

# **Cognitive Performance Analysis of Deployed US Army Unmanned Aerial Surveillance Operators**

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The current Unmanned Aerial Surveillance (UAS) Fighter Management Program (FMP) Standard Operating Procedures (SOP) in the US Army may inadvertently contribute to sub-optimal work-rest cycles and ultimately sub-optimal operational effectiveness while deployed. The purpose of this research is to analyze the cognitive performance of deployed US Army UAS operators. The study relies upon observational data consisting of daily sleep data, physiological data, and cognitive test results collected from Soldiers during a 90-day deployment. Descriptive statistical analysis permits visualizing the data over time to identify trends through an operational deployment. Normalized cognitive test data relative to baseline scores allows the development of linear models to isolate significant predictors from the sleep and physiological data sets. While no significant statistical relationships were discovered due to the small sample size, we observe that the majority of Soldiers experienced a decrease in spatial processing, target identification, and memory at or before deployment day 50, as well as some significant decline during the deployment as a whole. These findings can be used to anticipate cognitive decline and support policy recommendations in order to mitigate the risk associated with deteriorating cognitive performance in deployed UAS operators.

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