

Item ID Number 01797

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Report/Article Title Researchers Say Stress Affects Immune System

Journal/Book Title The Washington Post

Year 1983

Month/Day June 27

Color

Number of Images 1

Description Notes Alvin L. Young filed this item under "Vietnam Veterans Twin Study."

Researchers Say Stress Affects Immune System

By John Wilke

Washington Post Staff Writer

A Harvard Medical School team reports it has found evidence linking stress and the body's ability to fight disease.

Researchers at Harvard, Tufts University and Beth Israel Hospital in Boston found a systematic drop in the immune system effectiveness of dental students when they were under considerable stress during a year-long study.

Their results were published in Saturday's issue of *The Lancet*, a British medical journal.

"The study substantiates the theory that stress affects the human immune system," said Dr. John B. Jemmott, co-author of the report. This relationship has been shown in animals, but earlier human studies had been less conclusive, he said.

Personality was identified as a significant factor in how an individual's immune system

responds to stress, the researchers said, suggesting that people who cope better with job, school and emotional challenges are less likely to show lowered levels of a substance that is important to the body's ability to ward off illness.

Levels of immunoglobulin-A (IGA), an antibody found in human secretions, rose and fell relative to the degree of stress the students experienced during major exams, the researchers reported. In the mouth, immunoglobulin-A fights viruses and bacteria that can cause tooth decay, colds, bronchitis and other respiratory-tract diseases.

The subjects, 48 men and 16 women, were first-year students in a demanding dental surgery program.

Levels of IGA were tested in saliva samples five times during the school year: in September before classes began; in November, April and June during intensive examination weeks, and in July during summer recess.

All subjects showed lower levels of IGA during exams than at the start of the year, the study found. Also, individuals found by standardized personality tests to be competitive tended to show lower levels of IGA than their less competitive colleagues.

"Not only does stress affect one's ability to fight disease, but how one interprets the stressful situation, as determined by one's personality, is also important," said Dr. Herbert Benson, chief of Beth Israel's department of behavioral medicine. "What stresses one person may not stress another," he said.

Two earlier studies suggested the possibility of immune-system malfunction under stress by comparing the infection-fighting capability of white blood cells taken from normal and severely stressed subjects. The test subjects included persons whose spouses had died recently and astronauts in the Skylab space program.