

EFFECTS OF THERMAL STRESS ON HUMAN PERFORMANCE

Ann Enander

Swedish Defence Research Establishment

Address for reprints:

Försvarets forskningsanstalt
Inst 55
Karolinen
651 80 KARLSTAD

Experimental evidence indicates that even relatively mild thermal stress may affect human performance. Tasks requiring manual dexterity and muscular strength are clearly impaired under cold exposure, while decrements in vigilance performance and endurance are well-documented effects of heat stress. There *is*, however, a considerable variation in results regarding the effects of thermal stress, which may to some extent be attributable to complex interactions between exposure conditions, task characteristics and individual factors.

The present paper provides a brief survey of effects of heat and cold stress on physical and psychological performance. Recent results particularly regarding the effects of thermal stress on psychomotor and mental performance are presented. The role of individual characteristics and training experience is discussed. The relevance of some of the earlier research work is evaluated in the light of the practical and theoretical implications of more recent findings.