

A LONGITUDINAL STUDY OF THE IMMUNOSUPPRESSIVE  
EFFECTS OF JOB STRESS

Frank Baker, Ph.D.\*, Joseph Margolick, M.D., Ph.D.\*,  
Fusao Hirata, M.D., Ph.D.\*\*\*, Joseph Hurrell, Ph.D.\*\*\*,  
Gerald Henningsen, DVM\*\*\*, Jacqueline Agnew, Ph.D.\*,  
Barbara Curbow, Ph.D.\*, and Charlene Douglas, Ph.D.\*

\* The Johns Hopkins School of Hygiene & Public Health  
\*\* Wayne State University and

\*\*\* The National Institute for Occupational Safety & Health

A growing body of immunologic evidence supports a causal relationship between stressful life events and susceptibility to infectious and malignant disease. Moreover, there is clear evidence of a link between even commonplace stressors and direct measures of immunocompetence. These studies suggest that stressful elements of the job environment may also elicit immunosuppressive changes and thereby influence the health status of workers. While many have theorized that such a mechanism may underlie reported associations between major stressful job experiences and subsequent ill-health, until now little research has attempted to link psychological stressors encountered in the workplace to changes in immune functioning. Recent developments in immunological as well as neuroendocrine tests and the collection of data in field settings have made it possible and reasonable to study the immunosuppressive effects of psychological job stress.

A longitudinal pilot of the immunosuppressive effects of psychological job stress was undertaken for the National Institute for Occupational Safety and Health (NIOSH) through a contract with the Centers for Disease Control. The purpose of this initial study was to evaluate psychological and immunological measures as indicators of change related to job stress. A group of 40 nurses were followed over an 8 month period with questionnaires being completed and saliva samples being collected each week, and blood samples being obtained each month. The subjects were randomly selected from a volunteer population of 514 nurses who had completed an earlier questionnaire indicating their perceptions of job stress and who had either objectively-defined high or low stress jobs. Ten subjects were selected from each of four groups characterized by high or low objective stress and high or low perceived stress. The weekly survey forms included the NIOSH job stress questionnaire and other psychological measures. A number of different immunologic assays were performed on the samples of blood and saliva. Relationships between the questionnaire data and the blood and saliva results are presented as they relate to the use of these measures and this approach for a larger and more definitive field study.



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**STRESS IN THE  
90'S:  
A CHANGING  
WORKFORCE IN  
A CHANGING  
WORKPLACE**

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**CONFERENCE CHAIRS**

**GWENDOLYN PURYEAR KEITA, PH.D.  
AMERICAN PSYCHOLOGICAL ASSOCIATION**

**STEVEN L. SAUTER, PH.D.  
NATIONAL INSTITUTE FOR  
OCCUPATIONAL SAFETY AND HEALTH**

**CONFERENCE COORDINATOR**

**SONJA M. PRESTON, MSW  
AMERICAN PSYCHOLOGICAL ASSOCIATION**

**CONFERENCE ASSISTANT**

**MARISA DE LA CRUZ  
AMERICAN PSYCHOLOGICAL ASSOCIATION**