

DAGSI Research Topic

1. **Research Title:** Effects of fatigue on multitasking behavior and performance
2. **Individual Sponsor:**

Dr. Elizabeth Fox, AFRL 711 HPW/RHWEM
2610 Seventh Street, Bldg. 441
WPAFB, OH 45433
elizabeth.fox.9@us.af.mil

3. **Academic Area/Field and Education Level**

Human Factors Psychology/Engineering (MS or PhD level)

4. **Objectives:** The study aims to understand how prolonged task engagement influences cognitive load, task efficiency, and interaction with automated systems, providing insights into optimizing task management strategies in complex, automated environments.
5. **Description:** The increasing integration of automation and new technology in the complex work environments of Airmen has transformed how tasks are managed and performed. However, as individuals are required to juggle multiple tasks over extended periods, the impact of time on task becomes a critical factor in determining overall performance and efficiency. This research will explore the relationship between time on task and ability to manage and perform multiple tasks in conjunction with automated systems.

Previous studies have shown that prolonged task engagement can lead to cognitive fatigue, reduced attention, and diminished performance, especially in environments requiring the simultaneous management of various tasks. Automation, while designed to assist and streamline operations, introduces its own set of challenges, such as the potential for over-reliance and compliancy.

This study will seek to fill a gap in the literature by examining how time on task affects the dynamics between human operators and automated systems. By understanding these effects, the research aims to provide actionable insights for designing work environments and task management strategies that optimize performance and maintain high levels of efficiency, even during prolonged periods of task engagement.

6. **Research Classification/Restrictions:** N/A
7. **Eligible Research Institutions:** Wright State University

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