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**Overview:**

This is a design draft for a replication of Cohen et al. 2011. Past research has shown that because natural scenes can be perceived during difficult attention tasks there is therefore evidence of “awareness” without “attention”. Cohen et al. show evidence that this is not true—and that inattentional blindness can occur for natural scenes. Specifically: during dual task conditions inattentional blindness occurs when the main task is sufficiently difficult. They extend this to say that attention needs to be “fully engaged” to impair awareness of scenes.

In a current project we are exploring whether attention and awareness can be quantified as functions of neural activity in stimulus specific regions. Our goal is to show that the results in past research can be reconciled with the results of Cohen et al. Attention and awareness are unlikely to be consistent and dissociable processes, but rather interact depending on several factors including task difficulty and neural overlap between stimuli.

This project will replicate, in an affordable, easy to repeat, and large-scale manner the results of Cohen et al. without diluting their experiment.

**Experiment:**

The main dependent measurement is the visibility and awareness of a scene presented for 67 ms in the background of a demanding attention task. Cohen et al. use a motion tracking task and an RSVP task for the attention task, due to the ease of adjusting the difficulty of each task. For our initial replication we will focus on motion tracking. Participants will perform the motion-tracking task for four trials during which mask images are shown in the background. On the fifth key trial the background is replaced near the end of the trial with a natural scene including either a vehicle or animal. Participants are probed for awareness of the scene and its contents immediately. Following the main task, participants will perform several trials attending either to the motion tracking task or the background task separately, as a baseline for performance.

**Stimuli:**

Cohen, Michael a, George a Alvarez, and Ken Nakayama. “Natural-Scene Perception Requires Attention.” *Psychological Science* 22, no. 9 (September 2011): 1165–72. doi:10.1177/0956797611419168.