Circadian rhythms, fatigue, and manpower scheduling

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Résumé ou extrait : The Benefield Anechoic Facility (BAF), Edwards Air Force Base, California, is the largest anechoic military test facility in the world for testing developmental and operational electromagnetic equipment. Supervisors must often extend employees' work hours considerably in order to meet mission (i.e., test) timelines. Supervisors at the BAF currently have no accurate means of identifying when an employee's work performance is at risk of decreasing due to sleep deprivation, unbalanced circadian rhythms, and/or fatigue. Therefore, the focus of this research was to create a method for supervisors to effectively gauge the work performance levels of employees placed at risk for sleep deprivation. Thus, individual sleep data were collected for one week on eight volunteers at the BAF using assigned sleep monitoring devices known as Actigraphs. Extensive questionnaires were developed to determine volunteers' sleep pattern, demographics, and sleep history. For analysis Sleep, Activity, Fatigue, and Task Effectivenesspurposes, the Fast Avoidance Scheduling Tool (FAST), based on the Sleep, Activity, Fatigue, and Task Effectiveness (SAFTE) model was used to determine how the performance level of each volunteer differed based on the amount of sleep acquired. The results demonstrated that as the week progressed and the volunteers' sleep decreased, the effectiveness of their work performance correspondingly decreased to a level where the safety of the test and the volunteers were both at risk

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