



Effects of a Cognitive Ergonomics Workplace Intervention on Cognitive Strain

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Received date: 6 July, 2021; Accepted date: 21 July, 2021; Published date: 28 July, 2021

Editorial Note

Human factors and ergonomics is that the application of psychological and physiological principles to the engineering and style of products, processes, and systems. The goal of human factors is to scale back human error, increase productivity, and enhance safety and luxury with a selected specialize in the interaction between the human and therefore the thing of interest. The sector may be a combination of various disciplines, like psychology, sociology, engineering, biomechanics, industrial design, physiology, anthropometry, interaction design, visual design, user experience, and interface design. In research, human factors employ the methodology to review human behavior in order that the resultant data could also be applied to the four primary goals. In essence, it's the study of designing equipment, devices and processes that fit the physical body and its cognitive abilities. The 2 terms "Human factors" and "Ergonomics" are essentially synonymous.

Human factors are used to satisfy the goals of occupational health and safety and productivity. It's relevant within the design of such things as safe furniture and easy-to-use interfaces to machines and equipment. Proper ergonomic design is important to stop repetitive strain injuries and other musculoskeletal disorders, which may develop over time and may cause long-term disability. Human factors and ergonomics are concerned with the "fit" between the user, equipment, and environment or "fitting employment to a person". It accounts for the user's capabilities and limitations in seeking to make sure that tasks, functions, information, and therefore the environment suit that user. To assess the fit between an individual and therefore the used technology, human factors specialists or ergonomists consider the work being done and therefore the demands on the user; the equipment used, and therefore the information used. Ergonomics draws on many disciplines in its study of humans and their environments, including anthropometry, biomechanics, engineering, industrial management, industrial design, information design, kinesiology, physiology, psychology, industrial and organizational psychology, and space psychology.

Physical ergonomics cares with human anatomy, and a few of the anthropometric, physiological and bio mechanical characteristics as

they relate to physical activity. Physical ergonomic principles are widely utilized in the planning of both consumer and industrial products for optimizing performance and to preventing / treating work-related disorders by reducing the mechanisms behind mechanically induced acute and chronic musculoskeletal injuries / disorders. Risk factors like localized mechanical pressures, force and posture during a sedentary office environment cause injuries attributed to an occupational environment. Physical ergonomics is vital to those diagnosed with physiological ailments or disorders like arthritis (both chronic and temporary) or carpal tunnel syndrome. Pressure that's insignificant or imperceptible to those unaffected by these disorders could also be very painful, or render a tool unusable, for those that are. Many ergonomically designed products also are used or recommended to treat or prevent such disorders, and to treat pressure-related chronic pain.

One of the foremost prevalent sorts of work-related injuries is musculoskeletal disorder. Work-Related Musculoskeletal Disorders (WRMDs) end in persistent pain, loss of functional capacity and work disability, but their initial diagnosis is difficult because they're mainly supported complaints of pain and other symptoms. per annum , 1.8 million U.S. workers experience WRMDs and nearly 600,000 of the injuries are serious enough to cause workers to miss work. Certain jobs or work conditions cause a better rate of worker complaints of undue strain, localized fatigue, discomfort, or pain that doesn't get away after overnight rest. These sorts of jobs are often those involving activities like repetitive and forceful exertions; frequent, heavy, or overhead lifts; awkward work positions; or use of vibrating equipment. The Occupational Safety and Health Administration (OSHA) have found substantial evidence that ergonomics programs can cut workers' compensation costs, increase productivity and reduce turnover rate. Mitigation solutions can include both short term and long-term solutions. Short and long-term solutions involve awareness training, positioning of the body, furniture and equipment and ergonomic exercises. Sit-stand stations and computer accessories that provide soft surfaces for resting the palm also as split keyboards are recommended. Additionally, resources within the HR department are often allocated to supply assessments to employees to make sure the above criteria are met. Therefore, it's important to collect data to spot jobs or work conditions that are most problematic, using sources like injury and illness logs, medical records, and job analyses.

As a design philosophy, cognitive ergonomics are often applied to any area where humans interact with technology. Applications include aviation, transportation (e.g., collision avoidance), the health care system (e.g., drug bottle labeling), mobile devices, appliance interface design, product design, and atomic power plants. The main target of cognitive ergonomics is to be simple, clear and "easy to use" and accessible to everyone. Software's are designed to assist make better use of this. Its aim is to style icons and visual cues that are "easy" to use and performance by all.

Citation: Alan Hedge (2021) Effects of a Cognitive Ergonomics Workplace Intervention on Cognitive Strain. J Ergon Res 4:4.