

## Extended workdays: Effects on performance and ratings of fatigue and alertness

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The present investigation provided a laboratory test of long workdays and served as an initial step in developing a field-test battery that is sensitive to fatigue. Six subjects worked both a 12-h/4-day workweek and an 8-h/6-day week at a data-entry job simulation. Before and after the first and last days of each week, they completed a battery of brief tests measuring cognitive, perceptual-motor, task-sharing, motor, and sensory capacities, as well as subjective feelings. Results suggest that the 12-h/4-day week was more fatiguing than the 8-h/6-day week. In the data-entry job, it was easier to improve performance across the 8-h/6-day week. This result suggested that the fatigue of the 12-h days slowed the rate of improvement across the week. With respect to the test battery, two cognitive tasks (grammatical reasoning and digit addition) and several self-report scales also reflected greater fatigue in the 12-h/4-day week. Performance efficiency decreased and reports of drowsiness and lack of concentration increased from the beginning to the end of the final 12-h workday. On the basis of these results, it was concluded that the test battery has utility for the assessment of the potential fatigue effects of long workdays in actual work settings.

Employee demands for increased "usable" leisure time and evolving industrial needs for longer work shifts have stimulated interest in alternatives to the common 8-h/5-day workweek (e.g., Hedges, 1971). Alternative schedules often include work shifts longer than 8 h because the 5-day week is "compressed" into 4 days or fewer or because overtime is required. The increased use of longer workdays under such schedules has led to concerns about reduced job efficiency and related problems involving safety and health hazards attributable to cumulative fatigue. The literature on work scheduling (see Alluisi & Morgan, 1982, for a review) provides only a few clues about the effects of long workdays on performance efficiency or individual well-being.

Studies examining the effects of the compressed workweek have reported inconsistent changes (i.e., increases in some cases and decreases in others) in absenteeism (e.g., Campbell, 1980), worker satisfaction (e.g., Nord

& Costigan, 1973), and productivity (Ivancevich, 1974; Ivancevich & Lyon, 1977). Furthermore, it has been suggested that, in situations in which production levels have been maintained following conversion to a compressed schedule, this may have been at the expense of increased fatigue as reported by workers (Hodge & Tellier, 1975). In addition, there are few data on how the workers' subjective reports related to actual behavioral measures of work efficiency or safety. There are some reports (e.g., Ellingstad & Heimstra, 1970; Grandjean, Wotzka, Schaad, & Gilgen, 1971) of demonstrated declines in performance across a work shift of 8 or more hours, but these studies have not systematically compared different work schedules in terms of days worked or hours worked per day. Other researchers (see Alluisi & Morgan, 1982, for a review) have compared performance during various work schedules requiring 12 or 16 h of work per day. However, these studies usually have involved atypical work-rest cycles, such as 4 h on duty/4 h off duty, 4 h on/2 h off, or 6 h on/2 h off, which were designed to simulate military operations. The alteration of the normal sleep routine during such short work-rest schedules makes it difficult to apply the results of these studies to the long work-rest cycles, such as 10 h on/14 h off, common in some civilian occupations.

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# Effects Of Extended Workdays

**Robert A. Roe, Mary J. Waller, Stewart  
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## Effects Of Extended Workdays:

The Effects of Extended Workdays Edith J. C. Josten,2002      *Extended Workdays in Mining and Other Industries* J. C. Duchon,Thomas Jay Smith,1994      **Improving Safety at Small Underground Mines** ,1994      **Encyclopaedia of Occupational Health and Safety: Hazards** Jeanne Mager Stellman,1998      **Patient Safety and Quality: sect.IV: Working conditions and environment** Ronda Hughes,2008      The Impacts of the Department of Transportation's Commercial Driver Hours-of-service Regulations United States. Congress. House. Committee on Transportation and Infrastructure. Subcommittee on Highways and Transit,2013      The Handbook of Operator Fatigue Gerald Matthews,P.A. Hancock,2017-11-01 Fatigue is a recognized problem in many facets of the human enterprise It is not confined to any one area of activity but enters all situations in which humans have to perform for extended intervals of time Most problematic are the circumstances in which obligatory action is continuous and the results of failure are evidently serious or even catastrophic Therefore the modern media especially highlights fatigue related failures in industries such as transportation materials processing and healthcare It can be and indeed is no coincidence that most of the spectacular failures in process control that have resulted in the world s largest industrial accidents have occurred in the small hours of the morning when the circadian rhythm is lowest and operator fatigue itself peaks While there have been legislative efforts made at state federal and international levels to regulate working hours of employees the appropriate implementation of such legislation is still a long way off The Handbook of Operator Fatigue provides a comprehensive account of the subject to serve as the definitive reference work for researchers students and practitioners alike The volume features 30 chapters written by experts from around the world to address each important facet of fatigue including the scale of the fatigue problem Section I the nature of fatigue Section II how to assess fatigue Section III the impact of fatigue on health Section IV fatigue in the workplace Section V the neurological basis of fatigue VI sleep disorders VII and the design of countermeasures to fatigue VIII

*The Evolution of Employment, Working Time and Training in the Mining Industry* ,2002 Examines trends from 1985 2001

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**The Impact of Regulation on U.S. Manufacturing** United States. Congress. House. Committee on Government Reform. Subcommittee on Regulatory Affairs, 2005 Tigers discusses the life of tigers and profiles different types of tigers along with providing facts about habitat hunting practices diet and more Also includes records on tigers

**Human Mental Workload: Models and Applications** Luca Longo, Maria Chiara Leva, 2020-11-23 This book constitutes the refereed proceedings of the 4th International Symposium on Human Mental Workload Models and Applications H WORKLOAD 2020 held in Granda Spain in December 2020 The volume presents one keynote paper as well as 13 revised full papers which were carefully reviewed and selected from 22 submissions The papers are organized in two topical sections on models and applications The conference was held virtually due to the COVID 19 pandemic

*Ergonomics* Katrin Kroemer Elbert, Henrike B. Kroemer, Anne D. Kroemer Hoffman, 2018-10-04 Ergonomics How to Design for Ease and Efficiency Third Edition updates and expands this classic guide including the latest essential themes and regulations An

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