



Lifeshirt® System Enables First Non-Invasive, Real-Life Study On Stress Among Students During Learning Processes

VENTURA, Calif. — September 14, 2004 — For the first time, researchers, using the LifeShirt continuous ambulatory monitoring system from VivoMetrics®, have been able to study the affects of stress in college students in their real world learning environment. The study, conducted at the Washington State University Intercollegiate College of Nursing, used the LifeShirt System to understand how stress and anxiety affect students during the learning process.

The research focused on two test groups. The first isolated 20 participants, each in an individual room with a computer. The second placed test subjects in a single room with individual computers and an instructor. All of the participants wore a LifeShirt, which allowed researchers to produce several key findings:

- The LifeShirt instantaneously measured changes in respiration and heart rate, detecting differences in anxiety levels among the two groups of students
- Using data gathered by the LifeShirt, researchers identified a period of "anticipatory" stress, which previously had not been identified as a part of the learning process.
- Isolated students experienced more stress after a relaxation period, compared to those working in a group.

"The LifeShirt enabled us to look at stress in new ways that were never available to us before," said Deana Molinari, PhD, a Registered Nurse and faculty personnel at WSU Intercollegiate College of Nursing who conducted the study. "Unlike traditional periodic lab-based testing, the LifeShirt's comprehensive, continuous form of monitoring provides a complete picture of what is actually happening to a test subject. Simply put, the LifeShirt was pivotal in my research, and I think it will change the way educational research is conducted in the future."

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