

ANALYZING USABILITY AND INTERFACE DISCREPANCIES BETWEEN ADOBE SOFTWARE APPLICATIONS

JILLIAN DUMA, JOI OVERBY, ALISSA ROY, & EMMA STRONGIN

INTRODUCTION

Question: What Adobe functions cause stress, and how can functions be standardized across programs to create an easier user experience?

Hypothesis: Tools in an interface that are the same across programs will work better and will be less stressful for users.

Research Objective: Determine in what ways people utilize different Adobe software: InDesign, Illustrator, and Photoshop.

METHODS

Rationale of Software Applications: Adobe InDesign, Illustrator, and Photoshop were chosen for their strong influences on the creative community and the disparities their functions have.

Apparatus & Testing Facility: School of Media Sciences Graduate Computer Lab. Computer with Adobe InDesign, Illustrator, and Photoshop installed. Tobii Eye Tracking Device gained data about where participants looked while exploring different interfaces. NeuLog Galvanic Skin Response (GSR) Sensor measured changes in the skin's conductivity in order to gain quantitative results to how frustrated a participant became.

Participants: Students from the Rochester Institute of Technology. 11 total, 18-24 years old. 3 male 8 female. Mix of ability using Adobe Software - 72% had experience with Photoshop and InDesign 54.5% had experience with Illustrator.

Procedure: Participants recreated an image in InDesign, Photoshop, and Illustrator, performing simple tasks so researchers could analyze the usability of each software.



The images on the left represent the image to be manipulated, and the final image that the participants needed to recreate. They had 5 minutes in InDesign, Photoshop, and Illustrator to recreate the sun, change the CMYK, write "Hello world!", and save the file as a PDF. Experimenters looked at the disparities in the software functions to see the ease of user experience.

Disparities include:
 Different ways of saving as a PDF
 No similar brush tool in InDesign
 Different locations and icons for "Swatches" and "Color"
 Text tool creating a new layer in Photoshop

RESULTS

Completion Rate: Highest completion rate in Photoshop. Lowest Completion rate in Illustrator. Only 40% of participants were able to determine how to save the file as a PDF, lower than InDesign or Photoshop.

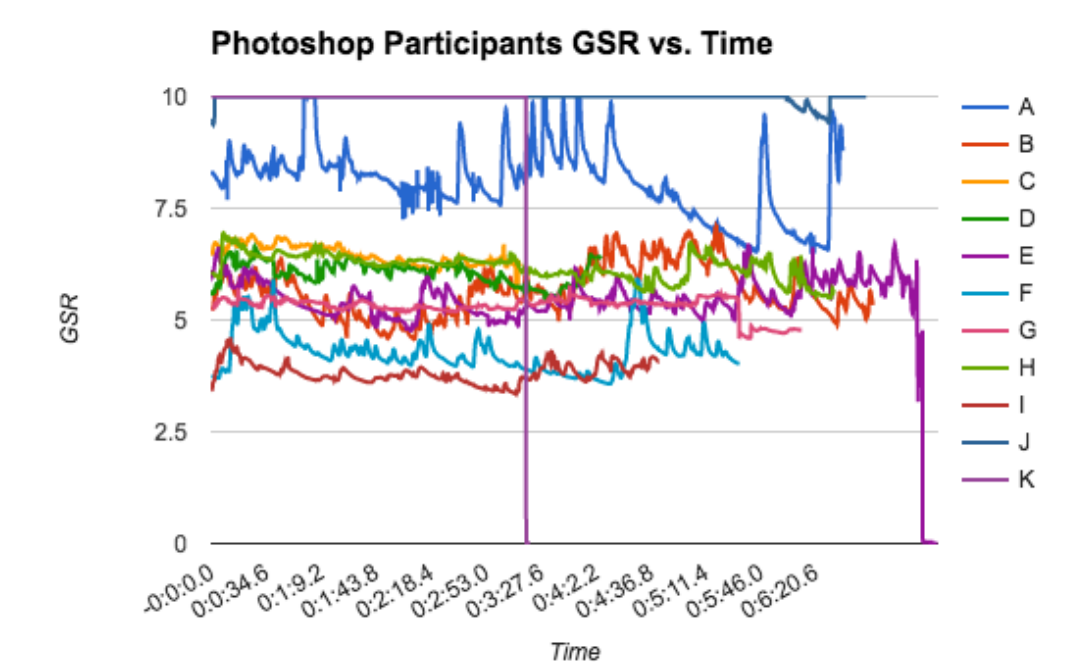
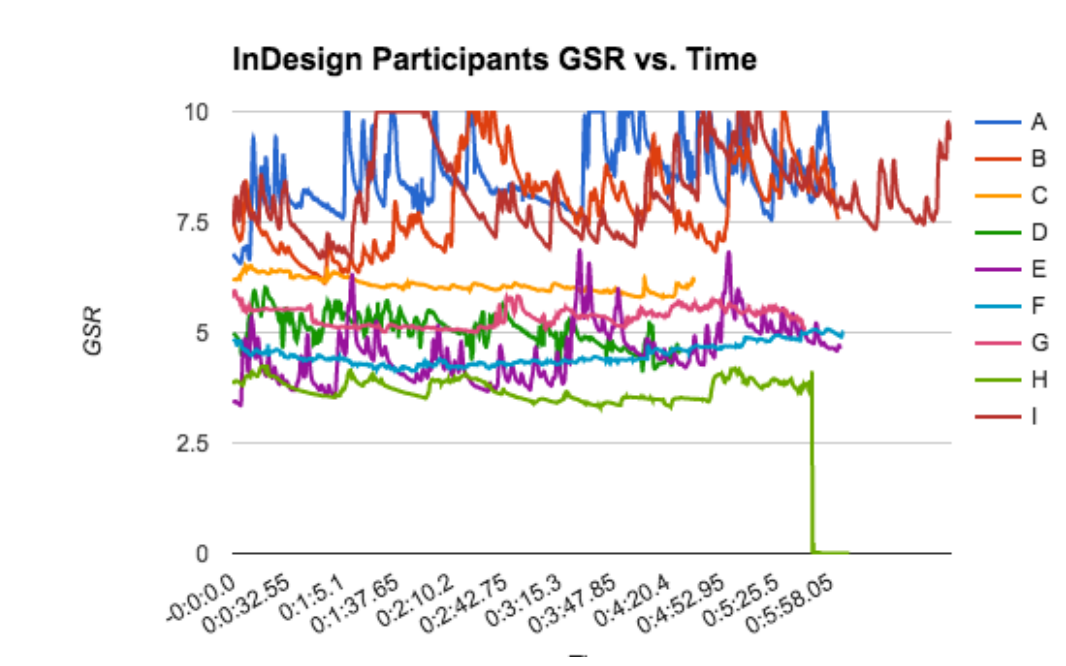
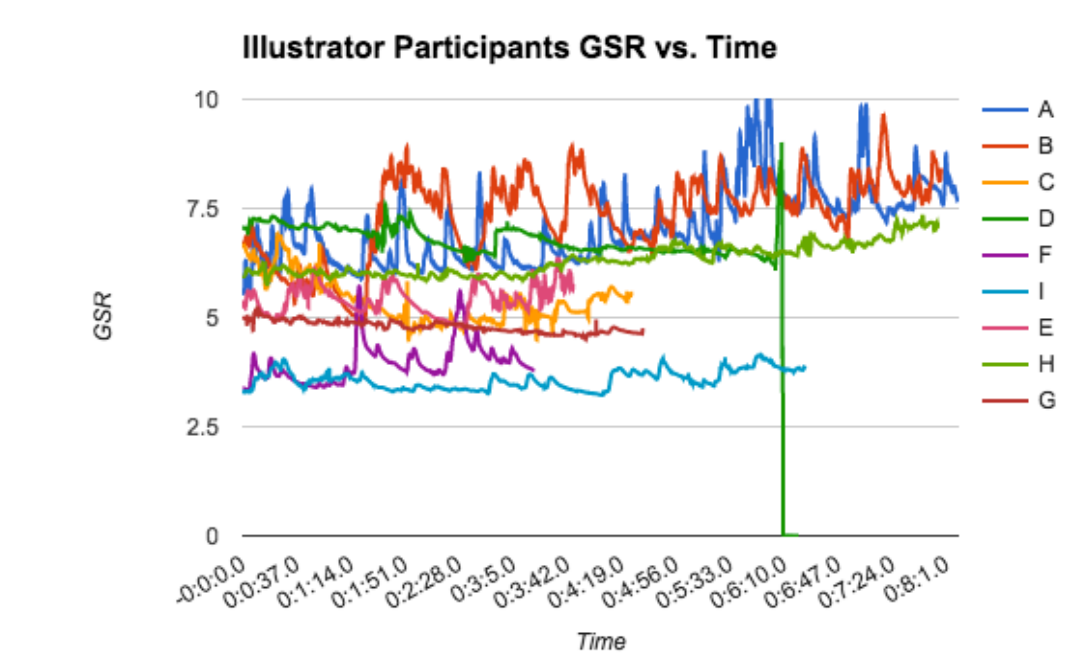
Tobii Eye Tracking:

Primary focus area: left-hand menu
 Secondary: image itself
 Tertiary: right-hand menu
 Fourth: top menu
 Exploratory similar in that participants would try tools until something worked, and would focus on specific tools trying to discern meaning

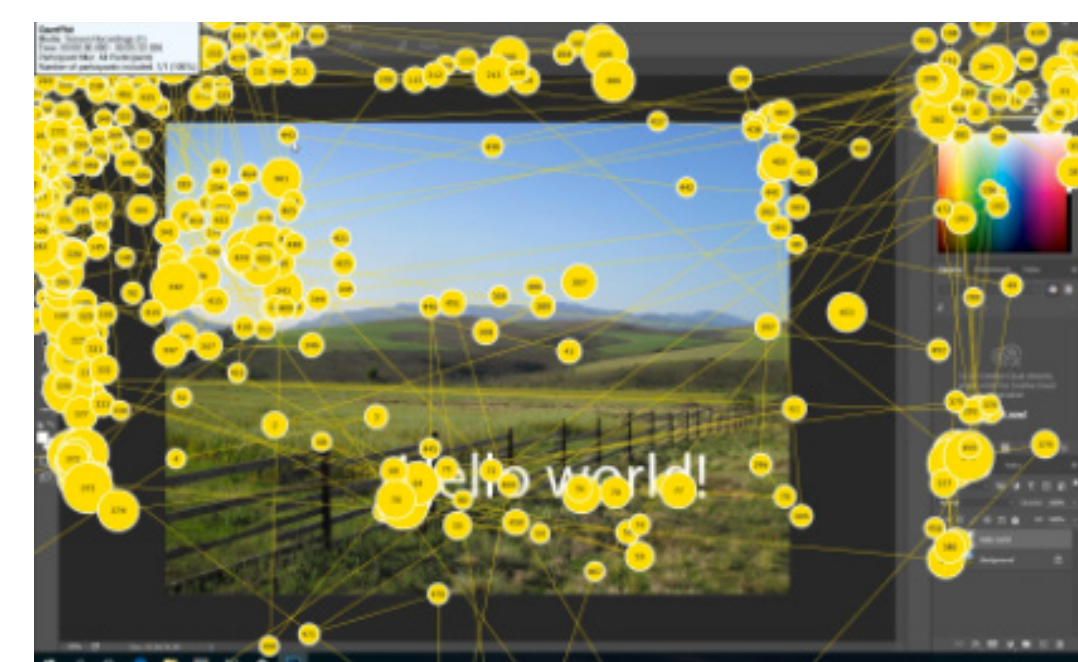
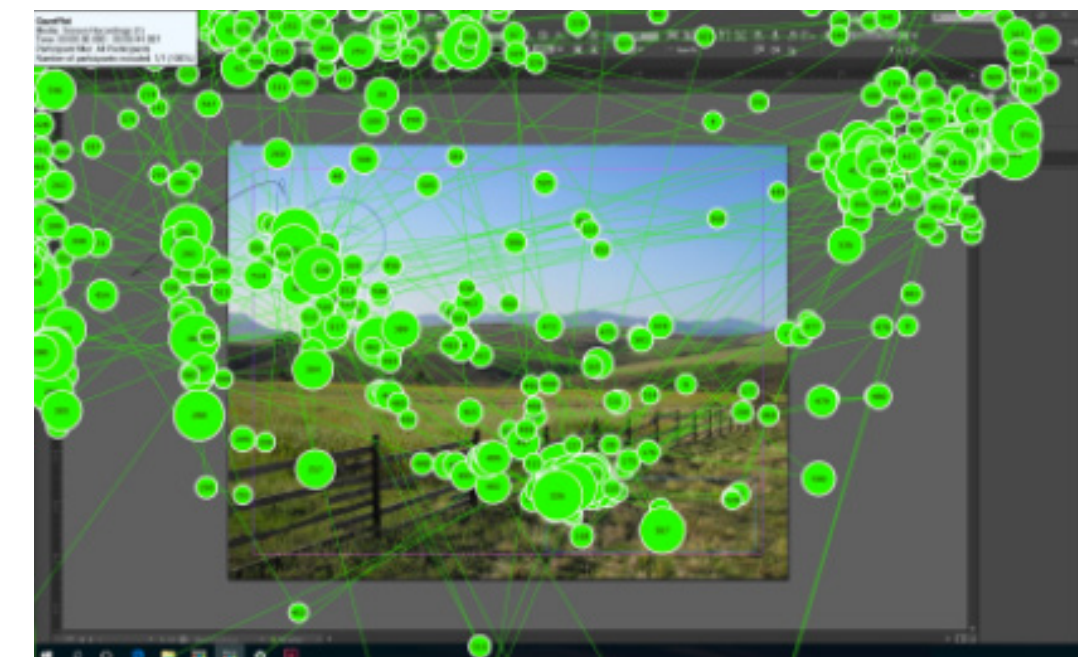
Galvanized Skin Response (GSR):

Participants had, on average, a slightly higher level of stress in Illustrator
 Highest skin conductivity and therefore stress by end of experiment was in InDesign
 Participants had the most consistent stress levels while using Photoshop. Lowest levels of stress by third end of experiment.

GSR RESULTS



EYE TRACKER RESULTS



CONCLUSIONS

While Illustrator was the most stressful to use, InDesign was found to be the most difficult to use. Participants had trouble with the location of the tools. Participants also expressed interest in a standardization of tool location and function across platforms. For example, Photoshop had the highest completion rate of saving a file as a PDF. Saving files could be standardized across interfaces to be most similar to Photoshop.

Part of the reason functions differ is because each software has a different goal. However, being that all of these products are Adobe's, it would make sense if some of the features were consistent throughout. This would make it easier for users to get a feel for a new product and rather than simply completing a task where they feel most comfortable.

VISUAL STIMULUS EFFECT ON JUMP SCARES

ABIGAIL AUSTIN, CONNOR BUTTERS, BRIANNA JUDA & HANNAH MULFORD

INTRODUCTION

Question: Which type of reaction can one expect when choosing content for jump scares? If we provide a jump scare scenario with contrasting visuals fitting a non-threatening schema and a threatening schema, is there a change in physiological response?

Hypothesis: Priming participants with puppies will put them in a relaxed state in a stressful anxiety inducing experience. Experiment group Z will anticipate another scary visual the second time through the video which will boost their heart rate and galvanic skin response and thus, their levels of stress will be heightened. Experiment group D will be able to be more relaxed despite anticipating the same thing. Their heart rate and galvanic skin response readings will be more steady and constant.

Research Objective: This experiment was intended to identify the participants' physiological response to different experiences with jump scares.

METHODS

Tools and Equipment: NeuLog Sensors: Heart Rate and Pulse Logger Sensor, Galvanic Skin Response (GSR) Logger Sensor; NeuLog free downloadable software, run on Mac operating systems

Experimental Design: Control Group- Group Z. Experimental Group- Group D. Independent Variable- The scary or non scary stimuli presented to the participant. Dependent Variable- Participants change in heart rate and galvanic skin response during the testing period.

Data Types: Quantitative data includes participants heart rate and GSR during the testing period. Qualitative data recorded by experimenters on participants' comments and physical behaviors. Participant self-reported data in the form of a post-experiment questionnaire.

Participants: 16 participants, aged 19 to 22 years old, 56% aged 20 years, 9 males, 7 females

Procedure: Participants informed that research was based on the study of the physiological effect of an optical illusion sensation. Two computers, NeuLog sensors GSR and Pulse set to an experiment time of 5 minutes, sampling rate of 20. Consent form signed. Video played. Post-experiment questionnaire



Stimuli:

Threatening or "scary" stimuli: Scary monster zombie still image (top), Non-threatening stimuli: Short clip of corgi puppies running in grass (bottom).

Both stimuli were presented under the same conditions:
 Eerie music with spiral illusion for 1 minute prior to stimulus.
 Stimulus was accompanied by a high pitched scream to elicit a scare.

RESULTS

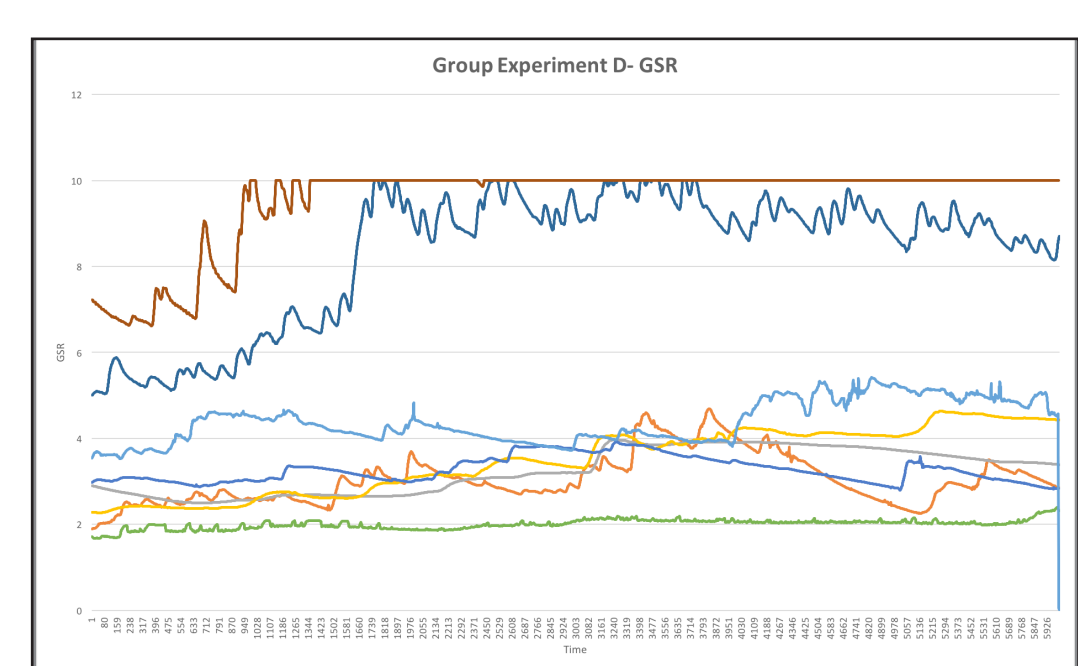
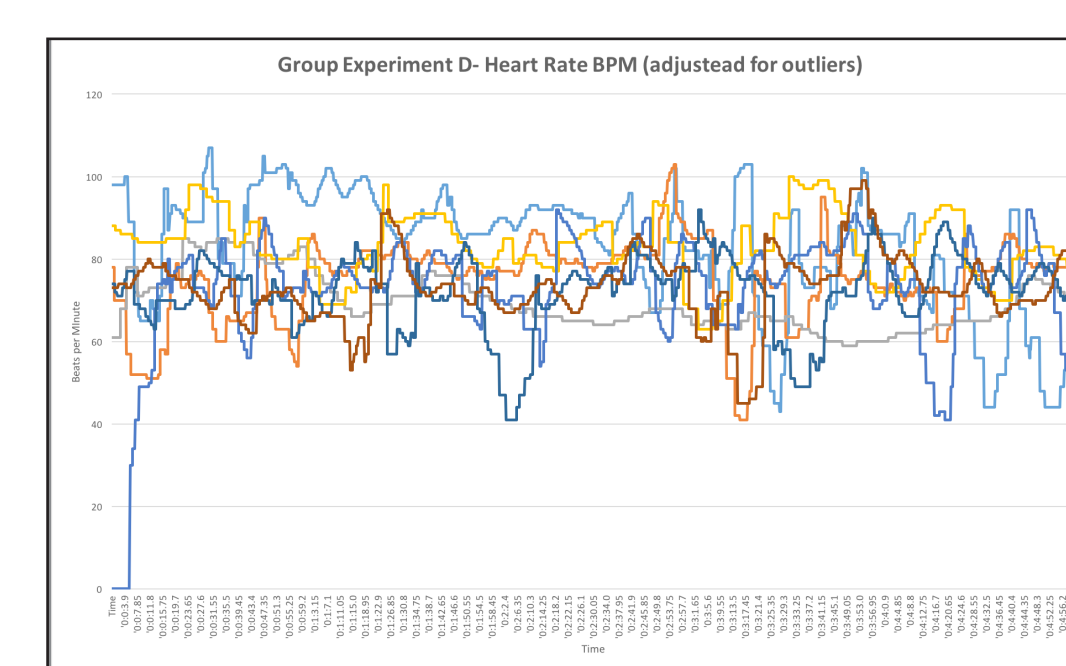
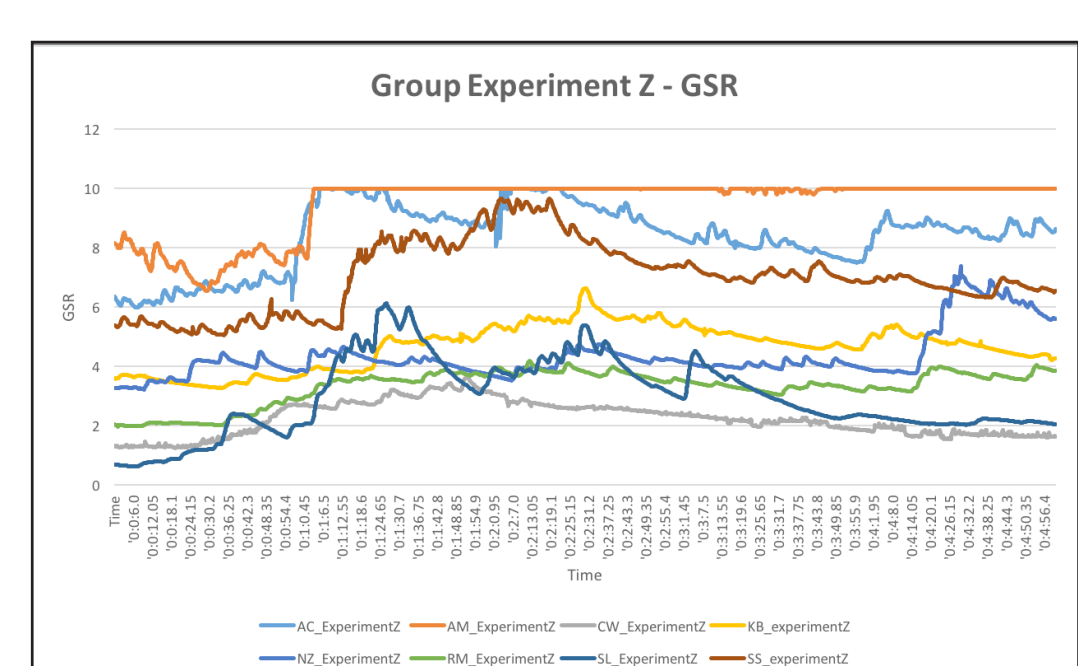
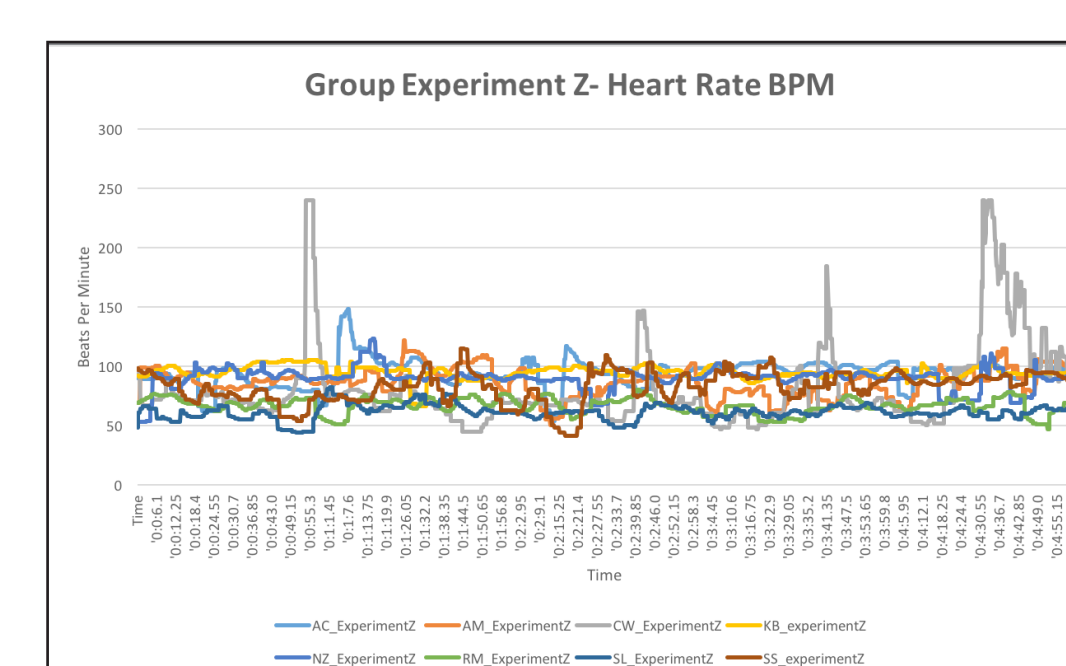
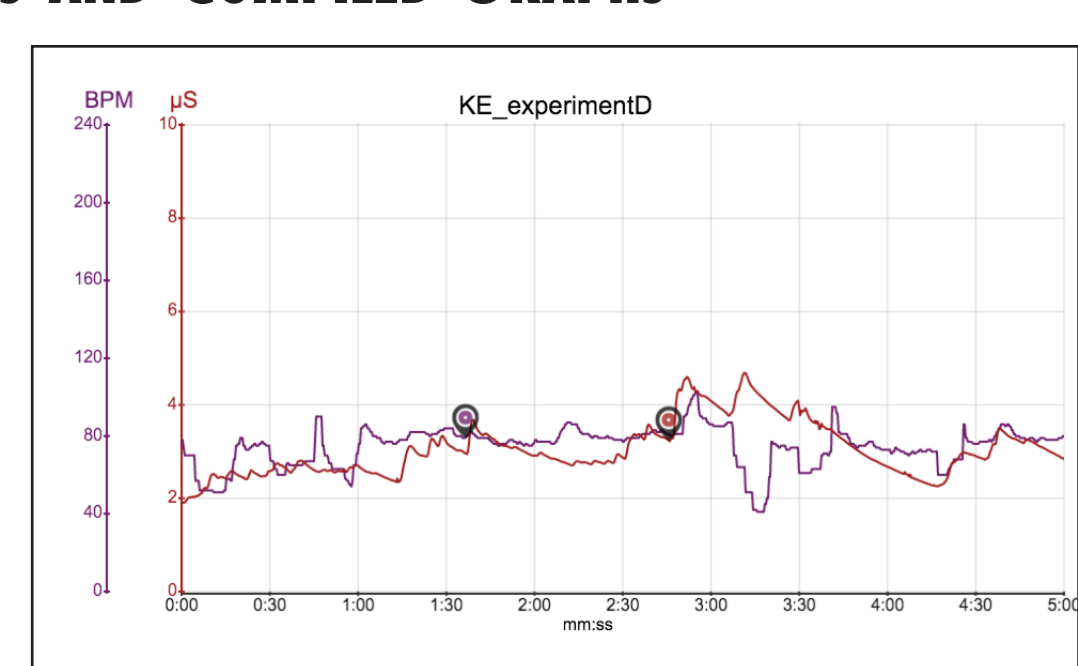
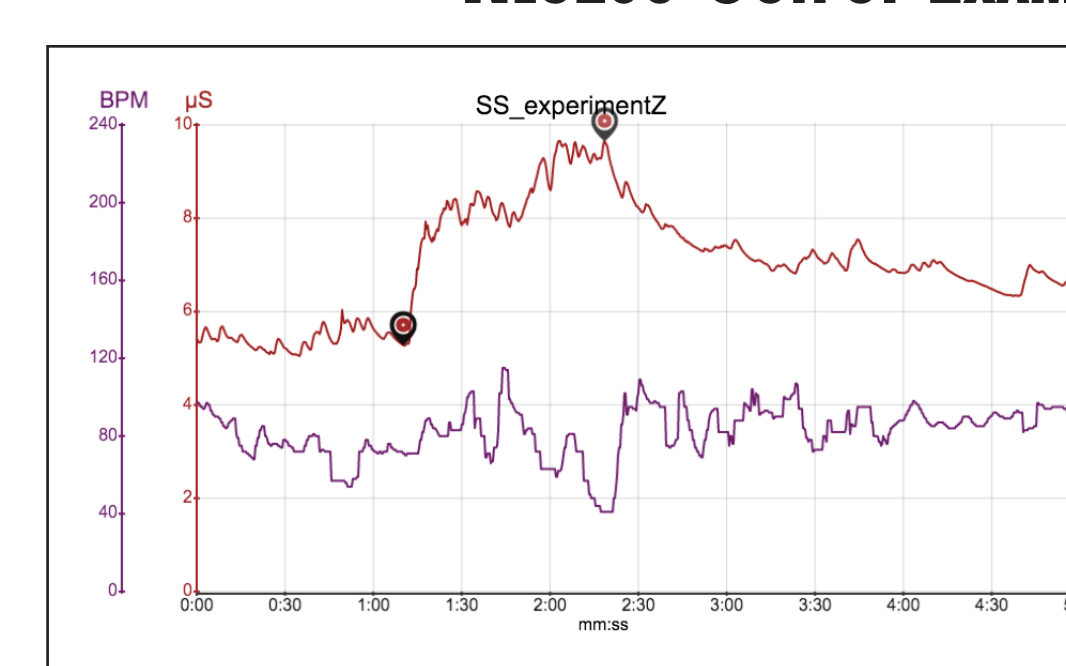
Findings: Participants in Group Z experienced a more drastic increase of physiological effects than those in Group D. If users are exposed first to a non-threatening stimulus, they are more likely to be less affected by a stimulus that is meant to elicit a scare.

As expected, experimenters found that participants, in general, experienced less drastic changes to their physiological response to the non-scary stimuli (puppies) rather than the scary stimuli (zombie). Human nature's response to fear explains why participants were affected more by the zombie than the puppies. Zombies fall under societies general "scary schema" while puppies elicit a positive and uplifting response from most people. These findings are consistent and support the experiment's original hypothesis.

Relation to the Media Experience:

The stimuli presented in an environment can impact a physiological response for the duration of the experience. Users can be manipulated by external factors regardless of the stimuli that is intended, and can be primed to be less affected by stimulus meant to be uncomfortable by first presenting the user with more comfortable stimulus.

NEULOG OUTPUT EXAMPLES AND COMPILED GRAPHS



CONCLUSIONS

It is possible to mitigate the stress levels of users in a high anxiety state with regard to startling sensations such as jump scares. The results from this experiment can help researchers better understand how to condition fear. As fear is an adaptive trait, it is malleable and can be altered over time with new experiences.

Limitations:

NeuLog sensors were difficult to place perfectly on users, especially with movement. NeuLog software was difficult to customize. Personal bias was not factored into the study. Zombie image was a still image, and the puppies were moving image.