

Spring Annual Research Conference

The logo features a large, stylized 'S' shape composed of three overlapping circles. The top circle is dark purple, the middle circle is light purple, and the bottom circle is a medium purple. The text 'SPARC' is written in white, bold, sans-serif capital letters across the middle circle, and '2013' is written in a lighter purple, sans-serif font below it.

SPARC
2013

Thursday, April 25
Bullock Science Center

AGNES SCOTT COLLEGE

2013 **S**PRING **A**NNUAL **R**ESearch **C**ONFERENCE

The Spring Annual Research Conference (SpARC) is held at Agnes Scott College each April to provide students and faculty with an opportunity to present their work to the campus community. As an interdisciplinary conference, SpARC fosters essential connections across academic disciplines and encourages an ongoing dialogue among the liberal arts and sciences. Much of the research presented at the conference stems from collaborations between students and faculty members through directed readings and independent studies. In addition to promoting the development of students' research, presentation and analytical skills, SpARC gives all those in the Agnes Scott community an occasion to learn about the latest research being conducted by their colleagues.

Acknowledgements

2013 SpARC Committee

Barbara Blatchley and Suzanne Onorato
Co-Chairs

*Special thanks to the following
individuals and departments:*

The Office of The Vice President of Academic Affairs	
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SpARC 2013

SCHEDULE OF EVENTS

9:00 – 10:10	SpARC Presentations Bullock Science Center Classrooms
10:10 – 10:50	SpARC Poster Presentations and Reception Woolford B. Baker Atrium Bullock Science Center
10:50 – 12 Noon	SpARC Presentations Bullock Science Center Classrooms
12 Noon – 1:20	Scottie Math Bowl Evans Hall, Terrace Level
1:30 – 3:55	SpARC Presentations Bullock Science Center Classrooms



SCHEDULE OF PRESENTATIONS

Presentation Time	BSC 102W	BSC 103W	BSC 112W	BSC 209W	BSC 210E	BSC 304E	BSC 308
9:00-9:20	RACHEL BRADLEY POLITICAL SCIENCE	ELLA BROWN PHYSICS & ASTRONOMY	SU MYAT THU ET AL. HUBERT SCHOLARS PROGRAM	ANNA CABE ENGLISH	CHESYA BURKE AFRICANA STUDIES	ALEXANDRIA CANTRELL MUSIC	MOZA AL-KUWARI SOCIOLOGY & ANTHROPOLOGY
9:25-9:45	ANJELICA DELIZ POLITICAL SCIENCE	JUNJAR LUCIEN PHYSICS & ASTRONOMY	PRISCILLA DAVIDSON ET AL. NEUROSCIENCE	KATHRYN DEAN ENGLISH	TAYLOR SMITH HISTORY/ AFRICANA STUDIES	HANNAH KRAUS MUSIC	NA'NETTE ASHFORD SOCIOLOGY & ANTHROPOLOGY
9:50-10:10	LAURA WOODARD POLITICAL SCIENCE	BRITTANY O'BRIEN PHYSICS & ASTRONOMY	GABRIELLE GREEN ET AL. NEUROSCIENCE	NATALIE JORGES ENGLISH	UGHEMINAYE SOWHO HISTORY	ALEXANDREA LUSHINGTON MUSIC	DESTINY BAKER SOCIOLOGY & ANTHROPOLOGY
10:10-10:50	Poster Presentations and Reception, Woolford B. Baker Atrium, Science Center						
10:50-11:10	KAYLIN MORTON POLITICAL SCIENCE	MELISSA HUTCHESON PHYSICS & ASTRONOMY	KELLY JONES ET AL. NEUROSCIENCE	SANIDIA OLIVER ENGLISH	ANNA WILLIAMS HISTORY	NYOMI WASHINGTON MUSIC	RACHEL BRADLEY SOCIOLOGY & ANTHROPOLOGY
11:15-11:35	SHILIN ZHOU PROJECT FOR PEACE	ANGELA GALIOTO ET AL. PSYCHOLOGY	SIJIA LI NEUROSCIENCE	CAITLIN THOMAS WHITE ENGLISH	NADINA ALVARADO HISTORY	ELIZABETH BAGLEY LIBRARY	CRISTA CARTER SOCIOLOGY & ANTHROPOLOGY
11:40-12:00	TAYA WILLIAMS ET AL. EDUCATION	BRITTANY STARR ET AL. PSYCHOLOGY	AMBER RALEY ET AL. PSYCHOLOGY	AMANDA MILLER ENGLISH	JESSIE DOWNS HISTORY	RUTH JOHNSON ET AL. THEATRE	BRIANA DAVIS SOCIOLOGY & ANTHROPOLOGY
12:15-1:20	Scottie Mathematics Bowl Evans Hall, Terrace Level						



SCHEDULE OF PRESENTATIONS

Presentation Time	BSC 102W	BSC 103W	BSC 112W	BSC 209W	BSC 210E	BSC 304E	BSC 308
1:30-1:50	YUN JIANG ECONOMICS	KRISTIN COUCH ET AL. PSYCHOLOGY	SOFIA BARRERA ET AL. CENTER FOR WRITING & SPEAKING	OSASHA FERTAL PHILOSOPHY	KAELA SINGLETON ET AL. NEUROSCIENCE	ASHLEY BERGER ET AL. BIOLOGY	MADELINE PIETRYLA SOCIOLOGY & ANTHROPOLOGY
1:55-2:15	REBECCA FANG ECONOMICS	ELIZABETH ADAMS ET AL. PSYCHOLOGY	MAUREEN KLEIN FRENCH	TAINA BROWN PHILOSOPHY	CHARLEE QUARLESS PUBLIC HEALTH	ZENYTH SHEPPARD ET AL. BIOLOGY	RHODA SMITH SOCIOLOGY & ANTHROPOLOGY
2:20-2:40	NGA THAN ECONOMICS	LEXI PULICE- FARROW ET AL. PSYCHOLOGY	ELLEN HUMPHREYS SPANISH		YIYI SHEN PUBLIC HEALTH	GABRIELLE O'BRIEN MATHEMATICS	DEANNA TIPTON SOCIOLOGY & ANTHROPOLOGY
2:45-3:05	CHRIS MA ECONOMICS	CLAIRE CUSACK ET AL. PSYCHOLOGY	MIA JONES ART HISTORY	KEELY LEWIS PHILOSOPHY	KATHERINE WILSON PUBLIC HEALTH	MEINA ZHOU MATHEMATICS	CAMILLE HACKNEY SOCIOLOGY & ANTHROPOLOGY
3:10-3:30	FRANCOISE DANOY INTERNATIONAL RELATIONS	YUN JIANG PSYCHOLOGY	EMMA KEARNEY ART HISTORY	HALEY DELOACH RELIGIOUS STUDIES	NEERAJA PANCHAPAKESAN ET AL. OFFICE OF INTERNATIONAL EDUCATION	GABRIELLE O'BRIEN MATHEMATICS	EMMA KIENKER SOCIOLOGY & ANTHROPOLOGY
3:35-3:55		LEXI PULICE- FARROW ET AL. PSYCHOLOGY	ANTONIKA SOUDER SOCIOLOGY & ANTHROPOLOGY			SAMANTHA ALLEN ET AL. MATHEMATICS	MAUREEN KLEIN SOCIOLOGY & ANTHROPOLOGY

PRESENTATIONS 9:00-9:20

BSC 102W

MOTHERS' MANDATE: HOW THE MADRES AND ABUELAS DE PLAZA DE MAYO SUCCESSFULLY CHANGED HUMAN RIGHTS ACTIVISM

AUTHOR: RACHEL BRADLEY
ADVISOR: JUAN ALLENDE

This presentation examines the human rights activism model of the Madres de Plaza de Mayo and the Abuelas de Plaza de Mayo in Argentina during and after the Dirty War, and how their efforts changed human rights activism and prosecutions all over the world. The research was compiled entirely from secondary sources. The findings demonstrate how and why their protests were successful in pressuring the Argentine government to prosecute human rights violators. Argentina's trials were the first of their kind and have become the model for human rights prosecutions throughout the world. The Mothers and Grandmothers played a large part in the trials' successes and the adoption of the model worldwide. The work of the Mothers and Grandmothers was, and continues to be, innovative in the field of human rights activism and studying their model can provide other human rights advocates with strategies to effectively demand justice for human rights abuses.

BSC 103W

DARK MATTER IN GALAXY CLUSTERS

AUTHOR: ELLA BROWN
ADVISOR: AMY LOVELL

Dark matter is a mysterious substance that comprises over 90% of the universe. One method of detecting dark matter is through observations of galaxy clusters. The x-ray light emission of a cluster is directly proportional to its mass. But, astronomers have found that generally clusters emit more x-ray light than their masses should allow, indicating the presence of dark matter. In my project, I will report my own findings from observing one galaxy cluster. I will analyze the visible light emission of the cluster with images I take from the SARA telescope. From this, I will calculate the amount of mass needed to emit that much visible light. I will then compare my findings to the known mass of the cluster calculated from x-ray images. I propose to compare the optically-derived mass with the x-ray mass in order to estimate the fraction of dark matter in the cluster.

BSC 112W

HUBERT SCHOLARS ON PERFORMING PUBLIC SERVICE: PANEL PRESENTATION

AUTHORS: EIA GARDNER, DANLI LAN, SU MYAT THU, XI WANG, XINYU ZHAN
ADVISOR: JENNIFER LUND

The Hubert scholarship for public service provides students from \$1,500 up to \$3,000 to design an independent internship to address an economic, social, educational or health-related problem for a community in any country. Five students were selected as Hubert scholars in 2012 and did their internships in Bangladesh, Burma, China, Ghana and the U.S. Each of them completed an internship of no less than 200 service hours and supplemented it with academic readings and writings under the supervision of an ASC faculty advisor. In a group panel setting, the presenters will introduce what the Hubert scholarship is, what its academic component entails, the motivational reasons behind why they chose their projects, and elaborate on the two projects as examples for how they adapted their internships to meet the practical challenges in the field and what they learned about public service.

“THIS IS NOT CHINA”: IMAGES AND IDEOLOGY SURROUNDING CHINATOWN

AUTHOR: ANNA CABE

ADVISOR: NICOLE STAMANT

Chinatown has long been figured as an unfamiliar world within the familiar confines of an American city. Often depicted with inscrutable Chinese people, unidentifiable food, dazzling festivals, and decorative pagodas, it has become a place for American eyes to gaze at the exotic “East.” Chinatown has also been portrayed as a place of opium dens, triads, sweatshops, and undocumented immigrants, where a xenophobic strain in American psychology can focus its unease. In this presentation, I will focus on two cinematic depictions of Chinatown: the innocuous and colorful version in the musical *Flower Drum Song* and the crime-laden danger-zone of *Year of the Dragon*, drawing on scholarship and depictions of Chinatown from Asian-American writers such as Sui Sin Far to counter and undermine hegemonic American representations of this place and its inhabitants.

THE APPROPRIATION OF BLACKFACE BY BLACK CREATORS

AUTHOR: CHESYA BURKE

ADVISOR: WILLIE TOLLIVER

Although Blackface is recognized as the donning of black make-up, white bulging eyes and large red lips, the offensive caricature is also noted for its trademark shuffle, exaggerated movements and “coonish” behavior. The practice was popularized in the 19th century by Whites pretending to mimic Black mannerisms. Taking the stage, Blacks also donned Blackface to become caricatures of what whites perceive Blacks to be. Since then, its popularity has waned but not completely disappeared. Instead, examining popular culture such as *The Help* and *Jerry Maguire* this research observes that Blacks are often relegated to these constructed images. As such, the white creator has become the foundation from which black identity is created for mass consumption, and blacks are forced to play roles which have been filtered through white perception and are arguably apocryphal—creating what this researcher contends is modern Blackface. In the end, this study poses the question: “If present today, what would Blackface look like for modern Black actors?”

BECOMING THE MUSIC: GROUP CONSCIOUSNESS AND SOCIAL BONDING

AUTHOR: ALEXANDRIA CANTRELL

ADVISOR: TRACEY LAIRD

Group-consciousness through music making is a commonly occurring phenomenon. This connection occurs because ensemble musicians must contribute in a sharing of emotion that amounts to an interconnection between all the participants. One common example of group consciousness occurs in drum circles. Participants must partake and listen to the group in order to be a part of the experience. Even without leaders or structure, the group remains cohesive; if a participant deviates from the group, the group will meld to that individual and bring them back into the fold. Social bonding can occur during other types of music making, bringing together groups that would otherwise conflict. Part of the effect comes from the experience of flow—or losing oneself in an experience—or a loss of the autobiographical self that allows for the group connection.

MATERNAL EMPLOYMENT AND ITS EFFECTS ON CHILDS WEIGHT**AUTHOR: MOZA AL-KUWARI****ADVISOR: DOUGLAS FALEN**

This presentation explores the connection between a mother working and a child's weight. The research focuses on middle-class mothers, who have not been well represented in previous research, which has mainly been on mothers with a lower socio-economic status. Research was done through interviews and surveys in a metro-Atlanta suburb. The data shows that it is more likely for a child to eat unhealthy meals and snacks when the mother works more hours, which, in turn, can lead to a higher BMI.

PRESENTATIONS 9:25-9:45

IMPUNITY AND FEMINICIDE IN GUATEMALA**AUTHOR: ANJELICA DALIA DELIZ****ADVISOR: JUAN ALLENDE**

Since the end of Guatemala's civil war, which lasted from 1960 to 1996, violence against women has increased exponentially. Local police enforcement has failed to investigate the complaints and femicides by conducting inadequate investigations or choosing not to investigate at all. This presentation examines the history and political/social factors that create a culture of impunity in Guatemala, which has been labeled a "Killer's Paradise." Rampant femicide persists in Guatemala because the perpetrators that committed injustices against women during the civil war period were never brought to justice. Only when Guatemala can hold its highest officials accountable for crimes against humanity, specifically the physical integrity crimes committed against women, will there be a decrease in the violations against women. Domestic prosecutions for both high-profile and low-level criminals, will be the beginning of the shift from Guatemala's climate of impunity to climate of accountability for the atrocities committed against women.

CASE STUDY OF THE MATHEMATICAL AFFILIATION BETWEEN SOIL DEPTH AND TEMPERATURE IN THE USE OF GEOTHERMAL ENERGY FOR CAMPBELL HALL**AUTHOR: JUNIAR LUCIEN****ADVISOR: PROFESSOR AMY J. LOVELL**

Geothermal heating is the direct use of geothermal energy for heating applications. Such energy originates from the heat retained within the earth from radioactive decay of minerals, and from solar energy absorbed at the surface. Geothermal energy is clean and required no energy conservation since thermal efficiency is maximized. Such advantages make its use for heating remarkably appealing to the Agnes Scott community. Using data collected by the engineers during the geothermal test well drilling for Campbell Hall in early February, I will mathematically model the relation between the soil's depth and its temperature taking into account the thermal properties of the soil. With such model, I will estimate the "mean ground temperature" which will be used to find the thermal efficiency of the heat pump connected to Campbell Hall. I will present to the public an evaluation of the model while focusing on the procedure used to elaborate such model.

SERENITY NOW!: THE EFFECTS OF MEDIATION ON STRESS REDUCTION AND COGNITIVE FUNCTION.

AUTHORS: BARBARA BLATCHLEY, ROSA CONTRERAS, PRISCILLA DAVIDSON, KELLY JONES, MARIA MISIURA, LAURA SEGURA

The effects of the regular practice of meditation on cognitive function and stress level were examined. Novice meditators were asked to meditate daily (at least 5 minutes per day, for 4 consecutive weeks). Mindfulness, cognitive function and stress level were examined three times; prior to meditation practice, after two weeks of meditation practice and again after four weeks of practice. Salivary cortisol will be assessed using the ELISA technique and is predicted to decrease across testing. Cognitive function will be assessed using three Reaction Time (RT) tasks: A simple RT task assessing response speed, a choice RT task requiring a decision about the type of stimulus present, and a "Go-No-Go" RT task requiring response suppression to non-target stimuli. RT scores are predicted to improve across the mediation period. We also predict that mindfulness, measured using the Kentucky Inventory of Mindfulness Skills (KIMS) scale will increase across testing.

OBJECTS BEHAVING BADLY: TRANSCENDENCE THROUGH "THINGS" IN MARILYNNE ROBINSON'S *HOUSEKEEPING*

AUTHOR: KATHRYN DEAN
ADVISOR: NICOLE STAMANT

Though many critics have focused on Marilynne Robinson's 1980 novel *Housekeeping* as a text about boundary crossings, this does not tell the whole story. The novel's narrator and main character, Ruth, does cross between different binary areas of categorization, but she does this in part through her unique relationship with objects. Many of these objects do not behave as they should: there are pocket watches that don't tell time, dictionaries full of flowers, and drawers full of mismatched memorabilia. Despite this, Ruth reveres the objects because they represent her ancestral past; she uses them to create order. In this project, I explore Ruth's unique relationship with small objects in light of her eventual dissociation from her mid-twentieth century social context, and argue that it is because of her relationship to "things" that she is able to do this.

THE VANISHING BLACK WIFE: EXAMINING THE DECLINE OF AFRICAN-AMERICAN MARRIAGES FROM THE 1800S AND THE 21ST CENTURY IN THE US SOUTH

AUTHOR: TAYLOR SMITH
ADVISOR: MARY CAIN

This study will examine the causes of the declining marriage rates of African Americans in the 21st century versus the 1800s. Research shows that a child born into slavery in 1860 was more likely to be raised by his mother and father in a two-parent household than was an African-American baby born after the election of the United States' first African-American President. During slavery black marriage was not legal, so after two hundred years why aren't African Americans taking advantage of the freedom they fought so hard for? This research will be conducted by studying primary authors from both eras and by examining demographics from past censuses. The goal of this research is to provide explanation of how and why black marriage rates have declined since slavery.

THE MOZART EFFECT: A DIFFERENT KIND OF FIX

AUTHOR: HANNAH KRAUS

ADVISOR: TRACEY LAIRD

Since Tomatis used Mozart's Piano Sonata K. 448 to prompt hearing and language development in fetuses, the Mozart Effect evolved to encompass other composers and a wide range of potential benefits. In 1993, Rauscher discovered a link between listening to Mozart and performing spatial tasks. Many researchers failed to replicate her study, yielding controversy over the Mozart Effect that continues. Beginning in 1997, Don G. Campbell published two popular books that spread the notion that "music makes you smarter," influencing political and public opinions on the benefits of classical music. Other researchers altered Rauscher's original study to find broader results beyond spatial task performance. These include differences in brain structure between musicians and non-musicians, Mozart's effect on epileptic patients, and the important role of preference in musical response. Based off my research, I used a song by Bombay Bicycle Club to fix my performance anxiety before my senior piano recital.

WHY DO YOU DO IT? MOTIVATIONS OF WORKING AT AN ANTI-SEX TRAFFICKING NON PROFIT

AUTHOR: NA'NETTE ASHFORD

ADVISOR: DOUGLAS FALEN

Trafficking has often been referred to as "modern day slavery". The United States is the third largest destination country in the world for Human traffickers to reside and for victims to be taken from their home. The largest subset of human trafficking is sexual trafficking. The attention to this issue of human trafficking has greatly increased social work literature allowing the public to be more aware of this global problem. With a problem as major as this one it is vital to know who is working to help lower the statistics. It's obvious that most employees and organizations have a sense of how widespread the problem of Human Trafficking is as well as having a sense of commitment to stopping it, but the question then becomes how to measure success and the motivational factor behind the employees of anti-Sex Trafficking nonprofits. I plan to take a qualitative approach with interview based questions. I am interested in finding out how Anti-Sex-Trafficking employee's measure their success as well as their motivations behind working for a sensitive subject such as Sex Trafficking. A study like this one has yet to be conducted, therefore it will add to the academic world. Additionally, it is interesting to see who works for Anti-Trafficking non-profits and why they chose to work there. This research is significant as both basic research and applied research. After much research within the literature I'm convinced that a study like this does not exist.

PRESENTATIONS 9:50-10:10

FIGHTING FOR WORKER'S RIGHTS AND YOUR LIFE:HUMAN RIGHTS VIOLATIONS AGAINST LABOR UNIONISTS IN COLOMBIA

AUTHOR: LAURA WOODARD

ADVISOR: JUAN ALLENDE

Fighting for Workers' Rights and your Life: Human Rights Violations against Unionists in Colombia
Colombia has some of the highest death rates of labor unionists in the world. Labor unionists in Colombia and human rights defenders who work in the country often receive death threats, go missing, and have their human

rights violated. Colombia's labor history, current labor conditions in areas like the banana zone, and globalization theory will be used to try to explain these human rights violations. The question of why suppression of labor unionists in Colombia is one of the highest in the world will also be explored in a brief comparison of Colombia and other Latin American countries. This presentation will explore the role that multinational corporations, the United States and the Colombian government plays in these violations.

BSC 103W

SOLAR POWER AT AGNES SCOTT

AUTHOR: BRITTANY O'BRIEN
ADVISORS: SUSAN KIDD AND AMY LOVELL

Solar-electric power is becoming an increasingly effective energy source for both residential and non-residential establishments. Using solar power markedly decreases both future costs of energy and the carbon footprint emitted by a building. Using both existing data and data found during my time researching, I will analyze the efficiency of investing in solar power for Agnes Scott College. I will create a model of a solar strategy for the college, including what locations would be advantageous, how much power would be generated from those areas, and the advantages and disadvantages of doing so. This presentation aims to address the costs and the potential benefits of using solar-electric power at Agnes Scott and whether or not the possibility is an accessible alternative at this current time.

BSC 112W

THE MEMORY OF SCENT: HOW THE OLFACTORY SYSTEM PLAYS A ROLE IN MEMORY

AUTHORS: GABRIELLE GREEN AND MICHELLE AUTREY
ADVISOR: BARBARA BLATCHLEY

The olfactory system is a complex system believed to be involved in learning and memory. Previous research has shown that the stimulation of the olfactory system enhances memory recall. The purpose of this study is to reinforce these findings by examining the effects of the olfactory system on memory recall. This study will have one control group and one experimental group. The control group will be administered 10 unscented cards with images of everyday objects. The experimental group will be administered 10 scented cards with the same images as the control group. Each group will then be asked to record the recalled items. The scents of missed images in the experimental group will be re-represented to the participants to see if the scent jogs the memory of the images. We hypothesize that the scented images will result in an increased memory recall for the experimental group.

BSC 209W

BROWN EYED GIRLS: SHIRLEY TEMPLE, PECOLA BREEDLOVE, AND THE IDEAL OF BLUE EYES

AUTHOR: NATALIE JORGES
ADVISOR: STEVE GUTHRIE

The face of Shirley Temple is emblazoned upon the subconscious of America: her golden curls and bright blue eyes. At least, that seems to be the image idolized by Pecola Breedlove in Toni Morrison's novel, *The Bluest Eye*. However, Shirley Temple has brown eyes. None of the supposedly ideal qualities she possessed as a child followed her into adulthood (save the dimples, of course). This presentation will examine three children's novels and Shirley Temple film adaptations, *A/The Little Princess*, *Heidi*, and *Rebecca of Sunnybrook Farm*, and will look at the possible effects upon Pecola. This is an exercise in understanding a character not only in their author's created world, but also in the larger world in which they could exist. The films are thus examined as possible influences upon Pecola, as they shaped her understanding of ideal girlhood, while presenting her with an image contrary to her own.

JAPONISME AND CULTURAL APPROPRIATION BETWEEN THE VICTORIAN WEST AND JAPAN

AUTHOR: UGHEMINAYE SOWHO

ADVISOR: MARY CAIN

The Victorian era coincides with a period in Japan that included major social, cultural and political changes. In 1853, Japan was forced, by foreign pressures, to fully open its borders to the western world. As a result, Europe gained access to a previously minimally understood people and culture, and Japan began to understand important implications of nineteenth century imperialism. Europe treated Japan as a novelty, neglecting the actual history behind the fashions, art, and artifacts they encountered and drawing false parallels between the cultures of Japan and a simplistic, romanticized version of medieval Europe. Japan, very aware of these western misconceptions, often manufactured goods for foreign markets that catered to these misguided views of Japan. In my research, I plan to examine the aesthetic dialog between Japan and Europe during the Victorian era, and explore the role of cultural appropriation in shaping the early interaction between Japan and the west.

DOES OUR iTUNES COLLECTION DEFINE US?

AUTHOR: ALEXANDREA LUSHINGTON

ADVISOR: TRACEY LAIRD

Does our iTunes collection define who we are and how we many perceive others? Psychologically, yes. Musically, yes. Music contributes to the social development of adolescents that ultimately shapes our musical identity. After surveying theories associated with development of identity in adolescence, I will then connect these to the idea that music holds an important place in this process. Musical identity is how we perceive ourselves, others, our choices and values and how these issues relate to musical preference. The idea that music shapes our identity guides an examination of my own experience of adolescent musical identity formation starting with my effectuation with Jason Mraz. It provokes the question: is music the deciding factor of who we become? I will elaborate on the idea by North and Hargreaves that music is the badge to judge themselves and others, the theory of how the social roles of music evolved, and how music identity can be firmly defined.

SEXUAL HEALTH EDUCATION EFFECTS ON COLLEGE STUDENTS' BEHAVIORS

AUTHOR: DESTINY BARKER

ADVISOR: DOUGLAS FALEN

This presentation examines first year college students' sexual health education received prior to coming to college and how that has influenced their current sexual behaviors. A survey and interviews were used to discover which type of pre-college sexual health education leads Agnes Scott students to make the least risky sexual health decisions. This research has found that those with more comprehensive sexual health education make the least risky decisions and have more knowledge of how to handle sexual situations. This is significant because it will add to the literature on what kind of education is most effective in leading students to make safer sexual behavioral decisions in college. It can also be applied as a guide for on campus sexual education.

PRESENTATIONS 10:50-11:10

BSC 102W

CIVIL WAR AND INTERNAL DISPLACEMENT IN COLOMBIA

AUTHOR: KAYLIN MORTON
ADVISOR: JUAN ALLENDE

Since the production of the coca plant (cocaine), the Colombian government (GOC) has seen a domino effect of problems. Violence from guerilla rebels, paramilitary forces, and the GOC military dominates the country, the first two receiving financial support from the drug trade. These problems have created major economic instability and an increase in the number of displaced persons. Colombia is 2nd amongst nations with 3.3-4.9million internally displaced persons (IDP). Thus far efforts to control the above include failed interventions with the rebel group FARC and support from the United States who has received most of their cocaine distribution from Colombia. Through comprehensive research I will discuss how the internal displacement of the people in Colombia is a direct result of the internal conflict seen between the state and leftist guerilla army. Although the country has received aid from the United States, intervention has only exacerbated the crisis.

BSC 103W

EXOPLANETARY DETECTION

AUTHOR: MELISSA HUTCHESON
ADVISOR: CHRIS DEPREE

Within the last 20 years observational missions such as Kepler have shown that planets orbiting other stars are quite common. Roughly one out of ten exoplanets orbit around their host star in such a way that we can observe the planet transiting the star from our line of sight. Using cataloged sources from the Exoplanet Transit Database (ETD) and utilizing observing time on the SARA-North (0.9 m) and SARA-South (0.6 m) telescopes it is possible to detect exoplanets by the transit method. In order to identify transits, data from observational runs is processed using the astronomical processing software, MaxIm DL. The results are then uploaded to be included in the Exoplanet Transit Database. In particular, the focus of this presentation will be the different types of exoplanetary detection, the process by which exoplanets are observed, and further implications for this research.

BSC 112W

CHANCE FAVORS THE PREPARED MIND: LUCK AND MINDFULNESS

AUTHORS: KELLY JONES, MARIA MISIURA, LAURA SEGURA, PRISCILLA DAVIDSON, ROSA CONTRERAS
ADVISOR: BARBARA BLATCHLEY

Darke and Freedman (1997) define belief in good luck as the view that luck is a fairly stable characteristic that consistently favors certain people, and is especially likely to favor oneself. In this study, we examine levels of mindfulness and belief in good luck to determine the relationship between these two concepts. We measured mindfulness in two ways: The Kentucky Inventory of Mindfulness Survey (KIMS) and through the monitoring of pulse rate variability (PRV). According to Giardino et al. (2002), PRV is positively correlated with adaptability. We measure luck using the Belief in Good Luck (BIGL) scale and a variation of Wiseman's luck assessment task (WLAT). We predict that mindful participants will demonstrate higher PRV than their non-mindful counterparts. Similarly,

high PRV should be positively correlated with higher KIMS and BIGL scores. Participants that score high on the KIMS and BIGL scales should also pass our variation of the WLAT.

BSC 209W

EXPLORING PUBLIC INTEREST IN THE DETECTIVE NOVEL AND CRIME RELATED MEDIA

AUTHOR: SANIDIA OLIVER
ADVISOR: STEVE GUTHRIE

There are many compelling reasons why I am interested in presenting on the topic of Detective novels, but in particular, I was interested in the *reasons* detective novels have been, and continue to be so popular. Detective novels are so popular, in fact, that it takes up a large chunk of all published works in the world. I wanted to not only explore that phenomena by conducting a poll as to why people feel compelled to read these works, but also explore if the popularity of this type of fiction can somehow explain the overwhelming amount of television media that revolves around crime. Violence and crime seem to have this mystifying quality surrounding it, and I am interested in researching the psychology behind it. Last semester, I took Professor Guthrie's Detective Novel Class, and my final paper was written around a poll that I conducted in a bookstore asking varying questions in regards to age, favorite authors, most important elements in a detective novel, etc. I wish to hold another online survey over the duration of a few weeks to expand my research and revise my questionnaire to be more inclusive.

BSC 210E

YEOMAN WIVES AND THE STRUGGLE FOR SURVIVAL DURING THE CIVIL WAR

AUTHOR: ANNA WILLIAMS
ADVISORS: MARY CAIN AND KATHERINE KENNEDY

When thinking of Georgia during the antebellum years and Civil War, many people are reminded of landscapes and hoop skirts prevalent in popular culture. However, there was a whole other side to mid nineteenth century southern society. Yeoman farmers occupied a unique position in the slave society, far below the wealthy planter class, but still enjoyed relative privilege due to race and land ownership. Though the yeoman farmers are largely neglected in studies today, letters written during the Civil War provide a glimpse into their daily lives. In my presentation, "Yeoman wives and the struggle for survival during the Civil War", I will explore what made a yeoman farmer, women's position in the yeoman household before and during the Civil War, and how yeoman women's role changed as the delicate balance of agricultural labor, material goods, race, and gender, was turned upside down.

BSC 304E

AUDIOANALGESIA: MUSIC THERAPY AND PAIN

AUTHOR: NYOMI WASHINGTON
ADVISOR: TRACEY LAIRD

Music therapy can relieve psychological, social, and physical pain in both clinical and cultural settings. Physically, music therapy relieves pain by lowering heart rate and blood pressure, releasing endorphins, and affecting brain processes related to pain perception. When used alongside pain medications and anesthesia, patients using music therapy require less pharmaceuticals. Socially and psychologically, active music therapy, like drumming circles or individual singing, enhances communication skills through entrainment and activates cognitive brain regions. Passive music therapy helps patients access buried memories and better understand their sources of pain. I define music therapy in a manner that recognizes both Western clinical applications and cultural rituals, like the Rueam Ma Maud from northeastern Thailand, as forms of music therapy. Such rituals reduce pain through music, trance, and dance.

WHAT A SCOTTIE WANTS: AGNES SCOTT STUDENTS' VIEWS ON MARRIAGE AND MOTHERHOOD

AUTHOR: RACHEL BRADLEY
ADVISOR: DOUGLAS FALEN

This presentation sheds light on how Agnes Scott College (ASC) students feel about marriage, cohabitation, childbearing, and various family arrangements. The data was collected through interviews and survey responses. It shows that ASC students generally have very tolerant views towards non-traditional relationship and family arrangements. Students appreciate the growing variety in family configurations and classify non-traditional family units as a "family". They are accepting of non-traditional partnerships but not very willing to assign the word "marriage" to unions that do not involve a legal document. The research also reveals that, despite acceptance of non-marital cohabitation and childbearing, most students still desire to follow the traditional path of getting married before having children, although they plan to do so later than the average American. These findings can help us all understand how marriage and family is constructed within our society, as well as how these institutions are changing for future generations.

PRESENTATIONS 11:15-11:35

FROM KITCHEN TO ORCHARD: GREY WATER RECYCLING PROJECT IN A BOTSWANA HIGH SCHOOL

AUTHOR: SHILIN ZHOU

The Botswana Integrated Water Resource Management (IWRM) Project at Madiba School, Mahalapye, Botswana, is an environmental project completed with \$10,000 funding through Davis Projects for Peace Foundation during May to July, 2012. In collaboration with Kalahari Conservation Society (KCS) and United Nations Development Programme (UNDP), the project implements water sustainability education workshops and upscales the grey water recycling system in Madiba Senior Secondary School in Botswana. Kitchen waste water is filtered through grease traps and further purified at underground tanks. The treated water is then used for school garden and orchard irrigation. Illustrated brochures and health education workshops are implemented to educate students and kitchen staff about proper maintenance of the system as well as the importance of securing and maximizing water resources in a sustainable manner.

PERCEIVED PARENTAL REJECTION PREDICTS PARENTAL MOTIVATION AND LIKING OF CHILDREN

AUTHORS: ANGELA GALIOTO AND RAVEA RODRIGUEZ
ADVISOR: CARRIE M. BROWN

Can perceived same-sex (e.g., mother/daughter) and opposite-sex (e.g., mother/son) parental rejection predict parental motivation and liking of children? In order to address this question, a secondary data set of 187 participants (M age = 19.43 years; 77% female) was examined. The researchers hypothesized that (1) perceived same-sex parental rejection predicts lower parental motivation and lower liking of children and (2) perceived opposite-sex parental rejection predicts lower parental motivation and lower liking of children. The researchers found a marginally significant result in perceived same-sex parental rejection for females' parental motivation ($p = .08$) and a significant result for perceived same-sex parental rejection for females' liking of children ($p < .05$). A marginally

significant result was found in perceived opposite-sex parental rejection for males' liking of children ($p = .10$). The results provide a perspective on perceived parental rejection as an indicator for parental motivation and liking of children.

BSC 112W

EXAMINING THE EFFECT OF PEPPERMINT ON COGNITIVE FUNCTIONING

AUTHOR: SIJIA LI

ADVISOR: BARBARA BLATCHLEY

When odorant molecules enter the nose, they do more than create a sensation of smell. Previous research has documented the influence of a variety of odorants on mood, physiology, cognitive functioning, and behaviors. The current study aimed to investigate whether and how peppermint, a representative alerting odor, and the expectation of its presence will affect attention and working memory. Fifty female undergraduate students were randomly assigned to one of three conditions: Peppermint (odorant, no expectation), Expectation (no odorant, expectation), and Control (no odorant, no expectation). Participants completed Stroop color-word interference test and the memory span assessments wearing facial masks. We found that there were no significant differences in performance on Stroop test and the memory span assessments across all three conditions. We propose that there is a threshold for peppermint odorants that must be exceeded in order to see the effects of the odorant on cognitive functioning.

BSC 209W

MAKING PEACE WITH "THE PRISONERS": A DISCUSSION OF CRAFT AND IDENTITY

AUTHOR: CAITLIN THOMAS WHITE

ADVISOR: CHRISTINE COZZENS

Michelangelo's unfinished sculptures "The Prisoners" illuminate both the artist's process and, metaphorically, the nonfiction writing process. Nonfiction writers take real experiences and shape them to express truth and identity; sculptors chisel figures out of stone blocks. As writers, we are bound by the very words and labels (woman, Presbyterian, liberal, bisexual) that we must use to free our stories, just as Michelangelo's statues are imprisoned by the very stone that makes up their essence.

In this presentation, I will discuss the connections between my writing process and explorations of identity within my creative writing senior seminar project, a collection of essays entitled "Holy Wars." Throughout the collection, I find connections between my liminal identity as a woman-loving woman who passes for straight while in a socially conservative country (Northern Ireland) and the complicated identity of that country itself, caught in a tug of war between England and Ireland, Protestant and Catholic. The craft talk will examine how these essays developed from stuttering "prisoners" to final drafts.

BSC 210E

THE IMPACT OF TV3 ON CATALAN NATIONALISM IN THE POST-FRANCO ERA

AUTHOR: NADINA ALVARADO

ADVISOR: KATHERINE KENNEDY

This presentation explores the history and the role of TV3, Catalonia's first television channel exclusively in the Catalan language, in the post-Franco era. It argues that the autonomous channel marked a turning point for Catalan identity and nationalism because it normalized the Catalan language and shifted it to the public sphere in a way that no other medium had done before. Historically, language has been and continues to be the foundation for Catalan identity and nationalism. For this reason, after Franco's death and Spain's transition into democracy, the autonomous government of Catalonia, the Generalitat, created TV3 in order to help reverse the damage done to the Catalan language during the period of Franco's regime.

HOLLYWOOD AT ASC: A CELEBRATION OF MOVIES AND TV SHOOTS ON CAMPUS

AUTHOR: ELIZABETH BAGLEY

This presentation looks back at movies and TV programs filmed on ASC's campus since 1955. Using images and recollections of students, faculty and staff who were around for around for the shoots, the session will revisit the variety of "locations" in which the College played a starring role. Come share a bit of entertainment history leading up to Agnes Scott's 125th anniversary.

WHAT WILL SHE DO NEXT: INTERSECTIONALITY AND WOMEN'S CAREER CHOICES

AUTHOR: CRISTA CARTER
ADVISOR: DOUGLAS FALEN

Every year graduating college students are faced with the task of deciding what they will do after graduation. Many will be making the choice between graduate schooling and entering into a non-academic career. This presentation will focus on the effects of race and class on collegiate women's future career decision making. Based on research conducted through in-depth interviews with students, I will be discussing how graduating students are conducting their career exploration. To fully understand this process we must look at the ways in which race and class affect women's confidence in their skills, what careers they are exploring, and what are their projected outcomes. The significance of this research is to ultimately assist collegiate career development centers in the advising of graduating women into the workforce.

PRESENTATIONS 11:40-12:00

VENTURING INTO DIGITAL NARRATIVE: THE "HEAR A STORY, TELL A STORY, TEACH A STORY" PROJECT

AUTHORS: TAYA WILLIAMS, ANNA RUPLE, NATALIE JORGES, SEUNG YOON KIM, EUNBI LEE
ADVISOR: TOBY EMERT

In this participatory action-research project, ESL refugee students engaged with literacy-based skill sets through an innovative teaching and learning intervention focused on digital storytelling. Using a multi-modal approach, college undergraduates, under the direction of their professor, taught learners about narrative forms, literary tropes, language structures, and digital technologies and helped them create short autobiographical film projects. The moviemaking phase of the project involved the use of digital cameras, editing software, and an introduction to elementary film critique, as well as instruction on storyboarding, narrative sequencing, and awareness of audience. Using the framework of teacher research, which involves critical questions about practice, participant observations, and systematic reflection, the undergraduates gathered data about the students' experiences, interpreting and drawing conclusions about learning that will influence their personal pedagogies.

DRINKING TO COPE: THE ROLE OF PARENT-CHILD RELATIONSHIPS IN EMERGING ADULT FEMALES

AUTHORS: BRITTANY STARR AND ALICIA LOGAN
ADVISOR: CARRIE M. BROWN

The purpose of this study was to investigate the relationship between perceived parental rejection and drinking to cope in emerging adult females. The researchers hypothesized (1) that higher perceived maternal rejection would correlate with higher motives for drinking to cope, and (2) that higher perceived paternal rejection would correlate with higher motives for drinking to cope. To investigate these relationships, we used a secondary data set composed of 95 female participants (M age = 21.5, SD = 1.6), all of whom reported that they drank. Using the data, the researchers ran Pearson correlations for both hypotheses. The results indicate that an increase in perceived maternal rejection does not correlate with increased drinking to cope, but there was a marginal relationship ($p = .10$) between perceived paternal rejection and increased drinking motives to cope. These findings reveal that females with increased perceived paternal rejection are more likely to drink to cope.

CAN A PSYCHOLOGIST BE THE NEXT DATA SCIENTIST?

AUTHORS: AMBER RALEY AND NIKOLAOS VASILOGLOU II

Psychologists have always been the pioneers in data analysis. It is not widely known that algorithms like Multidimensional Scaling, PARAFAC tensor factorization, non-negative matrix factorization and many variations of linear regression, principal component analysis, etc. were invented or first heavily used by psychologists. Most of these algorithms are the core of what people call machine learning, data science, or big data, the driving force of several successful startups. In short psychologists are great statisticians and great modelers but they often lack the computer science hacking skills to deploy them at scale. In this presentation the aim is to inform non-experts on the use of simple machine learning algorithms.

"THAT'S THE SECRET OF CASTLE RACKRENT": GATSBY AS A CODED JEW

AUTHOR: AMANDA MILLER
ADVISORS: PEGGY THOMPSON AND CHARLOTTE ARTESE

In chapter six of The Great Gatsby, Fitzgerald's narrator remarks, "That's the secret of Castle Rackrent." This reference has been overlooked in scholarship, but it is hugely significant because it creates an intertextual relationship between Castle Rackrent and The Great Gatsby. This presentation will examine the implications of reading The Great Gatsby through the lens of Castle Rackrent, particularly the ways in which Fitzgerald expands on anti-Semitic tropes established within Castle Rackrent and codes Jay Gatsby as Jewish. In looking at The Great Gatsby in this way, tropes of race, class, property ownership and "whiteness" become abundantly apparent.

CHILEAN PRISONER MEMOIRS

AUTHOR: JESSIE DOWNS
ADVISOR: KATHERINE KENNEDY

This presentation would focus upon an on-going history research project, which focuses upon Chilean political prisoners and their gendered experience during the early years of the Pinochet dictatorship. The Pinochet targeted

these political dissidents namely because of the perceived threat which they posed to authoritarian rule. Using a system of verbal dehumanization and sexualized violence, the guards attempted to break their victims. Women saw their maternal roles, their children, and the expectations for femininity used against them. The men struggled with knowing the economic vacuum their absence caused and the additional burden placed upon their households. Men also faced incredibly brutal and physical beatings, which played into a male power struggle between prisoners and guards. Ultimately, male and female prisoners experienced their imprisonment in notably different ways, which came to impact their own solidarity movements.

BSC 308

TO BE EXCLUSIVE OR NOT?: COLLEGE WOMEN'S DEMANDS OF EXCLUSIVITY IN ROMANTIC RELATIONSHIPS

AUTHOR: BRIANA DAVIS
ADVISOR: DOUGLAS FALEN

Using the women enrolled at Agnes Scott College in Decatur, GA as my population and research, via surveys and interviews, my research explore attitudes regarding exclusive romantic relationships amongst women. The objectives of my research are to examine not only relationship trends amongst college women, but also their attitudes about exclusivity. The ultimate questions the research aims to answer are: "Do college aged women demand exclusivity in their relationships, and do these attitudes towards exclusivity change with age?" Although research is not complete, current data trends suggest that age is not the deciding factor or influence in the decision to demand exclusivity or not. The intent of this research is to gain a better understanding of the various ways college aged women view exclusive relationships.

BSC 304

GENDER SCHMENDER: CROSS-GENDER CASTING IN MODERN THEATRE

AUTHORS: RUTH JOHNSON, CAITLIN THOMAS WHITE, JAYNE ROBERTS
ADVISOR: DUDLEY SANDERS

This performance explores the lengths to which cross-gender casting can be used in a modern theatre environment. Every year the Blackfriars, Agnes Scott's theatre organization, employs cross-gender casting: it is a necessity of producing theatre at a women's college. However, in the professional theatre world, cross-gender casting for principal roles is still a rarity, although there are companies that have employed it: Japan's Takarazuka Revue, Italy's Compagnia Laboratoria di Pontedera's production of *Waiting for Godot* and London's National Theatre's production of *Richard II* starring Fiona Shaw, to name a few. In addition, convincing licensing companies or even the playwrights themselves to approve a cross-gender take on their works is a difficult process. Cross-gender casting opens up a whole new world for women in the realm of theatre. Through this performance, we hope to open minds toward the idea of mass cross-gender casting in a modern theatre environment.

PRESENTATIONS 1:30-1:50

BSC 102W

RACIAL DIFFERENCES IN THE LINKAGE BETWEEN WOMEN'S EDUCATION AND FERTILITY

AUTHOR: YUN JIANG

ADVISOR: PATRICIA SCHNEIDER

Although many studies have examined the relationship between women's education and fertility, limited research has investigated the racial differences in this relationship within the United States. The purpose of the current study is to examine the effect of women's education on the number of children one has among three major racial groups in the U.S. - Black, Hispanic, and Non-Black Non-Hispanic. Furthermore, this study incorporated multiple women's family attitude factors as control variables. Multivariate regression analyses were performed using the 2010 data from the U.S. National Longitudinal Survey of Youth 1979. The results revealed that women's education has a significant negative effect on the number of children one has for all racial groups. Among the three racial groups examined, education has the strongest effect on Hispanic women, less strong effect on black women, while no significant effect on non-black non-Hispanic women. The implications and limitations of this study were also discussed.

BSC 103W

PREFERRED EXPRESSIONS OF LOVE AND AFFECTION: EVALUATING THE IMPLICATIONS OF ATTACHMENT STYLE AND LOVE LANGUAGE IN YOUNG WOMEN

AUTHORS: KRISTIN COUCH, MICHELLE AUTREY, MILANA SALIEVA

ADVISOR: EILEEN COOLEY

Attachment style and preferred expression of affection, or "love languages", are critical aspects of happy and healthy interrelationships among college students. The purpose of our study was to evaluate the implications of attachment among college women as it relates to love language preference. Participants included 51 introductory psychology students who were administered a Preferred Expression of Love and Affection modified questionnaire and the Expression in Close Relationships questionnaire. We hypothesized a positive correlation between anxious-ambivalent style and preference for words of affirmation as a primary love language; a positive correlation between secure attachment styles and perception of familial support; and a negative correlation between avoidant attachment style and preference for physical touch. Hypotheses were tested via Pearson product-moment correlations. There was a significant positive correlation between an anxious-ambivalent attachment style and words of affirmation. These results may have implications for understanding relevant factors of interrelationships among college women.

BSC 112W

UNDERSTANDING SHIFTS IN PEDAGOGY AND PRACTICE: LESSONS FROM A NEWLY-COMBINED WRITING AND SPEAKING CENTER

AUTHORS: SOFIA BARRERA, DEANNA TIPTON, CHELSEY JENKINS, KATHRYN DEAN, ANNA CABE

ADVISOR: CHRISTINE COZZENS

Recognized as a pioneer in peer tutoring oral presentations, our center combined writing and speaking tutoring services in 2012, after having two separate but closely related centers for the past 16 years. In this session, we will present our reflections on this new model of tutoring both writing and speaking based on a questionnaire and interviews conducted with our tutors. This presentation explores the shifting relationships between writing and

speaking, and how those relationships inform us in adapting our tutoring pedagogy. Examining tutors' adjustment process helps us realize that the benefits of the new model outweigh its challenges both on individual and community levels.

BSC 209W

WHY AREN'T WE DOING MORE TO END GLOBAL POVERTY?

AUTHOR: OSASHA FERTAL

ADVISOR: LARA DENIS

More than ever before, we have knowledge of the lives of the very poor, and more than ever before, we have the ability to help them. Despite the fact that 1.4 billion people live on less than \$1.25 per day, and millions die from easily preventable illnesses, most of us don't think we are morally required to do very much to prevent their suffering. This presentation will set out some of the moral arguments that we should be doing more to fight global poverty, and explore some of the psychological reasons we find it difficult to do so. Empirical research into the ways we make ethical judgments can help us understand the biases and limitations that affect our ability to respond to the unique challenges of the 21st century, and suggest strategies for helping us become better moral decision makers.

BSC 210E

EXPRESSION OF HIV-1 CAUSES DEPRESSIVE-LIKE BEHAVIORS AND DECREASED CELL GENESIS IN THE DENTATE GYRUS OF ADOLESCENT FEMALE RATS

**AUTHORS: CHRISTINA L. NEMETH, ERICA R. GLASPER, CONSTANCE S. HARRELL,
SANJANA MALVIYA, KAELA S. SINGLETON, JEFFERY S. OTIS, GRETCHEN N. NEIGH**

ADVISOR: JENNIFER LARIMORE

Adolescents living with human immunodeficiency virus (HIV) comprise approximately 12% of the HIV-positive population worldwide. Compared to adults, HIV-positive adolescents experience a higher rate of clinical depression, a greater risk of sexual and drug abuse behaviors, and a decreased adherence to highly active antiretroviral therapies (HAART), underscoring the need to address the greater affect of HIV on the adolescent population. Clinical depression has been linked to more morphological changes in the brain that increased activity of the inflammatory system. Using adolescent HIV-1 transgenic rats (HIV-1 tg) that display related immune response alterations and pathologies, this study tested the hypothesis that developmental expression of HIV-1 related proteins induced a depressive like phenotype that paralleled a decrease in hippocampal cell proliferation and an increase in pro-inflammatory cytokine expression in the hippocampus. Together, our results indicate that adolescent HIV-1 tg rats display depressive like behaviors that parallel changes in the hippocampus. Importantly, these data support a biological basis for the co-morbid manifestation of depression in HIV-positive patients at a period in development that proceeds AIDS like symptoms.

BSC 304E

ARE GEOGRAPHICALLY ISOLATED POPULATIONS OF *THEMISTE LAGENIFORMIS* A SINGLE COSMOPOLITAN MORPHOSPECIES OR DISTINCT CRYPTIC SPECIES? A DISCUSSION OF THEORETICAL CONSIDERATIONS.

AUTHORS: ASHLEY BERGER AND KATE DONLON

ADVISOR: JOHN PILGER

T. lageniformis, a cosmopolitan species of marine worm, is considered to be a single species based on morphology and its unique method of asexual reproduction. Recently, molecular studies have shown that many organisms thought to be one species are instead distinctly different species, cryptic species. Our laboratory hypothesized that

geographically separated populations of *T. lageniformis* are cryptic species. We tested genetic differences by comparing DNA sequence data for two highly conserved genes (16S and CO1) from specimens collected in Florida and Hawaii. DNA was extracted from the retractor muscles and the two genes were amplified, cloned and sequenced. We then examined the genetic distance within and between populations. Today I will report on the theoretical aspects behind determining speciation in *Themiste lageniformis*. Regardless of whether populations of *Themiste* are a morphological species or cryptic species, the mechanism of its discontinuous geographic distribution around the world remains a mystery.

BSC 308

TO THRIVE OR DIVE: ASSESSING THE INFLUENCE OF PRE-EXISTING NUTRITIONAL KNOWLEDGE ON UNDERGRADUATE STUDENT FOOD CHOICE AND DIET

AUTHOR: MADELINE PIETRYLA

ADVISOR: DOUGLAS FALEN

College students are one of the largest groups of individuals affected by obesity in the United States, which is caused by their poor nutrition and diet. This study utilizes both quantitative and qualitative data to identify the role of pre-existing nutritional knowledge on individual food choice and overall diet of Agnes Scott College students with meal plans. Nutritional knowledge and overall diet will be analyzed through individual interviews, surveys, and nutrition logs. I hypothesize that students with adequate pre-existing nutritional knowledge will make better food choices and maintain a healthier diet than individuals who do not possess such knowledge.

PRESENTATIONS 1:55-2:15

BSC 102W

EDUCATIONAL ATTAINMENT IMPACT ON LIFE SATISFACTION OF AMERICAN YOUNG ADULTS

AUTHOR: REBECCA FANG

ADVISOR: PATRICIA SCHNEIDER

What makes people happy? This research aims to contribute to the growing literature on the Economics of Happiness. Using data from the *National Longitudinal Survey of Youth 1997* (NLSY97), this study presents an empirical investigation of the happiness-related determinants of American young adults' life satisfaction. Preliminary results suggest that educational attainment, as well as health and marriage, have a positive and significant impact on happiness. In addition, women tend to report higher life satisfaction than men in the United States. However, income has a smaller positive impact than shown in previous studies. Happiness should be a goal for American young adults and government incentives to higher education can provide an important step in that direction.

BSC 103W

ADDICTED TO FACEBOOK: AGE USAGE AND GENDER EFFECTS OF PERCEIVED INTRUSIVENESS

AUTHORS: ELIZABETH R. ADAMS, BECKY SOTELO, JENNIFER L. HUGHES

Facebook addiction is a phrase used to describe a specialized behavioral addiction to the social networking site (SNS) Facebook. The goal of this study was to examine 1) the effects of age on Facebook intrusion; 2) how user usage frequency and liking Facebook relate; 3) how liking Facebook affects Facebook intrusion; 4) gender effects of

liking Facebook; and 5) gender effects of Facebook intrusion. An online survey was given to 666 participants (496 women, 167 men, and 3 did not answer), ages 18-30 years old. The results indicate that younger, female or more frequent Facebook users experienced more intrusion than older, male, or less frequent users. Likewise, women or more frequent users reported liking Facebook more than males or less frequent users. Implications of this study could include greater social awareness of the extent to which Facebook intrusion affects its one billion plus active monthly users.

BSC 112W

THE LANGUAGE OF EDUCATION

AUTHOR: MAUREEN KLEIN

ADVISOR: PHILIP OJO

There are many French speaking countries that, since colonization, use French as the instructional language in schools. Children often grow up in a household that speaks a language different from the country's official language which can affect the attitudes of communication, development, modernization, and similar factors. My research investigates children who are raised in a bilingual household and speak a different language within a family setting and a formal educational setting. The material focuses on African French speaking countries, particularly Senegal, Ivory Coast, and areas in Sub-Saharan Africa.

BSC 209W

LOCKE'S PRIMARY & SECONDARY QUALITIES

AUTHOR: TAINA BROWN

ADVISOR: HARALD THORSRUD

This presentation will focus primarily on Locke's distinction between primary and secondary qualities. Using scientific physical evidence, it will defend Locke's position and definitions of these qualities. Works by Berkeley will also be used to raise any objections to Locke's work.

BSC 210E

TO SAVE LIVES OR TO SAVE MONEY: THAT IS THE QUESTION

AUTHOR: CHARLEE QUARLESS

ADVISOR: JIM DIEDRICK

After completing my internship with Harlem United, an HIV/AIDS agency in upper Manhattan, I wanted to investigate the benefits and disadvantages of the new pharmaceutical Stribild, for newly diagnosed HIV positive persons in the United States. Drawing on interviews and research, I will argue that the new 1-pill four drug combination tablet Stribild will be a better option for PLWHA (Persons Living With HIV or AIDS) in comparison to the generic, once daily 3-pill alternative. In addition, I will discuss how the latter regimen is projected to provide significant budgetary savings for the U.S. government, and how this may affect underprivileged PLWHA, who are covered under the Ryan White CARE Act.

MINE IS BIGGER THAN YOURS: COMPARATIVE GENOMICS IN FRUIT FLIES

AUTHORS: ZENYTH SHEPPARD AND LINDSAY PRESCOD
ADVISOR: SREBRENKA ROBIC

Drosophila biarmipes is a species of fruit fly. The genome of this species has recently been sequenced. To investigate the relationship of this species to rest of the fruit fly genus, it is helpful to annotate the genome. Genome annotation is the process of attaching biological information to DNA sequences. We use comparative genomics in order to study the relationship of the genome structure and function across two species; in this case we are using *Drosophila melanogaster* as a reference. Through the use of the completed *Drosophila melanogaster* genome, we can explore the genomic differences between the two species. Our work is a part of the national consortium of undergraduate genomics research, Genomics Education Partnership (GEP).

MATERNAL EMPLOYMENT'S EFFECT ON A CHILD'S ACADEMIC SUCCESS

AUTHOR: RHODA SMITH
ADVISOR: DOUGLAS FALEN

This presentation examines the effects of maternal employment on a college student's GPA. In recent years, substantial research has focused on determining if a mother's employment affects the educational achievements of her grade school age child. Most research on this topic primarily focuses on maternal employment's effect on primary and secondary age students' educational achievements. With this in mind, this presentation asks the following question: What are the effects of maternal employment on a college student's GPA? This research is based on surveys and interviews completed by students at Agnes Scott College. The findings of this research will add to and build on literature addressing the effects of maternal employment and children's educational achievement.

PRESENTATIONS 2:20-2:40

THE INTERNATIONAL DEMAND OF AMERICAN HIGHER EDUCATION

AUTHOR: NGA THAN
ADVISOR: PATRICIA SCHNEIDER

The United States has been among the world-most attractive destinations for international students to obtain higher education. Data since the 1963/1964 school year show that the number of international students in the US higher education institutions have increased steadily in both relative and absolute terms. In this paper, I propose that higher education is considered a tradable service, and that international students import the service by consuming it in the United States. I will investigate in different determinants that influence and change that demand. The variables include the bilateral trade between the US and the source countries, the income per capital of source countries, the population, the source countries' overall quality of educational system, and the visa barrier imposed by the US to a particular country. Data cover the period of 1988 and 2009.

PRIVACY, IMAGE, AND OUTNESS: AN INVESTIGATION INTO GAY SOCIAL MEDIA USERS

AUTHORS: LEXI PULICE-FARROW, SU MYAT THU, YUN JIANG, JENNIFER L. HUGHES

As one of the first studies that examines gay-identified Facebook users, we hypothesized that gay-identified users would be less likely than heterosexuals to list the gender of the people they're romantically interested in (H1) and be less likely to list relationship status (H2). Due to greater privacy concerns, a gay-identified Facebook user would be less out (H3), be more concerned with their image (H4) and wouldn't post pictures of themselves with their partners (H5). Finally, users who were less out would have more concerns with their image (H6). The first two hypotheses were tested with Chi-squared tests. Both were supported, gay users were less likely to list the gender of the people they were interested and their relationship status. Correlation tests were used for the rest of the hypotheses. The fifth and sixth were supported, users who were less out were more concerned with their image and wouldn't allow picture tagging.

TEENAGE REBELLION: TRAGIC HEROINES IN LAURA ESQUIVEL'S *LIKE WATER FOR CHOCOLATE* AND FEDERICO GARCÍA LORCA'S "LA CASA DE BERNARDA ALBA"

AUTHOR: ELLEN HUMPHREYS

ADVISOR: MICHAEL SCHLIG

Tita from *Como Agua para Chocolate*, by Mexican author Laura Esquivel (1950-), and Adela from "La Casa de Bernarda Alba," by Spanish author Federico García Lorca (1898-1936), are the youngest daughters in households run by widowed mothers and whom both love a man promised to their oldest sister. By comparing and contrasting Tita and Adela through the original texts and cinematic adaptations, I argue that they are tragic figures using a working definition adapted from Helene Foley's study of Greek tragedies, Theresa de Vroom's examination of English Renaissance dramas, Jeanne Roberts's study of English Renaissance dramas and Oscar Mandel's definition of tragedy. As in the cases of Tita and Adela, tragic figures refuse to accept their roles in society, fight against an oppressive force (their mothers), try to control their own destinies but ultimately fail due to uncontrollable circumstances that lead to their demise.

GENETIC BASIS OF INVASIVE NONGROUPABLE NEISSERIA MENINGITIDIS: CAPSULE LOCI MAPPING OF 124 STRAINS OF NEISSERIA MENINGITIDES

AUTHOR: YIYI SHEN

ADVISOR: DOUGLAS FANTZ

Nongroupable *Neisseria meningitidis* are rarely isolated from patients with meningococcal diseases such as sepsis or meningitis, while they have a selective advantage and survival rate in the blood stream and in the cerebrospinal fluid. To better understand the genetic basis for nongroupability of *N. meningitidis*, 124 isolates from ABCs were characterized. 3 Class I and 3 Class III nongroupable meningococci have been identified. In 100 out of the 124 isolates, a sialic acid capsule polymerase gene (serogroup B, C, Y, and W-135) was identified (51 serogroup B, 11 serogroup C, 36 serogroup Y, 1 serogroup W-135, and 1 both serogroup B and Y). No non-sialic acid capsule biosynthesis (serogroup A and X) machineries were identified. 33 isolates miss at least one of the highly conserved capsule biosynthesis genes (*synA-C*). 74 isolates miss at least one of the highly conserved capsule transport genes (*ctrA-D*). Further investigations on *ctrE*, *ctrG*, *galE*, *galU*, *rfbB-A*, and *IS1301* are required for completion of the project.

LINES WITH p -ADIC VALUATION

AUTHOR: GABRIELLE O'BRIEN
ADVISOR: ALAN KOCH

The basis for our measure of distance is absolute value. What might happen to geometry as we know it if we stray from our usual formula for absolute value? How would familiar forms, such as lines and circles, and notions, such as parallel and equivalent lines, be affected? In this presentation, I present p -adic valuation, which gives rise to an alternative to absolute value on rational numbers. With this new measure of distance I find lines with infinite intersections, lines where points cluster at discrete distances like the rungs of a ladder, and a surprising role for Euler's totient function in this new geometry.

PUT DOWN THAT REMOTE! DOES REALITY TELEVISION PROHIBIT ASC STUDENTS TO THINK DEEPLY AND UNBIASEDLY?

AUTHOR: DEANNA TIPTON
ADVISOR: DOUGLAS FALEN

This presentation addresses how Agnes Scott students evaluate female characters' behavior on reality television shows and reveal how viewing these reality shows influence ASC students' perception of real women. This research utilizes data collected from online surveys, one-on-one interviews and focus groups. The research argues that Agnes Scott students can discern stereotypical behavior of females and fictitious aspects within reality television. Yet, these stereotypes of women and women of color in reality television affect ASC students' perceptions of real women. Studying this topic in depth at Agnes Scott is important since other media researchers consistently show that women tend both to endorse beliefs about depicted stereotypes and act upon their vulnerability to stereotypes at higher rates than men. Can the ASC community reduce these rates of endorsement and vulnerability?

PRESENTATIONS 2:45-3:05

THE DETERMINANTS OF STATE-LEVEL INNOVATIVE CAPACITY: A CROSS-SECTIONAL STUDY OF 50 STATES IN THE U.S.

AUTHOR: CHRIS MA
ADVISOR: PATRICIA SCHNEIDER

Technological innovation has played a key role in the U.S. social and economic development. However, innovative capacity, along with other key inputs of production, varies greatly by state. Using a series of OLS regression models, this study examines what factors are important in determining innovative capacity at the state level. The number of utility patents granted in each state serves as the measurement of the innovative capacity of each state, and the explanatory variables range from economic factors to demographic factors. Preliminary results suggest that research and development (R&D) spending, higher education attainment, local business environment and market demand are driving factors in determining the innovative capacity. In addition, this paper also shows a positive correlation between the state-level innovative capacity and the local economic performance such as gross state product and the total amount of the value added in the manufacturing industry.

WOMEN WITH EATING DISORDERS AND PERCEIVED SOCIAL SUPPORT

AUTHORS: CLAIRE CUSACK AND JENNIFER HUGHES

Body image issues and eating disorders are becoming a growing concern for women. Social support has been found to serve as a buffer for mental health even when the person is experiencing psychological distress (Kawachi & Berkman, 2001). The aim of the current study was to determine whether social support is related to eating disorder attitudes and body image concerns by examining the effects of social support for women with and without eating disorders while attending to other variables, such as eating disorder type, level of care received, and sexual orientation. Our sample was composed of 202 participants (197 female and 5 gender-queer) who voluntarily completed an online survey. There were positive correlations between body image and perceived social support from family and friends for women with and without eating disorders. ANOVAs showed no significant effect of perceived social support from friends or family or level of care on eating disorder symptoms or body image. Lastly, in regard to sexual orientation, there were no significant differences between heterosexual women and sexual minority women in eating disordered symptoms, number of women with eating disorders, or body image concern. The results indicate that women with eating disorders perceive less social support than women without eating disorders from friends, and family. Additionally, social support from family and friends is related to a more positive body image for both women with and without eating disorder history. Women experience similar frequency of eating disordered symptoms and body image concerns regardless of type of social support or level of care. Lastly, our findings show that women of varying sexual orientations experience eating disorder symptoms and body image concerns at similar rates. The results of this research have implications to influence eating disorder prevention and treatment programs by acknowledging the impact of social support on eating disorder symptoms and body image for women.

SILHOUETTE: DEFINING, RECLAIMING, RETURNING: EXPLORING IDENTITY AND ASCRIBING TO BLACK AESTHETICS

AUTHOR: MIA JONES-WALKER

ADVISOR: KATHERINE SMITH

This presentation explores portrayals of the black female figure as informed by interplays between race, gender, history, and narrative, through a hypothetical exhibition titled *Silhouette!*. Silhouettes are merely shapes of shadows, empty spaces into which one can project whatever image or categorization is desired. The selected artists retrieve their identity by examining how the black female body has been historically distorted, and then subverting those contexts in a provocative manner: Adrian Piper, Lois Mailou Jones, Carrie Mae Weems, Lorna Simpson, Betye Saar and Kara Walker. Piper and Jones redress the notion of the black female nude as fetish, while Weems and Simpson deconstruct the objectifying nature of documentary photography. Lastly, Saar and Walker parody and critique the faulty archetypes of black women that are entrenched in American popular culture, from literature to memorabilia to modern entertainment. They enable themselves to take charge of their image and how it is appropriated.

I HOPE YOU'RE A HUMEAN, BECAUSE BABY, YOU'RE UNPREDICTABLE: DAVID HUME'S MODERATE SKEPTICISM

AUTHOR: KEELY LEWIS

ADVISOR: HARALD THORSRUD

In his treatise *An Enquiry into Human Understanding*, philosopher David Hume asserts that making predictions about the future is based on conditioning, not reason, because there is no observable necessary link between a cause and its alleged effect. He also states, however, that believing in miracles is irrational, because by definition miracles break the laws of nature, which have far more evidence supporting them than a singular fantastic act. This presentation

will explore the strengths of Hume's two arguments, what their effects on science and traditional religion might be, and plausible objections to his account.

BSC 210E

DNA EXTRACTION METHODS FROM SOIL SAMPLES AND ASSESSMENT OF A HIGH RESOLUTION MELT (HRM) SUBTYPING METHOD FOR CRYPTOCOCCUS GATTII (C. GATTII)

AUTHOR: KATHERINE WILSON

ADVISOR: DOUGLAS FANTZ

C. gattii is a soil-dwelling agent of human cryptococcosis with an expanding ecological niche. Objective: To identify a method to extract polymerase chain reaction (PCR) quality *C. gattii* DNA from soil and to assess the applicability of HRM to subtype *C. gattii* in a single-tube reaction. Methods: Known positive and negative environmental and spiked soil samples and standard PCR were used to compare DNA extraction methods. *C. gattii* isolates typed by multilocus sequencing, unlabeled primers, and HRM reagents including an intercalating dye were used in HRM assays. Results: One DNA extraction method produced standard PCR-quality DNA. A primer set that identified subtypes by HRM was identified. Conclusion: We identified methods to extract *C. gattii* DNA from soil and confirmed the applicability of HRM to *C. gattii* subtyping. These results will facilitate development of molecular surveillance methods for *C. gattii* and related fungal species in the environment.

BSC 304E

THE LONGEST PERIOD OF A SEQUENCE DEFINED BY A SECOND-ORDER LINEAR RECURSION

AUTHOR: MEINA ZHOU

ADVISOR: ALAN KOCH

We investigate on the period length of the sequences described by a second order linear recurrence relation: $a_0 = 0$, $a_1 = 1$, $a_n = c_1 a_{n-1} + c_2 a_{n-2}$. It is known that the period is at most $p^2 - 1$. We prove that there are $\phi(p)/2$ ways to choose c_1 and c_2 to get a sequence of longest order. Additionally, we show that the number of different choices of c_1 is $\phi(p)$ and for a given c_1 , the number of choices of c_2 is $\phi(p)/(2 * \phi(p))$.

BSC 308

TO JOIN OR NOT TO JOIN? MILITARY ENLISTMENT PROPENSITY OF AGNES SCOTT STUDENTS

AUTHOR: CAMILLE C. HACKNEY

ADVISOR: DOUGLAS FALEN

The United States Military is a post-graduation option for many high school and college students. Though literature suggests that high school students are more likely than college students to join, in casual conversation with my peers, the U.S. military has come up in conversation as a post Agnes option. Using an online survey and in person interviews, my data suggests that the majority of Agnes Scott students are not likely to join the military, though many of them have considered the possibility. My research explores decision-making factors such as: the treatment of women, the influence of family and friends, and the employment benefits offered by the military. It is my hope that these findings about why a student would or would not join can be of use to the college as well as military recruiters to better serve the campus community.

PRESENTATIONS 3:10-3:30

BSC 102W

MAKING TEXTBOOKS POLITICAL: THE “COMFORT WOMEN IN TEXTBOOKS” DEBATE IN JAPAN

AUTHOR: FRANCOISE DANOY

ADVISOR: ELEANOR MORRIS

Abstract: For many years, Korean comfort women remained silent about the cruel treatment they endured at the hands of the Japanese military during World War II. In October of 1990, the Korean women's movement made their first move by sending an open letter to the Japanese prime minister listing six demands. One of these demands stated that history education in Japan must be amended to include these tragedies so that such tragedies would not be repeated. However, there are barriers that are preventing this subject matter from being included in Japanese history textbooks, which are in turn hindering good relations between the nations of Japan and Korea. This presentation will examine some of these obstacles and demonstrate how they politicize textbooks through a literature review.

BSC 103W

COLLEAGUES AND SUPERVISORS ON FACEBOOK? EFFECT OF WORKPLACE FRIENDSHIP, TRUST, AND GENDER

AUTHOR: YUN JIANG

ADVISOR: JENNIFER HUGHES

Although a large number of studies have been conducted on Facebook, few have examined users' attitude towards Facebook friending with people from the workplace. Our study investigated whether Facebook users would like to become Facebook friends with colleagues or supervisors, and whether their decisions are affected by perceived workplace friendship, trust towards work friends, and gender. Data were collected through online surveys completed by 399 participants who were 18 to 30 year-old Facebook users living in the United States and held either a part-time (46%) or full-time (54%) job. Results showed that Facebook users who perceived lower workplace friendship reported more unwillingness to friend colleagues on Facebook. Even with high perceived workplace friendship, Facebook users still felt more comfortable friending highly-trusted coworkers compared to moderately or lowly-trusted ones on Facebook. Finally, women were more likely to view supervisors' Facebook friending intention to be inappropriate than men. This study provides important implications about how understanding the factors that influence users' attitude towards Facebook friending with colleagues and supervisors can benefit both individual career advancement and organizational outcomes.

BSC 112W

SELLING DEGENERACY: FIVE CASE STUDIES

AUTHOR: EMMA KEARNEY

ADVISOR: KATHERINE SMITH

In 1937, Adolf Hitler commissioned the Degenerate Art Exhibition, to display modern art which, according to the Third Reich, showed an abasement of racial ideals. After the exhibition, the art was either destroyed or exported to the United States. But this process of importation for the artworks is less clear. By examining four German artists and one German-American immigrant art dealer involved with “degeneracy,” the reception and importation of German art before and after the war can be understood more clearly, including the roles of artists, art dealers and government officials. Research has been conducted through digitized archives of the sales records and newspaper articles. The reaction to German modern art in both Germany and the United States shows a manipulation of the aesthetics of

the age for political and personal reasons by those complacent in the questionable legality of the importation and those artists who were victims of circumstance.

BSC 209W

LANDSCAPE OF ORIGINS: MOUNT KINABALU AS A PORTAL TO CELESTIAL SPHERES

AUTHOR: HALEY DELOACH

ADVISOR: TINA PIPPIN

Mount Kinabalu is a landscape feature in Sabah, Malaysia that shapes the religious and cultural perspectives in the lives of an indigenous group called the Dusun tribe. Through origin stories, burial traditions, and the mountain's megalithic qualities, Mount Kinabalu is the Dusuns' celestial center. Through these religious and cultural elements, this presentation seeks to examine the role of Mount Kinabalu in Creationism and Dusun burial practices. Particularly, the mountain has great significance in the Dusun's beliefs about cosmological origins, and their religious practices display both functional and sacred connections between Kinabalu and this indigenous group. Using Mercea Eliade's theory of ritual, this analysis explores Mount Kinabalu's function as a megalith and how its role as a ritual altar makes the mountain a vital mechanism for understanding their origins and interacting with the divine.

BSC 210E

CROSS-CULTURAL AWARENESS

AUTHORS: NEERAJA PANCHAPAKESAN, NISHAT MHAMUD, SYMONE GRIFFITHS, ORE

ADEKUNLE, SOKNGIM KIM, YAWEI LUO

ADVISOR: JENNIFER LUND

The members of this household represent a diverse range of cultural backgrounds and nations: Bangladesh, Cambodia, China, India, Jamaica, and Nigeria. The primary focus of our presentation will be geared towards the different components that we explored within cross-cultural awareness and cultural competency, particularly from our own communities. The topics will be the following: Food/Dining, Education, Relationships, Health, Women, and even Culture Shock that was experienced from our exchange student housemate. We will summarize the different events we hosted during the school year, such as our international dinner party and our slideshow on weddings, and explain how these events discussed the different factors of cross-cultural awareness.

BSC 304E

HOW DO LOBSTERS KEEP THEIR RHYTHM?

AUTHOR: GABRIELLE O'BRIEN

ADVISOR: JIM WISEMAN

In your head, sing "School's Out for Summer". Now, speed it up. Although the total duration of the song shrinks, the melody is still recognizable because each syllable has decreased its duration appropriately relative to the other syllables. In other words, each syllable *maintains phase*. In the lobster pyloric network, a small neural network that controls the grinding of food, phase maintenance is observed as a stereotyped motor pattern varies period. A natural question is, what cellular properties allow neurons to adjust their temporal characteristics, such as burst duration and interburst interval, to support phase maintenance? Here, I present a mathematical model of a cellular mechanism, the co-variation of two intrinsic ionic currents in a classical Hodgkin-Huxley model neuron. I demonstrate how the coordination of these two currents allows a three-neuron network to maintain phase with up to fivefold variation in period.

BULLYING IN TRADITIONAL AND CYBER SPACES: A STUDY OF BULLYING BEHAVIORS AT AGNES SCOTT COLLEGE

AUTHOR: EMMA KIENKER
ADVISOR: DOUGLAS FALEN

This project aims to collect data about the prevalence of bullying and cyberbullying among Agnes Scott students and compare students' perceptions against reported rates of bullying in the Agnes Scott community. A survey was constructed in order to find the rates of perpetration and victimization among students in both a traditional and cyber setting, and interviews were conducted in order to gather information necessary to define what beliefs students hold about bullying and cyberbullying. The results of the survey indicate that most students feel safe in the campus community despite the moderate rates of bullying and cyberbullying reported. This study contributes new data about bullying behaviors among college students and determines the attitudes and perspectives of Agnes Scott students towards bullying, cyberbullying, and their personal safety.

PRESENTATIONS 3:35-3:55

RELATIONSHIP SATISFACTION, CONFIDENCE, AND OUTNESS IN LESBIAN IDENTIFIED FACEBOOK USERS

AUTHORS: LEXI PULICE-FARROW AND ASHLEY BOHNERT
ADVISOR: JENNIFER HUGHES

For this research we evaluated the relationships of 55 lesbian-identified Facebook users. In this study, we hypothesized that Lesbian-identified romantic partners who linked their partners would report greater relationship satisfaction than those who did not (H1). We also hypothesized that there would be a positive relationship found for lesbian-identified Facebook users for their relationship satisfaction and degree of outness (H2). Next, we hypothesized that there would be a negative relationship for users who had not linked their partners and relationship confidence (H3). Finally, if a user linked their partner, we hypothesized that she would be more likely to post pictures with her partner (H4). T-tests will be run for H1 and H3, while a correlation test will be performed on H2. Finally, a chi-square test will be run for H4.

QUALITY HEALTHCARE: WHAT DOES IT MEAN TO THE AGNES SCOTT COMMUNITY?

AUTHOR: ANTONIKA SOUDER
ADVISOR: DOUGLAS FALEN

A central goal of health care facilities is to maintain what is good about the existing health care system while focusing on the areas that need improvement. This presentation looks at notions of healthcare quality among Agnes Scott students. Through interviews with Agnes Scott students, research investigated what factors patients believe contribute to a quality healthcare experience. This research investigates students' views and will report findings of research, focusing on the factors of provider friendliness, facility appearance, wait times, views of professional expertise, and overall comfort with healthcare providers. These perceptions will help to gain a better understanding of what patients perceive as quality holistic healthcare and ways to improve services on campus.

TWO APPROACHES TO PROBLEM A IN THE MATHEMATICAL CONTEST IN MODELING

AUTHORS: AMELIA ALLEN, YIYI SHEN, WINNIE JIANG, LEXI WANG, QUYNH LE, AND SAMANTHA ALLEN
ADVISOR: JIM WISEMAN

The Mathematical Contest in Modeling (MCM) aims to challenge students to clarify, analyze, and propose solutions to open-ended problems. The contest attracts students from over 500 institutions worldwide. 2013 is the first year Agnes Scott College participated. There are two problems from which students could choose, and the two Agnes Scott teams chose Problem A, which is to develop a model optimizing heat distribution and number of pans in an oven according to provided information and design an advertisement for the model chosen. Both groups utilized a similar approach, building a model for various shapes for the pan and defining heat distribution on a pan, attempting to optimize both number of pans and uniformity of heat distribution. Because of the different methods of defining and modeling, the groups chose different pan shapes to solve the given problem. Our presentation would focus on the modeling process involved in this contest.

CONFLICT WITHIN THE REFUGEE COMMUNITY OF CLARKSTON, GEORGIA

AUTHOR: MAUREEN KLEIN
ADVISOR: DOUGLAS FALEN

Clarkston, Georgia is a community with a growing refugee population. Clarkston is easily accessible to Atlanta and has become an appealing community to refugee agencies. My research is largely about the effects of conflict within a refugee community, particularly Clarkston, Georgia. The purpose of this research is to determine if there are conflicts within the community among the refugee population. This research reveals whether the experience or exposure to conflict effects the satisfaction of life and the desire to remain in the United States or if there is a desire to return to the refugee's home country. This research has been gathered through interviews within this highly populated refugee community. The research discusses common experiences of refugee populations, potential conflicts, and various responses.

POSTERS AND EXHIBITS

WOOLFORD B. BAKER ATRIUM, SCIENCE CENTER

10:10-10:50

A COMMON MOLECULAR PATHWAY IN RETT SYNDROME AND SCHIZOPHRENIA

AUTHOR: ALEX AMBROSE
ADVISOR: JENNIFER LARIMORE

Rett syndrome is a disorder within the autism spectrum disorders (ASD) that primarily affects females. Our lab is exploring a potential common molecular pathway shared in schizophrenia and Rett syndrome. The *Mecp2* null mouse, a mouse model for Rett syndrome, and the BLOC-1 mouse, a model for schizophrenia were used to determine if BDNF is down-regulated in both schizophrenia and rett syndrome. BDNF was found to be down-regulated in the cortex. Our lab is further exploring this finding by examining the BDNF receptor (TrkB) in hippocampal subregions. Immunohistochemistry, confocal florescence microscopy, and image analysis software were utilized to examine the protein receptor levels. Our novel findings indicate the TrkB receptor levels in the *Mecp2* and *Pallid* mice were down compared to the control mouse in sub-regions of the hippocampus. These results provide more evidence that Rett syndrome and schizophrenia share a common molecular pathway.

SELF-PRESENTATION AMONG FACEBOOK USERS

AUTHORS: ASHLEY BOHNERT, GABRIELLE, JENNIFER HUGHES

Facebook has become one of the most popular social networking sites, providing a stage for users to manage other's impressions of them. A survey of 666 Facebook users was used to determine if self-presentation is affected by gender or age. The study was based on user's self-reports through an online survey. Our study suggests that there are gender differences, *t* tests results indicate that women were more likely to present themselves in a positive way, be less honest about sharing their thoughts, and be more likely to project a positive image of themselves on Facebook. Correlational analyses revealed a weak but significant association between age and self-presentation, as a user's age increases their concern with both the image they portray and positive traits selectively displayed on their Facebook page decreases. The findings of this study increase the understanding of self-presentation in general and indicate that gender can play a role.

MOTIVES THAT PREDICT THE USAGE AND LIKING OF FACEBOOK

AUTHORS: ASHLEY BOHNERT, LEXI PULICE-FARROW, JENNIFER HUGHES

Facebook has become one of the most popular social networking sites. A survey of 666 Facebook users was used to determine if motives were predictors of the liking of Facebook and the usage for Facebook. The study was based on self-reports of users through an online survey where research participants were recruited by research assistants. To examine possible motivators for Facebook use and liking Facebook two hierarchical multiple regressions were conducted. Our study suggests that age, gender, and race were not related to the liking of Facebook and usage. The significant motives found for liking Facebook were keeping in touch, occupying time, sharing information, people watching, and entertainment. The significant predictors found for Facebook use included occupying time, sharing information, and venting. The findings of that study increase the understanding of motives; motives contribute to the understanding of use of Facebook and the satisfaction from the usage of Facebook.

THE EFFECTS OF FAMILY LIFE ON COLLEGE WOMEN'S INTEREST IN SCIENCE

AUTHORS: AMY LOVELL AND JESSICA BOTTS

This study examines women's interests in science as correlated with sibling gender or parental vocations. The working hypothesis is that women who have male siblings or who have parents working in a scientific profession will indicate greater interest in scientific subjects. The study includes a survey response analysis in which participants will self-report, using a Likert scale. The survey will include questions about the participants' interests in different subject areas, including areas not expected to relate to the hypothesis. If a significant correlation is found between the women's interest in science and the presence of a male sibling or a parent working in the scientific field, it would be an important contribution to the discussion of why women favor or disfavor scientific pursuits, and could assist both parents and educators hoping to encourage greater participation and success in science among female students.

INVESTIGATION OF PEPTIDE NANOTUBE SELF-ASSEMBLY RATES

AUTHOR: ALEXANDRA BROSIUS

ADVISOR: DAVID LYNN

Simple peptides can self assemble to form supramolecular structures which are held together by weak forces including π stacking, van der Waals interactions and hydrogen bonding. These peptides are able to access structures such as tubes, spheres, and fibrils. Understanding the rate at which peptides assemble is one step toward modeling the kinetics of more complex systems. Biological structures, such as a cell wall, share highly ordered geometric structural characteristics with nanotubes formed out of peptides. The residues of interest are KLVFFAL and KLVFFAV. Both peptides form nanotubes with out-of-register antiparallel β sheets. Although the peptides and only differ by a methylene, the KLVFFAL nanotube diameter is ~ 5 times smaller than the diameter of the KLVFFAV nanotube. This study focuses on techniques used to measure the kinetics of peptide nanotube assembly.

WHAT KEEPS YOU CLEAN? THE IMPLICATIONS OF PARENTAL REJECTION ON PERSONAL HYGIENE

AUTHORS: LEAH BRYANT, NASTASSIA CUMMINGS, AND CARRIE M. BROWN

The purpose of this study was to explore the connection between personal hygiene practices and Parental Acceptance-Rejection Theory (PARTheory, Rohner, 1975). The researchers hypothesized that higher perceived maternal and paternal rejection would each have an indirect effect on lower personal hygiene practices via more negative self-esteem, and that higher perceived maternal rejection would have a greater indirect effect than perceived paternal rejection. Through convenience and snowball sampling, 85 female participants (M age = 23.88, $SD = 9.31$) completed a paper-and-pencil questionnaire. The results revealed that neither perceived paternal nor maternal rejection had an indirect effect on personal hygiene practices via negative self-esteem. However, the results revealed that higher perceived paternal rejection had a marginally significant direct effect on lower personal hygiene practices. This study expands the literature on PARTheory by introducing a previously unexplored construct.

EFFECTS OF EATING DISORDER SYMPTOMS AND BODY IMAGE ON ROMANTIC RELATIONSHIPS

AUTHORS: CLAIRE CUSACK AND JENNIFER HUGHES

As eating disorders become more common, it is imperative to understand how eating disorders affect various facets of individuals' lives. The purpose of the current study was to assess how women with eating disorders experience intimacy, sexual satisfaction, and relationship satisfaction in their romantic relationships. The sample included 202 participants (197 women and 5 gender-queer), with 34.3% identifying as bisexual, lesbian or queer and 65.7% identifying as heterosexual. The participants completed an anonymous online survey. An independent samples t test showed, for women in current relationships, there was no significant difference in intimacy levels for women with

and without eating disorders. However, for women who were single and responded based on their past relationship, there was a significant difference in intimacy levels for women with and without eating disorders. There was a significant difference in sexual satisfaction between women with and without eating disorders. For women with and without eating disorders, heterosexual women and sexual minority women had similar body image. Lesbian women without eating disorders reported significantly greater current relationship satisfaction for than heterosexual women without eating disorders. Eating disorder symptoms, body image, and how *out* a participant is did not significantly predict relationship satisfaction for sexual minority women with eating disorder history. The results indicate women with eating disorders experienced less intimacy in their previous relationships than women without eating disorders, less sexual satisfaction in their current or past relationships. Also, heterosexual women and sexual minority women experience eating disorders at similar rates. Because eating disorder symptoms, body image, or how *out* an individual is did not predict relationship satisfaction, this suggests other variables not considered in the current study are at play. These results have implications for treatment for clients in recovery from eating disorders.

EATING ATTITUDES, ATTACHMENT STYLE, AND REJECTION SENSITIVITY IN COLLEGE WOMEN

AUTHORS: CLAIRE CUSACK, REBECCA BEARDEN, COURTNEY FENCIL, DANA SMITH, EILEEN COOLEY

Bowlby (1977) proposed attachment theory to be the propensity for human beings to form and maintain emotional connections with others. He suggested there are two internal working models, self and other, both of which can be judged positively or negatively. If an individual has a negative internal working model of others, one does not expect others to help meet their needs. Thus, the internal working model of others relates to rejection sensitivity, which was conceptualized by Downey and Feldman (1996), because individuals who are rejection sensitive expect to be rejected, as do individuals with a negative internal working model of others. Prior research has examined relationships between attachment style or rejection sensitivity in regard to depression and anxiety. The aim of the current study was to extend the literature to determine whether there were relationships between attachment style, rejection sensitivity, and eating attitudes. A series of Pearson's *r* correlations revealed that there was no relationship between eating pathology and attachment style, but there was a significant relationship between eating pathology and rejection sensitivity. These results have clinical implications in treating clients with eating disorders so that clinicians may address interpersonal aspects of eating, as well as addressing fear of rejection.

OF MENSES AND MEMORY: THE RELATIONSHIP BETWEEN MENSTRUAL CYCLE, CORTISOL LEVELS, AND MEMORY?

AUTHORS: PRISCILLA DAVIDSON AND ROSA CONTRERAS
ADVISOR: BARBARA BLATCHLEY

The effects of the regular practice of meditation on cognitive function and stress level were examined. Novice meditators were asked to meditate daily (at least 5 minutes per day, for 4 consecutive weeks). Mindfulness, cognitive function and stress level were examined three times; prior to meditation practice, after two weeks of meditation practice and again after four weeks of practice. Salivary cortisol will be assessed using the ELISA technique and is predicted to decrease across testing. Cognitive function will be assessed using three Reaction Time (RT) tasks: A simple RT task assessing response speed, a choice RT task requiring a decision about the type of stimulus present, and a "Go-No-Go" RT task requiring response suppression to non-target stimuli. RT scores are predicted to improve across the mediation period. We also predict that mindfulness, measured using the Kentucky Inventory of Mindfulness Skills (KIMS) scale will increase across testing.

A YEAR IN THE AGNES SCOTT ECO HOUSE

AUTHORS: KATHRYN DEAN, CAITLIN WHITE, RAVEA RODRIGUEZ, SHANNON MCCARTHA, BERENICE LUNA, YITIAN ZHOU, YIYI SHEN, AND KYLEN FORD
ADVISOR: SUSAN KIDD

The 9 residents of the Agnes Scott Eco House have spent the last 8 months living in one of the college's theme houses on College Avenue. Though we all come from different academic backgrounds, what we share is a commitment to sustainable living. While residing in the house, we have participated in new initiatives through installing shower timers, composting, and having an energy audit done on the house. We have also organized and put on events for the campus, including open houses, craft nights, and events co-sponsored with the Environmental Residents and the Office of Sustainability. This poster will show what we have done in the house and what we plan to do in our remaining months. Since the Eco House will continue for at least three more years, we will also propose ideas for new projects that future residents in the house can pursue.

ARE GEOGRAPHICALLY ISOLATED POPULATIONS OF *THEMISTE LAGENIFORMIS* A SINGLE COSMOPOLITAN MORPHOSPECIES OR DISTINCT CRYPTIC SPECIES? A DISCUSSION OF THE DATA.

AUTHOR: KATE DONLON

ADVISOR: JOHN PILGER

Themiste lageniformis is a marine worm (Phylum Sipuncula) that exists in four geographically isolated populations worldwide, Florida, Hawaii, India and Argentina. It is understood to be a cosmopolitan species because individuals from each of the locations are morphologically identical and share a unique form of asexual reproduction. However, with the increased use of molecular techniques, genetic evidence suggests that many morphologically identical species are actually cryptic species. To test the hypothesis that *T. lageniformis* is a true cosmopolitan species, we isolated, amplified, cloned and compared the DNA sequences of two highly conserved genes, CO1 and 16S, from specimens collected from the Florida and Hawaii populations. Analysis of molecular variance within and between these populations will be reported and discussed in the context of the hypothesis.

THE MOLECULAR MECHANISM BY WHICH THE HIGB TOXIN INCREASES THE HIGA ANTITOXIN'S AFFINITY FOR ITS OPERATOR DNA

AUTHOR: SHEIN EI CHO

ADVISOR: TIM FINCO

To survive adverse environmental conditions such as limited nutrients or antibiotic challenges, bacteria must conserve energy and resources. The *Proteus vulgaris* Hig (Host inhibition of growth) operon contributes to bacterial survival during stress by limiting cell growth. The Hig operon consists of two genes. The first gene encodes the HigB toxin which halts protein synthesis and cell growth. The second gene encodes the HigA antitoxin which regulates HigB activity and protein levels through both direct interactions as well as transcriptional repression. Under stressful conditions, HigA is degraded by cellular proteases to eliminate HigA's neutralization of HigB. My research goal is to understand how the *bigBA* operon is regulated by the HigBA complex. The concentration of toxins, such as HigB, in the cell is important for bacterial survival and antibiotic resistance mechanisms so therefore knowledge of how such systems are regulated may lead to the novel target for antibiotics.

PATERNAL COLDNESS/LACK OF AFFECTION RELATES TO DRINKING MOTIVES TO COPE

AUTHORS: SHIVANI GHODADRA AND MELANIE ENNIS

ADVISOR: CARRIE M. BROWN

The purpose of this study was to determine if there is a relationship between perceived paternal coldness/lack of affection and drinking motives among women. In order to test this relationship we used a secondary data set of 95 females (M age = 21.5 years; SD = 1.6; 86% white) to test a total of nine hypotheses regarding the relationship between perceived paternal coldness/lack of affection and drinking motives. The researchers found support for the hypothesis that there is a positive correlation between perceived paternal coldness/lack of affection with drinking motives to cope ($r(93) = .22, p < .05$). This study reveals that there is a relationship between perceived paternal

coldness/lack of affection with drinking motives to cope. These results provide useful information about the relationship between drinking motives and perceived paternal affection.

FACEBOOK USE AND BREAKUP DISTRESS IN 18-30 YEAR OLDS

AUTHORS: GABRIELLE GREEN AND ASHLEY BOHNERT

ADVISOR: JENNIFER HUGHES

Facebook's popularity among young adults has many implications for how this is shaping communication, behavior, and relationships. Young adults are utilizing Facebook to not only correspond with current romantic partners, but to maintain some type of connection with or surveillance of past partners with whom they are no longer in a romantic relationship. The purpose of the present study was to explore the effects this continued contact has on Facebook users' emotional distress. Participants between the ages of 18-30 years old with Facebook accounts and a past romantic relationship completed online surveys through SurveyMonkey. The data from 448 respondents was used in this study. Distress was significantly greater for those who monitored their former partner's Facebook page, those whose relationships broke up in the past 6 months, and those whose partners ended the relationship. There was no correlation between being de-friended by their former partner and breakup distress.

TO POST OR NOT TO POST: WHAT FACEBOOK PHOTOS SAY

AUTHORS: UYEN HA, JENNIFER HUGHES, B. PAIGE SULLIVAN

Facebook has reached more than one billion users over the eight years since its creation and its reach continues to grow (Facebook, n.d.). Most of past research about Facebook has focused largely on disclosure, self-presentation, and personality. This study seeks to find connections between romantic relationship satisfaction and confidence and Facebook photo-posting activity. Three hundred twenty-six participants completed an online survey that asked about their Facebook photo-posting activity and measured their relationship satisfaction and confidence. We hypothesized that individuals who had greater relationship satisfaction would be more likely to frequently post photos of them and their partner together. We expected that those who had greater relationship confidence would also be more likely to frequently post photos of them and their partner together. The results from correlation analyses supported both hypotheses. It can be implied that offline romantic relationship satisfaction and confidence is related to online behavior on Facebook.

MASSIVE STAR FORMATION: FLICKERING AND IONIZED FLOWS

**AUTHORS: MELISSA HUTCHESON, KATIE BUTLER, JASMINE HEATH, ASHLEY MONSRUD,
KIMBERLY LUONG**

ADVISOR: CHRIS DE PREE

Ultracompact HII regions are dense areas of ionized gas within the galaxy in which massive star formation takes place. Based on simulation models, it is thought that these regions vary in brightness, commonly known as 'flickering', as they evolve. By using radio interferometry and radio imaging with the Very Large Array, we will compare two images take 23 years apart of the star forming region Sagittarius B2, in order to detect any flux variations in the sources. By using the continuum and recombination line data our team of researchers will identify these flux variations in the ultracompact and hypercompact sources. This research hopes to provide observational evidence of 'flickering' in the ionized gas near these stars.

ENDOSOMAL TRAFFICKING IN RETT SYNDROME

AUTHOR: LEILA IBRAHIM

ADVISOR: JENNIFER LARIMORE

Rett Syndrome is a disease of the nervous system that leads to developmental dysfunction, respiratory problems as well as many other debilitating symptoms. This disease primarily affects females and has been linked to a defect on the methyl-CpG-binding protein 2 (MeCP2) gene which is on the X chromosome. Endosomal trafficking is malfunctioning in Rett Syndrome. The research of study for this project is focused on endosomal trafficking, which is responsible for spine shape in neurons. In the project we are analyzing transferin receptor (TfR) trafficking in normal PC-12 Cells and exploring TfR in PC-12 cells with overexpression of MeCP2 for Rett Syndrome and determining the effects of over expression has on the endosomal TFR trafficking.

ENDOSOMAL TRAFFICKING IN RETT SYNDROME

AUTHOR: KARIMA JOHNSON

ADVISOR: JENNIFER LARIMORE

Rett syndrome is an X-linked neurodevelopmental disorder affecting approximately 1 in 10,000 female children in the US. This disorder is known to be caused by mutations in the MeCP2 gene, which is a transcriptional regulator within cells, and is also implicated in mental retardation as well as autism. The main characteristic associated with Rett Syndrome are immature spines, often seen within the CA3, CA1 and dentate gyrus of the hippocampus. The endosome is the primary organelle associated with spine formation, and as such, transports important proteins throughout the cell and to the cell membrane. We seek to further understand the cellular mechanisms underlying Rett Syndrome by studying endosomal trafficking and the role that it plays in spine development within the hippocampus in patients with Rett Syndrome.

CONNECTING PARENTAL MOTIVATION AND PARENTAL ACCEPTANCE-REJECTION THEORY

AUTHORS: TIFFANY JONES AND RHODA SMITH

ADVISOR: CARRIE M. BROWN

The purpose of this study was to examine the relationship between parental motivation and Parental Acceptance-Rejection Theory (PARTheory; Rohner, 1975). This study had two hypotheses: (1) There is a negative correlation between parental motivation and perceived paternal rejection, and (2) There is a negative correlation between parental motivation and perceived maternal rejection. The researchers utilized a secondary data set to test both of these hypotheses. The data consisted of 144 female participants and 43 male participants (M age = 19.43, SD = 1.33). The results revealed that there is no correlation between parental motivation and perceived paternal rejection. However, results revealed that there is a small negative correlation between parental motivation and perceived maternal rejection, indicating that those who perceived more rejection from their mother have less parental motivation. These findings provide valuable information regarding the relationship between parental motivation and perceived maternal rejection

CREATING A BASIC, PROFESSIONAL WEBSITE WITH HTML FOR THE MASSIVE STAR FORMATION GROUP

AUTHOR: KIMBERLY LUONG

ADVISOR: CHRIS DEPREE

The internet is an intricate network of websites, designed by both amateur hobbyists and professionals. Every webpage is a literal blank canvas, able to be filled to the brim with both valuable information and mundane banter—but the great strength of the sharing information on the internet is the ease of finding any desired piece of knowledge.

HTML, the main language for writing websites, is easy to learn, and just having very basic knowledge can yield professional results. As long as data and knowledge can be shared, a website lacking the flair of more complicated languages, can actually be more efficient in information sharing than their well-groomed counterparts. The poster will feature a website designed for the NSF-supported research grant in star formation.

EXAMINATION OF THE LAT GENE PROMOTER

AUTHOR: MADISON PAUL

ADVISOR: TIM FINCO

This project examines research on expression of the Linker of Activated T-Cells (LAT) gene. Data was gathered on what specific regions of the DNA promoter region aided in gene expression as well as what regions negatively affected gene expression in both T Cells and Mast Cells. Regions of the DNA that are hypothesized to be enhancer elements are also being studied through PCR amplification and measurement of gene expression using luciferase assay.

CALLING ALL BABY BOOMERS: GET TESTED FOR HEPATITIS C

AUTHOR: RENEE SCOTT-EMUAKPOR

The primary objective of this poster presentation is to critically examine the risk factors that have caused the baby boomer generation to have the highest prevalence rate of Hepatitis C in the United States. Furthermore, this presentation will cite public health recommendations that will aid in the reduction of Hepatitis C related illnesses and deaths. My inquires will focus on the principal causes for Hepatitis C in both younger and aging populations, available treatment options and existing strategies currently being implemented to improve prevention/intervention tactics. Lastly, this poster presentation will address the reasoning behind the Center for Disease Control and Prevention's vital message encouraging the baby boomer generation to get tested for Hepatitis C.

EFFECT OF REPEATED COCAINE ADMINISTRATION ON MONOAMINE RECEPTORS AND BEHAVIOR IN PROCAMBARUS CLARKIA

AUTHORS: KAELA S. SINGLETON, RUBY M. LAM, LAURA M. BUTKOVICH, ERICA L. HERZIG

ADVISOR: JENNIFER LARIMORE

Procambarus clarkii (Red Swamp Crayfish) provide an excellent animal model in drug research due to their simple and accessible nervous system. Studies show cocaine administration significantly reduces locomotor activity in crayfish; however when walking is exhibited, the speed and distance increase. Molecular mechanisms behind these behavioral alterations have not been fully explored. The presently proposed project aims not only to verify these behavioral effects of acute and repeated cocaine administration, but also to establish the specific roles of monoamine receptors in either or both of these conditions, including: serotonin, dopamine, and octopamine receptors. Using Western Blot and Reverse Transcriptase PCR in conjunction with behavioral observations will allow for a visual representation of changes in monoamine receptor expression. Preliminary data shows a decrease in 5-HT_{1A} receptors after repeated cocaine administration, but not after a single dose. Animals receiving repeated cocaine displayed more walking and walked further and faster than animals that received one dose. We will use receptor-specific antagonist pretreatments before cocaine administration to test for the necessity of various monoamine receptor subtypes in cocaine-related behavior. Ultimately, by identifying the molecular mechanism mediating cocaine-induced behavior, crayfish can be established as a model for vertebrate neurological drug abuse.

RELATIONSHIP BETWEEN PHEROMONES AND PHYSICAL ATTRACTIVENESS ACROSS THE FEMALE LGBTQ SPECTRUM (AKA FEMALE-FEMALE SWEATY T-SHIRT STUDY)

AUTHORS: DANA SMITH AND KYLIE FLYNN
ADVISOR: BARBARA BLATCHLEY

In this study, we tested the hypothesis that pheromones play a role in female-female attraction. Based off of Claus Wedekind's original "sweaty t-shirt" experiment, we set up a test of female-identified LBGT women's attraction to other women. We selected 5 females of varying physical appearances and sexual orientations with the assumption and expectation that their pheromones will be as diverse as possible to create clear differences between our samples. We asked them to wear new t-shirts to sleep for two nights and return them. The t-shirts were then individually placed in boxes equipped with a smelling hole for the participants to smell and then rate on a 1 to 5 Likert scale for 3 measures. Then, participants were shown pictures in random order of the 5 women who wore the shirts and asked to rate how attracted they were to each woman on the same Likert scale. Our hypothesis was that there would be a correlation between the shirts they rated the highest and who they found most attractive.

FACEBOOK USERS FRIENDING PARENTS: HONESTY ABOUT SHARING, SELF-PRESENTATION, AND IMAGE

AUTHORS: BECKY SOTELO, ELIZABETH ADAMS, JENNIFER HUGHES

Facebook is a relatively new research topic of interest, yet little research has explored the topic of online friendships with parents and the level of comfort users feel about them. A total of 666 participants were involved in this study (496 women, 167 men, and 3 chose not to respond). The ages of participants ranged from 18 to 30 years old ($M = 22$, $SD = 3.07$). Twenty-eight research assistants sent an online survey to participants, and upon completion, they were entered into a computer-generated drawing to possibly win an Amazon gift card. Analysis of Variance, or ANOVAs, produced significant results. When a Facebook user had his or her mother as a friend on Facebook he or she had less honest self-presentation. For both mothers and fathers, users expressed more concern with their image. There were no significant results when it came to a user and his or her comfort with a step-mother or step-father as friends. When Facebook users added their mother or father instead of the mother or father adding them, they reported feeling significantly more comfortable with the friendship. Facebook allows users to control who can see the content on their profiles. When it comes to feeling more comfortable with a parent, more likely a mother or father rather than a step-mother or step-father, as a friend users may access the privacy controls more in order to present a more honest image that the parent and the user feel comfortable with, even though this image may not be the image the user presents to his or her peers.

THE EFFECTS AND SHIFTS IN CORTISOL LEVELS IN ALPHA AND BETA FEMALE BLUE-BANDED GOBY AND THEIR RELATIONSHIP WITH AGGRESSION, DOMINANCE, AND REPRODUCTION

AUTHOR: JANELLE SOURBEER
ADVISOR: LOCK ROGERS

The social hierarchy of the Blue-banded Goby off the coast of California was examined in a four week study during their reproductive season. In each social group, behavior was determined by observational periods, hormonal assays were conducted, and social status was manipulated. The relationships evident between behavior, hormones and reproduction were further analyzed in order to answer a multitude of questions related to the exact dynamics and effects of manipulations on groups. In the study it was determined that alpha aggression towards the beta female negatively affects reproduction in the social group and in contrast, the efficiency with which beta displaces other females positively affects reproduction in the social group. This poster will be closely examining the behavioral differences in aggression and hormonal differences between beta females and alpha females before and after an induced hierarchical shift.

LINKED FACEBOOK PROFILES: MEASURES OF SATISFACTION, CONFIDENCE, AND JEALOUSY IN LINKED-PARTNER PROFILES

AUTHORS: B. PAIGE SULLIVAN, JENNIFER L. HUGHES, AND UYEN T. HA

Facebook's widespread use has piqued researchers' interest in the implications of this social networking site for relationships online and offline. This study explored how Facebook users in a romantic relationship who were or were not linked to their partner's profile reported feelings of relationship satisfaction, relationship confidence, and jealousy. The first hypothesis was that people who linked their partner to their Facebook profile would report higher levels of relationship satisfaction and relationship confidence and lower levels of jealousy than those who did not link their partner to their profile. The second hypothesis was that those who were linked by their romantic partners on Facebook would report higher levels of relationship satisfaction and relationship confidence and lower levels of jealousy than those who were not linked by their partners on Facebook. Participants were men and women ages 18 - 30 years old ($M = 22.45$, $SD = 3.13$) who were U.S. residents. A total of 326 participants responded to the SurveyMonkey survey that was used to collect the data. Both hypotheses were supported by the data. Implications of this study include a potential need for couples to discuss what role Facebook will play in their relationship, especially if one partner values being linked more than the other. Future studies should include more diverse samples in terms of gender, sexuality, and age and further explore relationship confidence, which has not been researched in the current literature as much as relationship satisfaction and jealousy.

DETERMINATION OF CUC CODON USAGE IN Δ LEU μ MUTANT STRAINS

AUTHOR: LIA TAYLOR

ADVISOR: DOUGLAS FANTZ

Transfer RNA (tRNA) is an adaptor molecule that recognizes each specific codon of mRNA and attaches the appropriate amino acid during protein synthesis. The tRNA^{leu2} of *E. coli* is the only leucine tRNA that recognizes the CUC and CUU codons of leucine. It has already been shown that, under starvation conditions, tRNA^{leu3}, encoded by leuW uses the wobble effect from a uridine-5-oxyacetic acid modification to recognize the CUU codon (1). Thus, we hypothesize that the CUC codon is also read by tRNA^{leu3} through a U:C wobble base pairing. The goal of this project is to isolate, purify by Ni-NTA affinity chromatography, and sequence the UvrD protein to ascertain what amino acid is being inserted across the CUC codon; thereby determining what is being substituted for tRNA^{leu2} in Δ leu μ mutant strains of *E. coli*. Here we found that UvrD-6xHis-tag protein can be successfully expressed in BL21(DE3), MG1693, and its Δ leu μ mutant using the pKMK10 plasmid. The previously tested expression plasmid pJT370 was also used to aide in the optimization of the Ni-NTA affinity chromatography. The presence of UvrD-6xHis-tag was confirmed by Western blot analysis and subsequently isolated via Ni-NTA affinity chromatography. Further work will be done to isolate the UvrD-6xHis-tag protein from MG1693, C600, W3110 and their Δ leu μ mutant derivatives and sequence the resulting protein to determine what amino acid is being inserted across the CUC codon. Our results suggest that *E. coli* has greater flexibility in codon-anticodon recognition, such that the cell can overcome the loss of this unique leucine tRNA.

GENDER, RACE, AND THE MOTIVES OF PEOPLE'S FACEBOOKING BEHAVIOR

AUTHOR: SU MYAT THU JENNIFER L. HUGHES YUN JIANG LEXI PULICE-FARROW

The first goal of this research study is to look at two demographic variables, gender and race, and to examine how people's motivations to use Facebook differ across genders and racial/ethnic groups. The second goal is to observe how enjoyment and frequency of using Facebook are related to people's motives for using Facebook. Six hundred and thirty-three participants who have Facebook accounts and live in the United States completed an online survey about Facebook usage and why they use Facebook. Results indicate that there is a significant gender difference in motives with women reporting more motives to use Facebook than men. However, no significant difference among

the motives for the four racial/ethnic groups was found. We also found that people's enjoyment with Facebook and their frequency of use of Facebook are positively correlated with their motives for using Facebook.

HANDS OFF! OUR WATER IS NOT FOR SALE: HOW GLOBALIZATION MADE WATER THE NEW OIL

AUTHOR: DEANNA TIPTON

ADVISOR: JERRY WEAVER

Anthropology 404: Globalization and Social inequalities (cross-registered class at Spelman College)

Hands off! Our water is not for sale: how globalization made water the new oil

This paper explores new solutions to the issue of global water scarcity as a result of globalization. It argues how the neoliberal practice of water privatization is not an effective solution. A free or unrestricted market in which companies have control over the water supply creates more inequalities instead of minimizing them. Companies that control the water supply often do not distribute to areas that most need water and do not offer equal quality of services to groups within their constituency. All research critiquing water privatization or explaining water scarcity solutions will be analyzed through apolitical economy theory lens. Through this lens the best and most effective solutions will be ones that allow the ownership and regulation of water to remain within the community.



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