Deficits in inhibitory force control in young adults with ADHD.


doi: 10.1016/j.neuropsychologia.2017.03.012. [Epub ahead of print]

Abstract

Poor inhibitory control is a well-established cognitive correlate of adults with ADHD. However, the simple reaction time (RT) task used in a majority of studies records performance errors only via the presence or absence of a single key press. This all-or-nothing response makes it impossible to capture subtle differences in underlying processes that shape performance. Subsequently, all-or-nothing tasks may underestimate the prevalence of executive function deficits in ADHD. The current study measured inhibitory control using a standard Go/No-Go RT task and a more sensitive continuous grip force task among adults with (N = 51, 22 female) and without (N = 51, 29 female) ADHD. Compared to adults without ADHD, adults with ADHD made more failed inhibits in the classic Go/No-Go paradigm and produced greater and more variable force during motor inhibition. The amount of force produced on failed inhibits was a stronger predictor of ADHD-related symptoms than the number of commissions in the standard RT task. Adults with ADHD did not differ from those without ADHD on the mean force and variability of force produced in Go trials. These findings suggest that the use of a precise and continuous motor task, such as the force task used here, provides additional information about the nature of inhibitory motor control in adults with ADHD.