	379 (66.7)	415 (67.8)	403 (62.5)
<b>Central</b>				
Midline	356 (46.7)	357 (25.6)	359 (48.6)	362 (29.6)
Right	363 (37.3)	347 (30.4)	370 (61.0)	346 (31.4)
Left	367 (45.5)	353 (34.4)	365 (30.3)	366 (51.3)
<b>P3 Amplitude (<math>\mu\text{V}</math>)</b>				
<b>Parietal</b>				
Midline	11.30 (8.83)	9.84 (6.16)	14.12 (7.73)	11.88 (5.06)
Right	12.71 (9.72)	9.38 (5.73)	15.14 (8.46)	12.96 (3.96)
Left	8.32 (4.41)	6.27 (5.91)	11.52 (6.99)	7.86 (5.78)
<b>P3 Latency (ms)</b>				
<b>Parietal</b>				
Midline	344 (45.5)	382 (84.3)	372 (75.1)	380 (65.8)
Right	398 (88.3)	401 (84.4)	383 (64.3)	411 (75.3)
Left	401 (63.6)	449 (101.9)	406 (57.4)	461 (84.6)

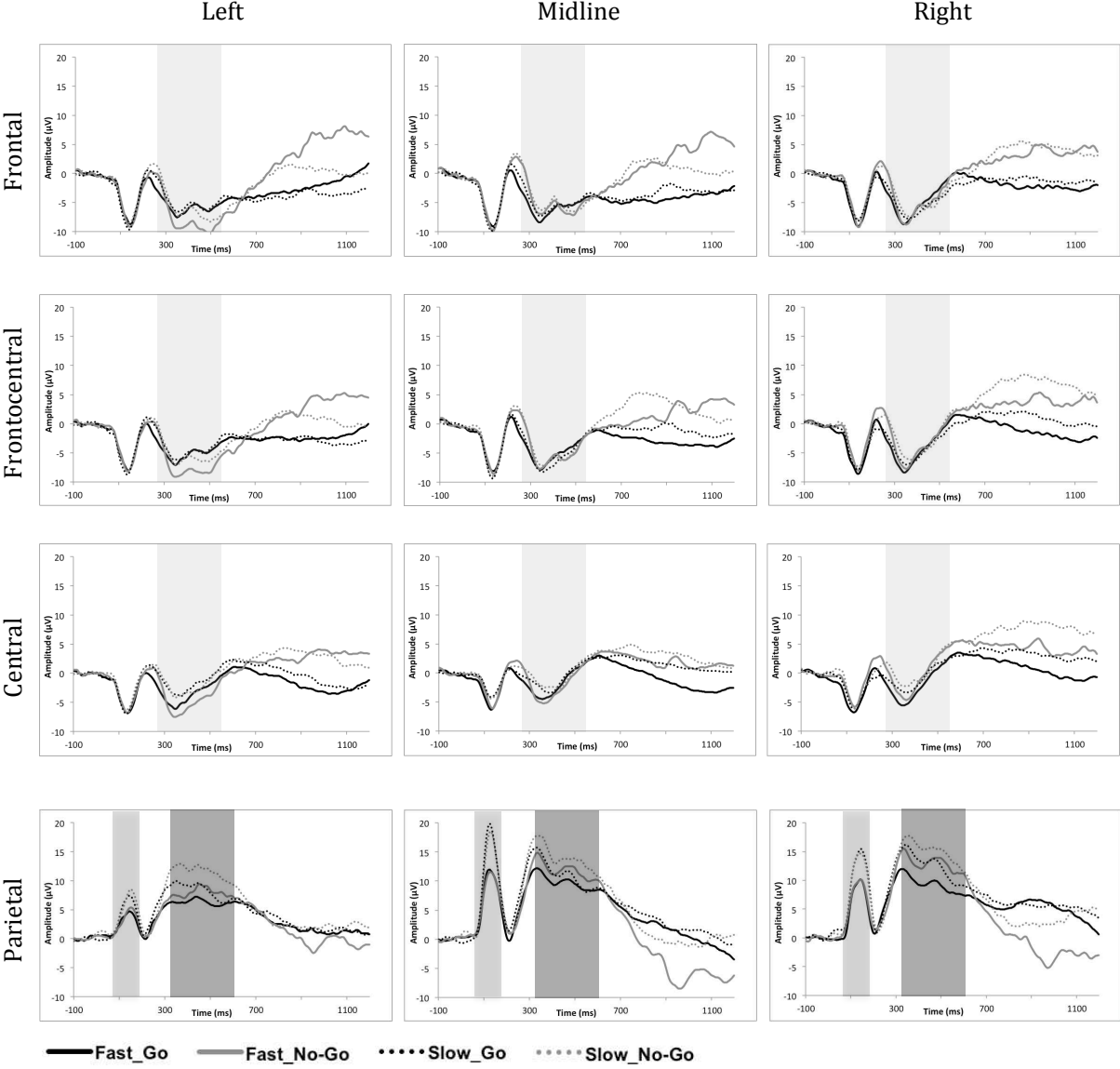


**Figure 1:** Outline of the Go/No-go task used in the study. Top-left: Correct Go trial (Hit), Top-right: Correct No-go trial (Correct miss), Bottom-left: Incorrect Go trial (Miss), Bottom-right: Incorrect No-go trial (False alarm). In the Slow condition, stimulus was displayed for up to 1500 ms and in the Fast condition, stimulus was displayed for up to 750 ms.

# RESPONSE INHIBITION IN EARLY CHILDHOOD



**Figure 2:** Layout illustrating the electrodes that were included in the ERP analyses at frontal (F), frontocentral (FC), central (C) and parietal (P) regions.





**Figure 3:** Grand-averaged ERP waveforms separated by region (Frontal, Frontocentral, Central and Parietal) and laterality (Left, Midline and Right). Time windows selected for the analyses of the N2, P1 and P3 are displayed in different shades of gray. N2 (light gray, top three panels) was analyzed between 260 – 560 ms after stimulus onset at frontal, frontocentral and central electrode sites. P1 (light gray, bottom panel) was analyzed between 60 – 150 ms and P3 (dark gray, bottom panel) was analyzed between 310 – 610 ms after stimulus onset at parietal electrode sites.