**Spring Research Symposium 2012 Presenters**

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<td>Shelby Solomon</td>
<td>Psychology</td>
<td>Emily Hause</td>
<td>The Effect of Body Modifications and Resume Quality on Perceived Job Competency</td>
<td>I examined the possible exacerbation of stereotypes towards women with body modifications (piercings and tattoos) in relation to a mediocre resume in the job selection process. Forty undergraduate students from Saint Mary’s College of California volunteered for the study via the Participant Pool in the Psychology Annex. The age range consistently included students from 18 to 24 years of age. Four groups of 10 participants were observed. Each group either saw a good resume or a mediocre resume and a picture of a woman with body modifications or without body modifications. Job competency was assessed through two questionnaires, one for the resume and one for the woman. I found that perceived job competency scores were not significantly affected by a mediocre resume in relation to the woman with body modifications. I compared the finding of this study with its antecedent, which used a picture of an African American man with body modifications, and found that scores did not indicate a significant interaction of job competency being affected by a mediocre resume in relation to body modifications. In both studies, I found that there was a significant difference between the competency ratings for good resumes versus mediocre resumes.</td>
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Peer review in the sciences is a way of ensuring accuracy, legitimacy, and relevancy of published articles and research studies. It acts as quality control and distinguishes papers of scientific merit by having fellow experts on the topic read and comment on the validity of the paper. A wide variety of research article types exist, as well as a variety of medical journals in which an author can choose to publish. The publication process is lengthy, and includes many steps. The purpose of this research was to clearly delineate these steps for someone new to the scientific publication and peer review process.
This electroencephalographic (EEG) study investigated music processing in experienced Argentine Tango dancers and non-dancers when they listened to preferred music (tango for dancers, jazz/classical for non-dancers) and non-preferred music. EEG was analyzed in terms of power percent change from baseline (silence) across four frequencies: low alpha, high alpha, beta, and gamma. Results showed that when listening to their preferred music, dancers showed greater high-alpha power in the posterior region than non-dancers. This suggests an ease of processing of preferred music in dancers. In gamma, regardless of participant group, preferred music elicited stronger power compared to other music, suggesting all participants were attentive and specially engaged when listening to their favored music. In beta, this preferred music effect was observed only in dancers, suggesting that dancers were more attentive than non-dancers when listening to their favored music. Finally, dancers and non-dancers differed in the right hemisphere when listening to all music, such that dancers had higher beta power than non-dancers. This could be due to the different use of motor processes related to action observation and planning, rather than overall differences in analytic/holistic (left/right hemisphere) processes.
This study examined the role of locus of control in determining attributions of responsibility and self-esteem among group members following success and failure.

Ninety participants took part in our study. Participants began by completing a locus of control scale, as well as scales measuring state self-esteem and collective self-esteem. Three-person groups worked together to solve a series of four puzzles within seven minutes. Finally, the participants were asked to fill out another series of scales, including measures of attributions, as well as a second set of state and collective self-esteem scales.

As predicted, internals attributed more responsibility to the self and the group but only following success. The more an individual assigned responsibility to the self and their group, the more their state and collective self-esteem were impacted.
Historically Chinese American immigrant women have faced significant discrimination, displacement, and difficulties adjusting to life in the United States. This paper both analyzes and provides a platform for understanding the history of Asian American immigration and the impact of racial and ethnic discrimination on Chinese American women, a population of immigrant women who are often overlooked throughout feminist scholarship. I also celebrate the Chinese American voice and their contribution to the Women's Movement. This paper delves into the influences of Chinese American female activist authors, with an emphasis on the works of Fae Myenne Ng, Amy Tan and Maxine Hong Kingston, and the mother-daughter relationship in Chinese culture. By analyzing the role of the Chinese American community living in the United States throughout time, the reader is able to gain an understanding of the struggles faced by Chinese American immigrant females and better grasp the rich history that is deeply rooted in the identity of these women today.
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<td>Kaela Tuttle</td>
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<td>Yesenia Hernandez Macias</td>
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Creatine Phosphate headlines most of the supplement world, however Hammer Nutrition believes that they have found the next best thing to creatine with their Energy Surge product. This is a direct source of ATP "food" for the cell that has been proposed to life the effects of fatigue and allow the individual to continue to power through exhausted times. This is a double blind study in which each subject was given either the placebo or the ATP supplement and data was collected while their were placed through multiple Wingate tests. In conclusion, the Energy Surge product caused a minimal positive gain in performance.

This is a study in an upper division Spanish class that analyzes the writing pieces of both native and non-native Spanish speakers. In the writing pieces I was analyzing the types of mistakes found in the writing samples and seeing if there are any trends among the two groups. I was looking at the word choice, sentence structure, and flow in the writing pieces.
EP-NO is an ergogenic aid that claims to “support red blood cell and hemoglobin levels by providing the essential vitamins and minerals for healthy blood” (product statement). EP-NO contains beetroot extract, which has nitric oxide in it. Nitric oxide is a proven vasodilator that can help deliver increased amounts of blood to exercising muscle. Previous studies have been done observing the effects of beetroot on maximum oxygen consumption (VO2max), the standard measure of cardiovascular endurance. The purpose of the present study was to determine if EP-NO affected endurance exercise performance. This was a single blind cross-over study where two subjects both performed submaximal and maximal exercise on an cycle ergometer. Data was collected following six days EP-NO use or six days of placebo. Performance measures included VO2max intensity (watts) and blood lactate. Results varied between the two subjects where one experienced positive effects from EP-NO use while the other showed no differences compared to the placebo. Further research with more subjects and a different dosage is needed to form any concrete conclusions.
The purpose of this research study was to examine the effects that chronic administration of a pre-established amino acid mixture had on the blood glucose and insulin response to an oral glucose challenge. Over the course of four weeks, Sprague Dawley rats consumed an 8% sucrose drink with (AA, n=6) or without (control, n=6) the addition of the amino acid mixture. Glucose tolerance was assessed using a standard oral glucose tolerance test (OGTT). After both two and four weeks of treatment, rats were gavaged with a glucose bolus and blood was drawn from a tail vein immediately before and 15, 30, 60 and 120 minutes post glucose consumption. The blood glucose response was significantly lower in the AA treatment group compared to control at both the 2 and 4 week OGTT’s. The plasma insulin response was similar between AA and control treatment groups during both OGTT’s. These results suggest that chronic amino acid supplementation can improve glucose tolerance in rats without altering plasma insulin levels.
For my honors contract, I examined the implications the whitewashed roles in M. Night Shyamalan's 2010 film The Last Airbender, which was based on Nickelodeon animated series, Avatar: The Last Airbender. My honors contract explores the influence of film on American society's views of race and ethnicity, specifically for East Asians. In order to do this, I researched the production behind the film, analyzed a specific scene from the film, and applied research from various communication and cultural theorists in order to better understand the various ways in which audiences interpreted the film.
The object of this study was to research and understand the most-sought mushrooms of the west coast – Chanterelles, Morels, and Boletus. Although the research encompassed morphology, dangerous look-a-likes, habitat, and fruiting periods, the practical application of the study became the main objective: find these edible mushrooms and identify them. Thorough knowledge of these mycological species was obtained through research books, field guides, and mycological websites. Information was corroborated with multiple sources and distilled via the production of a personal field guide. Before any personal collecting, a foray was conducted alongside the Sonoma Mycological Society to further reinforce and prove identification skills. Having completed all necessary precautions, these three families of mushrooms were individually sought, found, identified – and consumed!
Synthetic biology is a novel and rapidly developing field that includes the construction of new biological parts, devices and systems as well as the redesign of existing, natural biological systems for useful purposes. The goal of this experiment was to engineer a novel plasmid containing carboxylesterase, which could then be transformed into Escherichia coli to allow the decomposition of malathion. Malathion is an organophosphate insecticide and suspected endocrine disruptor that causes a variety of adverse health consequences. In this experiment, a bacterial plasmid was genetically modified to contain the enzyme carboxylesterase and then transposed into E. coli. The carboxylesterase gene was isolated from Pseudomonas putida, purified, and then cloned into a plasmid along with all corresponding components for effective gene expression via restriction enzyme digests and ligation. While the ligation of the novel plasmid and transformation appeared successful, the final plasmid did not appear to contain the appropriate parts for successful expression of the carboxylesterase gene due to complications associated with the PCR and ligation of the gene. Further research is required to obtain a successful eradication method for malathion, but the theory and application of creating a novel plasmid was retained as a viable method.
Yaneli Cevallos  Ethni  Professor David Quijada

The Motives, Effects & Styles of Gentrification and the Revitalization of Oakland, California

Oakland, California historically known as the ghetto or the inner city, a place that was off limits to outsiders and was usually avoided, was now becoming commercial and popular to many. The old neighborhoods that were filled with mostly African Americans were now being displaced for Whites, Latinos and other minorities that were not frequently seen in these neighborhoods. My research addresses the issue of gentrification coming into Oakland from the perspectives of residents and non-residents. I conduct the research by examining the underlying forces that motivate people to enter these communities by extensively reviewing literature, attending local Oakland events, and taking note of the receptive and optimistic reactions of the change that was happening in Oakland.
Abstract

In the original study, I gathered ratings of photographs African American and Caucasian students from a group of twenty Caucasian students and a group of twenty Ethnic students. My hypothesis dealt with in-group bias and I therefore expected that the Caucasian sample would rate the Caucasian photograph higher than the Ethnic photograph and the Ethnic sample would rate the Ethnic photograph higher than the Caucasian photograph.

There were a total of forty students, twenty of whom were of Caucasian descent and twenty of whom were of Ethnic descent. The students were separated into groups of twenty and had the opportunity to view one of four photographs. Half of the Caucasian students viewed a photograph of Caucasian students, while the other half viewed a photograph of African American students. Half of the Ethnic students viewed a photograph of Caucasians, while the other half viewed a photograph of African American students.
| Indrani Sengupta | English | Lisa Manter | Monsters, Mirrors, and Multiplicity: Queering the Fairy Tale |

Emma Donoghue's *Kissing the Witch* and Angela Carter's *The Bloody Chamber* are short story collections consisting of revisions of age-old fairy and folk tales. In my thesis, I explore how Donoghue and Carter promote "queerness" by deconstructing the rigid labels of "monster," "victim," "hero," "angel" in their texts, promoting a continuum of multiple and mutable characters. Drawing from Gilbert and Gubar's essay, "The Queen's Looking Glass," I delineate the use of the "mirror" (as an object and symbol) as a means through which characters are able to liberate themselves from oppressive social forces (be they patriarchy, or the vilification of the monstrous "other").

In my submission to the Symposium, I will summarize some of my findings concerning queer theory, prescriptivist and descriptivist feminist revisions of fairy tales and folklore, and my argument (which is still in the process of being written) about the significance of the queering of these two texts.
The focus of this research is to study aromatic counterion binding with cationic gemini surfactants involving micellar aggregates utilizing the chemical trapping methods developed by Prof. Lawrence Romsted at Rutgers University. The surfactant trimethylene-1, 3-bis (dodecyldimethylammonium bromide) (12-3-12) was synthesized and characterized via proton NMR. The trapping agent, 2,4,6-trimethylenediazonium tetrafluoroborate was synthesized and characterized via FT-IR. Only the aqueous salt solution chemical trapping involving the ortho- and para-fluoro-benzoate salts have been performed. These chemical trappings products were qualitatively analyzed with HPLC. These chemical trapping experiments are ongoing and further results are forthcoming.
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Throughout the semester, I have been a human garbage bin, constantly looking for items that will fuel my creative process. I have been keeping pieces of garbage (cans, plastic bags, scraps of paper, or anything else I can find on the ground) in order to compile them into an art piece. With the articles that I have collected, I am exploring and experimenting with ways we can reuse items that most people think are junk. Artwork is hopefully assessed as a whole project, a creative progress that blooms overtime. The real art is the message behind this project, the reality that we are all held responsible for caring for the environment.

CCR5 and CXCR4 are important co-receptors which allow HIV entry into the cell. Understanding the expression of these receptors and their regulation helps to provide insight into possible HIV prevention measures. In this study, the expression of CCR5 and CXCR4 were characterized by flow cytometry and mean fluorescence intensity and amount of messenger RNA measured by qPCR. We observed wide variation in expression of CCR5 and CXCR4, but generally similar levels between both WT individuals and people with delta-32 CCR5 mutations. CCR5 was found to be most expressed on CD8+ T-Cells, while CXCR4 was expressed most on monocytes (characterized by CD14 positivity). In addition, a strong correlation($R^2=.344, p<.0052$) was found between CXCR4 protein expression and RNA. This indicates a simple regulation of CXCR4 from gene to protein.
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