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Student's research accepted at conference

Hayley Ringle, Tribune

As a senior at Chandler's Hamilton High School, Nancy Leo is already working on renowned scientific studies.

Her science research project last school year on the effects of stress was one of 18 projects selected to present at the Sixth World Congress on Stress in Austria. She will present her research in October to other scientists who study stress.

"If a high-schooler can be accepted to this, who says a high-schooler can't find a cure for cancer?" said Leo, 17, of Chandler. "Anyone can do it if they really want to."

Leo started researching in the eighth grade at the New York Academy of Medicine. She moved to the East Valley and continued to express her love for research through Hamilton's honors science research class, which allows students to develop research projects on subjects of their choice.

"Through research, you can actually make a difference," Leo said. "It opens up your eyes that anyone can make a difference."

Leo developed the project as a junior, working with mentors at Arizona State University's Department of Kinesiology. Her study examines the changes in heart rate variability and salivary cortisol that occur during laboratory stressors and biofeedback.

She put 14 people through a series of stressors while measuring their heart rates, blood pressure and salivary cortisol.

Leo found that acute psychological stress resulted in decreased heart rate variability and increased salivary cortisol. The response to psychological stress can be altered significantly through biofeedback — the technique of using monitoring devices to track autonomic bodily functions — resulting in increased heart rate variability and decreased salivary cortisol.

Her project won "Best of Fair" in February at the Hamilton Science Fair. And after one of her mentors submitted her abstract, the project was accepted by the World Congress on Stress.

“I’m definitely excited,” she said. “I’m excited because it doesn’t happen to everybody. Hard work does pay off.”

Teresa Clark, Hamilton High’s honors science research teacher and biotechnology instructor, said Leo’s research is “phenomenal and solid.” Other students in the class have presented research in Russia, Israel and Sweden.

“Her study was university-level research. What makes hers unique is her attention to detail and how thorough the study is,” Clark said. “Her background knowledge is extensive, and that’s what makes her stand out.”

Leo plans to double-major in biomedical research and international relations. Her goal is to set up a research laboratory in Africa.

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