

OFFICIAL ABSTRACT and CERTIFICATION

Evaluation of Academic Stress on Intellectual Performance through the Stroop Effect

Aleena Uddin

Valley Stream Central High School, Valley Stream, NY

The dilemma of academic failure has spiked in recent years, increasing the number of failing students in New York by thousands (Serrano, 2019). One of the primary reasons for failure itself is stress and its impact on an individual's psychological demeanor. The purpose of this study was to test whether or not academic stress directly impacts intellectual performance. High School students ($n = 55$) between the ages of 15-17 were randomly selected to voluntarily complete an academically modified version of Sheldon Cohen's Perceived Stress Scale survey followed by a Stroop Task during the month of December and again in January just before midterms. A correlation matrix was conducted between stress levels and stroop test results $r = 0.041$ and a $p = 0.767$ for December, and $r = 0.135$ and a $p = 0.320$ for January, showing no significant correlation. However, female students reported a statistically significant higher stress levels than males $t(54) = 3.924$ $p < .001$. Students with medium workloads and high stress levels performed best on the Stroop Task, suggesting that students with moderate levels of stress and workloads displayed optimal performance.

Category
Pick one only—
mark an "X" in box
at right

- | | |
|--|-------------------------------------|
| Animal Sciences | <input type="checkbox"/> |
| Behavioral & Social Sciences | <input checked="" type="checkbox"/> |
| Biochemistry | <input type="checkbox"/> |
| Biomedical & Health Sciences | <input type="checkbox"/> |
| Biomedical Engineering | <input type="checkbox"/> |
| Cellular & Molecular Biology | <input type="checkbox"/> |
| Chemistry | <input type="checkbox"/> |
| Computational Biology & Bioinformatics | <input type="checkbox"/> |
| Earth & Environmental Sciences | <input type="checkbox"/> |
| Embedded Systems | <input type="checkbox"/> |
| Energy: Chemical | <input type="checkbox"/> |
| Energy: Physical | <input type="checkbox"/> |
| Engineering Mechanics | <input type="checkbox"/> |
| Environmental Engineering | <input type="checkbox"/> |
| Materials Science | <input type="checkbox"/> |
| Mathematics | <input type="checkbox"/> |
| Microbiology | <input type="checkbox"/> |
| Physics & Astronomy | <input type="checkbox"/> |
| Plant Sciences | <input type="checkbox"/> |
| Robotics & Intelligent Machines | <input type="checkbox"/> |
| Systems Software | <input type="checkbox"/> |
| Translational Medical Sciences | <input type="checkbox"/> |

- As a part of this research project, the student directly handled, manipulated, or interacted with (check ALL that apply):

<input checked="" type="checkbox"/> human participants	<input type="checkbox"/> potentially hazardous biological agents
<input type="checkbox"/> vertebrate animals	<input type="checkbox"/> microorganisms
	<input type="checkbox"/> rDNA
	<input type="checkbox"/> tissue
- I/we worked or used equipment in a regulated research institution or industrial setting: ☐ Yes ☒ No
- This project is a continuation of previous research. ☐ Yes ☒ No
- My display board includes non-published photographs/visual depictions of humans (other than myself): ☐ Yes ☒ No
- This abstract describes only procedures performed by me/us, reflects my/our own independent research, and represents one year's work only: ☒ Yes ☐ No
- I/we hereby certify that the abstract and responses to the above statements are correct and properly reflect my/our own work. ☒ Yes ☐ No

This stamp or embossed seal attests that this project is in compliance with all federal and state laws and regulations and that all appropriate reviews and approvals have been obtained including the final clearance by the Scientific Review Committee.

