Beating Their Chests: University Students With ADHD Demonstrate Greater Attentional Abilities on an Inattentional Blindness Paradigm

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Objective: Adults diagnosed with attentional deficit disorder (ADHD) are easily distracted in many tasks. Yet ADHD performance on inattentional blindness (IB) tasks has not been examined. Such investigation may aid in discriminating between 3 ADHD models: the neurological model, the perceptual load theory, and the “hunter versus farmer” hypothesis. Method: Distractibility was assessed in ADHD and non-ADHD college students using the MOXO task that involves detection of a single attended stimulus that repeatedly appears in the same place and in the well-known IB “gorilla” video which involves tracking of a stimulus moving at a fast pace in a dynamic, complex manner. Results: ADHD college students showed increased distractibility in the MOXO task. By contrast, they performed better than controls in the attended channel of the IB task, while they were also better at noticing the unattended stimuli and thus exhibiting little-to-no inattentional blindness. Conclusions: As no attentional tradeoffs were evident in the IB task, it appears that the results are most consistent with the “hunter versus farmer” hypothesis, which postulates that ADHD individuals have an alternative cognitive style which is less equipped to deal with detection of repeated stimuli while comprising advantages in the tracking of stimuli moving in a fast dynamic manner.

Keywords: attentional deficit hyperactivity disorder, ADHD, attention, inattentional blindness, hunter versus farmer hypothesis, distractors

A recent, well-publicized court case concerned a policeman (Officer Conley) who, while focusing on chasing a suspect, was “blind” to the beating of a colleague (Michael Cox) who he ran right past. He was subsequently convicted of perjury and obstruction of justice. In an empirical reenactment of the chase, 40% of subjects similarly failed to detect the staged “beating” (Chabris, Weinberger, Fontaine, & Simons, 2011).

While the officer’s behavior horrified laymen, cognitive psychologists have known about this phenomenon of inattentional blindness (IB) for years. To the best of our knowledge, IB tasks have not been examined with adults diagnosed with attention deficit hyperactive disorder (ADHD). In addition to real world implications, assessing IB in subjects with ADHD may help to distinguish between three different theoretical accounts.

IB was defined by Mack and Rock (1998) as a failure to notice salient and foveated stimuli due to attention being engaged elsewhere, IB is a normal phenomenon occurring in people without cognitive deficits of any kind (Neisser, 1967). Perhaps the most famous IB task is the “gorilla” video (e.g., Simons & Chabris, 1999; Simons, 2010a), in which participants monitor ball passing in one of two teams, and approximately 50% of them were blind to a foveated “gorilla” walking across the court, standing still and beating its chest, and exiting (Simons & Chabris, 1999; Memmert, 2006).

The recent DSM-V (APA, 2013) treats ADHD as a single diagnostic category with different subtypes. ADHD diagnosis requires a persistent pattern of inattention symptoms (e.g., easily distracted, difficulty sustaining attention, forgetful) and/or hyperactive/impulsive symptoms (e.g., “on the go,” interrupts, fidgets/squirms in seat). ADHD prevalence for children tends to be 4–18%; for example, it is 10% in the United States. (Faraone, Sergeant, Gillberg, & Heideman, 2003) and 12% in Israel (Cohen et al., 2013). Recent reports suggest that ADHD symptoms (Das, Cherbuin, Eastal, & Anstey, 2014) and prevalence (e.g., 5% in the United States, Kessler et al., 2006) may decrease with age. Nonetheless, difficulties in adult ADHD individuals may be severe and are typically manifest in academia, employment, organization, and time management (Kessler et al., 2006). ADHD adults may also experience other difficulties such as anxiety and depression (Michielsen et al., 2013).

Several studies reported that ADHD individuals are more distracted than non-AHDH individuals. For example, in response to...