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# Workload perception in drone flight training simulators

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### Highlights

- Association exists between Workload Perception and performance in drone flight simulator tasks.
- AWT a NASA TLX adaptation test showed high reliability, moderate sensitivity and predictive value.
- Mental Demand had higher correlations with errors and time delay during flight simulation tasks.

Abstract

Workload perception was measured in a drone flight training Simulator computerized situation. There has been increasing research in recent years on the topic of Remotely piloted aircrafts (RPA). Eleven participants were tested for workload perception during a drone flight simulator training. Reliability, sensitivity and correlations were studied for the workload scale and its relationship with the simulator training tasks. Overall, there were clear effects of mental demand as showed in the workload perception during the training tasks. Reliability for the workload scale showed good score and sensitivity showed mental demand as the most important factor compared to the other parameters measured obtaining highest correlations with landing tasks and number of errors. In our results, we have seen how the AWT (adapted from NASA-TLX) showed good sensitivity in assessing the mental burden of participants. In our research, participants scoring higher in the mental demand subscale showed greater difficulty finishing training tasks, and also showed longer time delays in performing both training sections of the simulation. These types of tools measuring workload perception and virtual training systems can be used in future research, to see how this cognitive aspect affects piloting skills and its possible safety and training implications.



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## Keywords

Flight simulators; Workload; Training; Drone

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