

Complex skill  
behavior is affected  
by the hierarchical  
control of the outer  
and i...

[Psychology](#)



**ASSIGN  
BUSTER**

The paper "Performance and Predictability of a Task Are Affected by either the Inner or Outer Loop" is a perfect version of a research paper on psychology. The research wants to prove that complex skill behavior is affected by the hierarchical control of the outer and inner loops and may lead to bettering or worsening performance or the task at hand. All this is based on the hierarchical control theory which explains that there are key differences between the outer and inner loop and which affects the attention on complex skills behavior of whatever nature. Both of these loops are affected by the attention offered by the person. There are two premises that the research aims to prove which are that performance that is based on the outer loop gets better when more attention is given to the task being performed and worsens with less attention and the other is that performance that is based on the inner loop becomes better when less attention is paid to the task and worsens when more attention is provided to the task at hand which in this case is driving.

## Method

There were 27 participants, 16 females and 11 males aged between 19 and 43 years, all of whom were from the University of Utah and had a valid driving license and normal vision. They all had a driving record of 7 years and an average of 10,000 miles per year. The data was collected using a fixed-based simulator on a road that had three lanes and a speed of 68 miles per hour. There was a delayed digit recall n-back task that was used to measure the cognitive workload. In order to account for the unpredictability that was caused by a crosswind, entropy-based measures were used and

<https://assignbuster.com/complex-skill-behavior-is-affected-by-the-hierarchical-control-of-the-outer-and-inner-loops-and-may-lead-to-bettering-or-worsening-performance-or-the-task-at-hand/>

which were derived from information theory. The participants had to complete standardized training protocol and achieve a score of at least 85%. Three levels (single task, 0-back, and 2-back) were used to examine the cognitive workload and give as accurate as possible responses. There were three levels of entropy: low, medium and high (Medeiron-Ward, Cooper and Strayer, 2014). Results

Results indicate that there was no effect on cognitive workload, a positive effect on the wind entropy and positive interaction between workload and wind entropy. Lane position variability increased with an increase in cognitive workload and wind entropy. Lane position variability decreased with low entropy and increased with high entropy all of these from the single task to the 0-back and then to the 2-back condition (Medeiron-Ward, Cooper and Strayer, 2014).

## Discussions

The research results indicate that the performance and predictability of a task are affected by either the inner or outer loop. The results also supported the premises mentioned above. The research results also indicate that those drivers that were distracted and not fully focused on driving maintained their lane and arrived safely to their destination. According to the hierarchical control theory, it is evident that the performance of a task increases or decreases depending on the level of attention provided. These results do not, however, mean that people should not be careful or pay attention when driving because as has been mentioned, the outcome of attention leads to

performance and can be affected by either outer or inner loop meaning that the performance can increase or decrease with or without attention.