

ORAL ABSTRACTS – 2009

Creativity and Intelligence in Preschoolers Re/inventing Africa: Chinua Achebe, No Longer at Ease, and the Question of Representing Cultural Others

Ilyas Abukar

The Pennsylvania State University

Faculty Mentor: Alexander Huang

The Western novel, practicing imperialist Africanism, has historically *othered* Africans as savages. Chinua Achebe, a Nigerian writer, appropriated the colonizing West's language and narrative to present the colonial encounter from an African perspective. Interestingly enough, both African and non-African scholars believe that Achebe's novels inadvertently reproduced the essentialism that reduced Africa into a single complete discourse--a total invention of African literary culture. By analyzing one of Achebe's most important novels, *No Longer at Ease*, this study argues that Achebe's work presents a nuanced picture of both European and Nigerians as cultural others through the protagonist's lived experience in London and Lagos.

Creativity and Intelligence in Preschoolers

Kristen Aguirre

The University of Alabama

Faculty Mentor: Frances Connors

This study examines the relationship between creativity and intelligence in very young children, an area largely neglected in the extensive literature comparing the two constructs. Specifically, the relationship between verbal and nonverbal creativity and verbal and nonverbal IQ in preschoolers was studied through testing approximately 60 children with the Thinking Creatively in Action and Movement task, the Multidimensional Stimulus Fluency Measure, and the Stanford Binet V Abbreviated Scale. Results, presented in terms of correlations between the total IQ score and each creativity measure, as well as each intelligence subtest with both creativity tasks, are discussed in terms of threshold theory.

Grazing Incidence Small Angle X-ray Scattering (GISAXS) Study of Mesoporous Silica Thin Films on Metal Substrates

James Allen, Jr.

The University of

Alabama

Faculty Mentor: Martin Bakker

Mesoporous silica (MS) thin films contain nanometer-sized pores and are of interest for many applications. Prior work using GISAXS, a scattering/diffraction technique that allows determination of pore spacing and degree of ordering and alignment, found that

for MS templated by the block copolymer P123, the type of metal substrate used impacts the size, spacing, ordering, and alignment of the pores. It is expected that different block copolymer templates will impact the pore spacing, ordering, and alignment. We report here on an analysis of GISAXS data from MS thin films on a range of metals templated by various block copolymers.

Unmasking Political Organization and Participation in Multi-cultural Democracy

Alejandra Aponte

Columbia University

Faculty Mentor: Maria Victoria Murillo

Since its return to democracy, Guatemala struggled to bolster popular participation within its multi-cultural population. It has sought this aim by enhancing municipal power and promoting the Comité Cívico Electoral (CCE) as a novel form of organization. Scholars and observers have welcomed the CCEs claiming that their local focus makes them key to increasing popular participation at the municipal level. Little work has been done to confirm this link. Henceforth, this paper will test this assertion by conducting a quantitative study of municipal election data. If a positive relationship cannot be confirmed, Guatemala may have to seek alternative measures to accomplish its aims.

Pervert, Wombat, Lover: Second Life as Narrative/Game and the Role of the Resident in Virtual Reality

John Armour

West Virginia University

Faculty Mentor: Charles Baldwin

Two dominant academic approaches to studying the experience of playing video games are "narrative context" and "ludology." The purpose of this paper is to examine digital virtual reality and video games through these filters, using the social networking site Second Life as a model and the video game World of Warcraft for comparative analysis. Intent and self-chosen role of the resident/player within the digital virtual reality/video game are analyzed as a means of creating a prescriptive model with which to ascertain whether the individual resident/player's experience is better described as ludological or narratological.

Purification and Characterization of the Heme Biosynthesis Enzyme Ferrochelatase

Awuri Asuru

The University of Alabama

Faculty Mentor: Laura Busenlehner

Human ferrochelatase functions in the terminal step of heme biosynthesis by catalyzing the incorporation of iron into protoporphyrin IX to form heme. The portion of ferrochelatase exposed to the mitochondrial matrix may serve as a potential binding site for the iron-chaperone frataxin. Hydrogen-Deuterium exchange mass spectrometry (HDex-MS) can be used to probe the dynamic structure of ferrochelatase and to better

identify regions involved in binding both iron and frataxin. Since HDex-MS requires MS-compatible detergents and soluble protein, a purification protocol was developed that prolonged the stability of ferrochelatase and utilized a MS-amenable detergent so that HDex-MS experiments could be performed.

General Contractors Awareness and Participation in Sustainable Construction Practices

Awale Awale and Shirley Hu
Faculty Mentor: Scott Fee

Minnesota State University-Mankato

In this study, the awareness and participation in the LEED system are being investigated among general contractors in the upper Midwest region of the United States. A survey of 15 questions was sent via email to the members of Associated General Contractors. An increase of 23% in awareness and 27% in participation were observed among general contractors in the new study when compared to 2005's study.

Non Governmental Organizations Role in Addressing the Cultural Legitimization of Domestic Violence Among Indo-Caribbean Immigrant Women - A Case Study of Sakhi for South Asian Women

Aneesa Baboolal
Faculty Mentor: Carmen Solis

John Jay College of Criminal Justice

This study explores how cultural legitimization of violence against women is addressed by Sakhi for South Asian Women, an ethnic-based nongovernmental organization. Theories of culture, identity and program evaluation will be used to examine what thirteen employees, interns and volunteers at Sakhi perceive as the cultural attitudes of Indo-Caribbean women in Richmond Hill, Queens. Formal and informal acceptance methods of domestic violence as well as outreach efforts will be assessed. Recommendations for improving organizational policies and outreach endeavors with the Indo-Caribbean community will be provided.

The Untold History: An Examination of African Americans and Women in Alabama Textbooks and History Curricula

Jennifer Barnett
Faculty Mentor: John Giggie

The University of Alabama

The current study engages how politics mandate the teaching of history. This research explores in particular how American History has been taught to middle school-aged children in Alabama since 1960, with a focus on the representation of minorities before, during, and after the Civil Rights Movement. Curricula adopted by the Alabama State Department of Education, including textbooks, are reviewed, with attention to content and illustrations. Analysis focuses on the reasons "philosophical and especially political"

for changes in the way in which history is taught concerning underrepresented groups.

Development of Analytical Methodology for Microwave-Assisted Hydrolysis of Glycans to Monosaccharides

Monique Bastidas
Faculty Mentor: Roy Dixon

California State University-Sacramento

Determining monosaccharide compositions is a key step in identifying unknown biologically-derived oligosaccharides, which can be useful in determining their counterparts' biological function. The researcher hydrolyzed sucrose and maltooctaose using 1.0 M HCl and 2.0 M TFA in a microwave set at 95C for 1 to 2 hours and then separated via HPLC-CAD. Sucrose was completely hydrolyzed and maltooctaose was hydrolyzed to 67% glucose. This independent method, which has the potential to be simpler and more economical than other methods used for determining monosaccharide composition, will be used to quantitate oligosaccharides standards in a related project.

Attachment Theory within Romantic Adult Relationships and its Impact on Support

Melissa Batres
Faculty Mentor: Niall Bolger

Columbia University

Attachment theory illustrates different attachment styles that individuals adhere to in personal relationships. According to recent work in attachment theory, romantic relationships can be conceptualized as an attachment process. The purpose of this paper is to analyze the attachment style of 40 romantic couples in accordance with the four-category model. We used the Linguistic Category Model to code 7- minute support discussions. We will use these analyses to determine the correlation between attachment styles and support-giving behavior. We predict that securely attached individuals will mostly use Interpretive Action Verbs whereas fearful and preoccupied individuals will use more Descriptive Action Verbs.

Reflections on Whiteness: The Origins, Progression, and Maintenance of White Supremacy as a Cultural, Political, and Economic Force in American Institutions.

Marcus Bell
Faculty Mentor: George Lundskow
Richard Yidana

Grand Valley State University

Despite the prevailing national discourse that implicates racism as an outdated phenomenon, social science data identifies race as very predictive in determining life outcomes. Racism is seen as individual actions of bigoted persons, not as systematic inequalities that are built into the American landscape. Analyzing primary and secondary documentation of America from 1865 to 1930, this research details the institutionalization of white supremacy through the enforcement of "black codes," the

end of radical reconstruction, the reemergence of slavery, and the assimilation of European immigrants, thus creating the category of “Whiteness,” and securing advantages for generations to come.

Investigations in the Geometry of Polynomials

Neil Biegelle

Grand Valley State University

Faculty Mentor: Mathew Boelkins

Because polynomial functions are completely determined by their roots, every property of a polynomial is affected when these roots change. Our research aims to further understand how the distribution of a polynomial’s roots affects specific characteristics of the function. We are especially interested in classifying which root distributions maximize or minimize certain properties. We employ recent results on polynomial root dragging and root motion to further explore these issues, including the attempt to explain why many properties are maximized by Bernstein polynomials. This presentation will survey some important results and present our investigations into new problems and approaches.

Validation of the Revised Multicultural Teaching Competency Inventory

Raquel Botello-Zamarron

Iowa State University

Faculty Mentor: Loreto Prieto

An analysis of the validity of the Revised Multicultural Teaching Competency Inventory (MTCI-R; Prieto, 2003), an instrument developed to quantify three multicultural teaching competencies held by professors. The three competencies are Knowledge, Awareness and Skills as construed by Sue and associates (1982). The sample included 141 professors at a midsized public university in the Midwest. The results indicated a three factor model that included knowledge and Awareness. The third factor can be identified as an alternative from of Awareness, focusing on intra-psychic awareness, where factor 2 represents awareness of how external factors influence students. Skills failed to appear as a distinct construct.

Age Appropriate Treatment Programs for Dually Diagnosed Adolescents: A Survey of Sacramento Mental Health and Substance Abuse Facilities

Lindsay Brent

California State University-Sacramento

Faculty Mentor: Lisa Tavano-Hall

The co-existence of substance abuse and psychiatric disorders among adolescents is of growing concern. Limited research, in addition to the complex nature of this population, has made effective diagnosis and treatment exceedingly difficult. While treatment programs for dually diagnosed individuals are available, their primary focus has been on adults, leaving the unique developmental needs of the adolescent unmet. By using data from the National Survey of Substance Abuse and Mental Health Treatment Services and a review of the current literature, this research investigates developmental methods for

age appropriate treatment programs and program availability and success rates within Sacramento County.

Campus Triple Bottom Line; “An Examination of Campus Sustainability Programs Through a Case Study of Grand Valley State University Sustainable Community Development Initiative”

Mary Brown

Grand Valley State University

Faculty Mentor: Jaideep Motwani

This study focuses on campus sustainability and provides a summary of a comprehensive literature review with examples of college sustainability programs. These programs vary in form and have demonstrated broad and diverse methodologies and applications for data collection, programming, stakeholder involvement, and program measurement. There is a need for a comprehensive universal model that examines the critical success factors that help and inhibit the quality and effectiveness of campus sustainability programs. This research concludes with a case study from Grand Valley State University and a suggested strategic framework for developing a sustainable campus.

Off the Wall: An Application of Communication Privacy Management Theory on College Students' Self- Disclosure Towards Professors on Facebook

Meagan Bryand

Texas A & M University- Corpus Christi

Faculty Mentor: Shawn Wahl

Facebook is an online social network whose main goal is to publicly self-disclose information about one's self. This study focuses on how college students manage their privacy towards their professors as well as what information they chose to share. During the span of seven days, students were given diary entries to express their thoughts, activities, and feelings. Sandra Petronio's Communication Privacy Management theory was then applied to see where students set their boundaries. In addition to answering the study's research questions an unexpected finding regarding privacy boundaries outside the classroom arose.

Binary Opposites: Images of White Heroes in Black Slums on the Silver Screen

Catrice Canty-Pope

Michigan State University

Faculty Mentor: Judi Brown-Clarke

The research presented will examine the translation of white superiority through the portrayal of the white female as the hero/savior in films with a predominant minority cast characterized in a stereotypical inferior light. In the age of information, sociologists have determined that media mediums, such as films, are powerful tools to help shape opinions of one self and others. Specifically, *Losing Isaiah* (1995), *Dangerous Minds* (1995), and *Freedom Writers* (2007) will be analyzed on the subject stated above.

Effects of Physical Activity Levels on a Marker of Cardiovascular Disease in Postmenopausal Women

Daniel Castillo

West Virginia University

Faculty Mentor: Cindy Fitch

The purpose of this study was to learn more about the relationship between activity levels and heart health, specifically the relationship between self-reported weekly physical activity and C-reactive protein (CRP), an indicator of cardiovascular disease. Subjects included postmenopausal women who were participating in a feeding study. The International Physical Activity Questionnaire and blood samples were collected from each participant at the beginning of the study. Kendall's tau-b showed a trend with a correlation (-0.194) between CRP and metabolic equivalent values. While this study is ongoing, preliminary data indicates that low levels of physical activity are associated with high CRP values.

Impact of Images in Advertisements on Older Adults

Danielle Chestang

University of Maryland-Baltimore County

Faculty Mentor: Judah Ronch

The role of the media on adults age 65+ has been primarily discussed in the context of the devaluing of older women and gender disparities found in advertisements. To fully understand the media's impact on this sector, a questionnaire will be distributed to determine if variables such as social economic status, gender, and ethnic grouping have a bearing on how mature adults perceive advertisements. We will survey a total of 60 residents from low income and middle class independent living communities. The survey will allow us to determine if advertisements adversely affect the health of mature adults.

Using the Transitive Inference Task to Determine the Association Between the Hippocampus and Relational Memory

Kristy Cordero

Temple University

**Faculty Mentor: JoHanna Carpenter
Deborah Drabick**

Many neuroscientists believe the hippocampus to be associated with processing relational memory. The transitive inference task (TI) involves training a subject in four pairings where (A>B), (B>C), (C>D), and (D>E). Being able to decipher that (B>D), demonstrates inference skills, which is a relational memory subtype. The C57BL/6 strain of mouse is currently being trained to learn four olfactory pairings. The drug Muscimol will then be directly infused into the animals' dorsal hippocampi. Muscimol inactivates the hippocampus temporarily. If the animals show deficits in (TI) after the drug infusions it can safely be assumed that the dorsal hippocampus is necessary for relational memory.

An Examination of Community Attitudes and Perceptions Toward Sex Offenders

Susann Cortes

John Jay College of Criminal Justice

Faculty Mentor: Elizabeth Jeglic

Sex offenders evoke strong sentiments from the community who influence the development of public policy and legislation. However, attitudes toward sex offenders differ depending upon the characteristics of the victim and the type of sexual offense. In an effort to better understand this phenomenon; this study will examine public attitudes and perceptions toward sex offenders. Undergraduate students will complete an online survey assessing attitudes toward sex offender sentencing and treatment and how a history of sexual victimization can influence those attitudes. These results will be discussed as they pertain to sex offender legislation and supervision.

Innocent Cartoons? Stereotypes of Women and African Americans in Children's Cartoons

Ebony Cross

Grand Valley State University

Faculty Mentor: Ellen Shupe

Television programming's, including cartoons are known for portraying stereotypical attitudes towards African Americans and women. This study examines children's cartoons and the commercials between the cartoons to determine if the stereotypes still exist. Children cartoons are examined because children are especially vulnerable to accepting stereotypes as fact. The physical attributes, physical behaviors, personality, and communication characteristics that are traditionally attributed to African Americans and females will be examined in children's cartoons and commercials. Based on theory and previous research on stereotypes portrayed in cartoons, it is predicted that these stereotypes are decreasing but still exist.

Understanding Juvenile Delinquency

Brittany Dancy

North Carolina Central Univ./Michigan State Univ.

Faculty Mentor: William Davidson

Juvenile delinquency refers to the deviant or antisocial actions of juveniles by legal or social norms. This study attempts to identify various categories of risks leading to juvenile delinquency by utilizing the YLS/CMI short form. The sample was composed of 601 juveniles, who were identified through the intake/informal division at a juvenile court located in a Midwestern industrialized county. The mean age was 14.22 with a standard deviation of 1.714. The study found eight domains can consistently be used to determine criminogenic risks and levels of intervention needs. The specific domains and future implications will be discussed in the study.

Nestling Oral Microbial Colonization in Tree Swallows (*Tachycineta bicolor*)

Heather Danhof
Faculty Mentor: Patrick Thorpe

Grand Valley State University

Microbes may have a positive impact on fitness of birds through improving host nutrition and/or host pathogen defense. The oral microbial community of nestling tree swallows will be characterized by sampling the pharyngeal region. Variation in microbial composition will be determined using molecular techniques that use the 16s rRNA gene. Nestling tree swallows will be sampled at Nesting Day (ND) 3 and ND 19. Parents will also be sampled. We predict that parents and offspring will be more similar to each other than unrelated swallows. We also predict that adult-like microbial communities will mature in nestlings until ND 19.

The Experiences of African American Women in Academia: A Qualitative Study

Janan Daniel
Faculty Mentor: Valerie Howells

Eastern Michigan University

The present study examines the experiences of African-American female professors in the health-care field. This is a qualitative study using ethnographic approaches. Specifically, the human interactions and experiences of the every-day lives of participants is studied. Observations, field note writing, interviews, reflective journaling and archival research was completed to garner findings. Results revealed that African-American professors in the health-care field have unique experiences specific to their individual culture which translates into their every-day lives as professors.

Comparison of Lakes with Reduced Spring Mixing in Southeastern Michigan

Lisa Denys
Faculty Mentor: Kristin Judd

Eastern Michigan University

In healthy temperate lakes, spring and fall mixing events distribute nutrients to surface waters and oxygen to bottom waters, supporting phytoplankton and zooplankton populations. Turnover is mainly driven by temperature changes and wind, but factors such as salinity or effects from human impacts, may also affect whether spring turnover occurs. To determine this I surveyed several southeastern Michigan lakes by measuring chemical, physical, and biological factors to assess oxygen in the bottom waters and identify trends in the abundance and diversity of zooplankton and phytoplankton. Results showed variation in nutrients, phytoplankton, zooplankton, and the degree of spring mixing among lakes.

Noise Production of Notebook Axial Fans

Jasmine Draper

Iowa State University

Faculty Mentor: Adin Mann

Notebook fans are known to produce noise in quiet atmospheres. This study will help understand noise creation and develop an experimental design that produces data for use in future research, therefore bringing a more unified design for testing notebook fans. The practical method of the study is to design a test plenum and use TSA to record noise. Results will reflect on how the plenum was fabricated. A single type fan will be used for testing. An anechoic chamber will be used for acoustic testing. The facility will be the acoustics labs.

Co-Localization of Histamine and Phdc-Induced Egfp Expression in the Central Nervous System of Drosophila Melanogaster

Wendi-Jo Ervin

Grand Valley State University

Faculty Mentor: Martin Burg

It is not known what the function of histamine-containing cells is in the CNS of Drosophila. The promoter region of the Hdc gene was fused to the eGFP gene and inserted into Drosophila. To confirm that all cells expressing eGFP are also histaminergic, examination of the stained preparations in larval and adult stages was conducted and analyzed using fluorescence photomicrography. Once demonstrated that all eGFP cells are also histaminergic, new areas of research may be conducted, investigating the function of these cells, leading to a better understanding of the role of histamine in the central nervous system.

Shadows, Hysteria and the Blind Owl: Problems of Existentialism in a Non-Western Context

Nicholas Fagundo

West Virginia University

Faculty Mentor: Ryan Claycomb

The 1937 Iranian novel *The Blind Owl* by Sadegh Hedayat combines traditional Persian themes, imagery and culture with French existential philosophies that were becoming popular at the time, and also with other European and American literary devices. By connecting Iranian traditions with both contemporary European literary trends and classic European texts, Hedayat complicates the assumptions held by both traditions. Tradition and modernity are simultaneously challenged, complicated and oppugned. The novel raises stimulating questions about the outcomes of exporting existentialism outside of Europe. This project examines the problems and complications *The Blind Owl* presents about both existentialism and postcolonialism.

The Depiction of Women During the Mexican Revolution

Delia Fernandez
Faculty Mentor: David Stark

Grand Valley State University

Popular images of women during the Mexican Revolution (1911-1920) often depict them as dressed provocatively and also wearing a bandolier and gun. Although the image is common, the explanation is not well known. An examination of previous literature and media will show the transformation in the image of the female soldier (soldadera) over the course of the Revolution from that of the submissive follower into a promiscuous fighter (Adelita). Men may have been responsible for creating this romanticized image; however women embraced it to empower and liberate themselves from the limitations they encountered in their daily lives.

A Job's Influence on Latino Education

Yiliany Fernandez
Faculty Mentor: Leon Gold

Columbia University

Research has been done on the impact that jobs have on people and their families. However, there exists a lack of research on the impact conditions at the workplace have in Latino households. In hopes of finding correlation between lack of parent involvement and educational attainment data that consists of interviews and questionnaires among Latinos who were parents that worked on physically demanding jobs, students at higher education in institutions, and Latinos that can be categorized as successful was collected. I hypothesize that Latinos whose parents' show involvement have a higher chance of pursuing higher education.

Spy Kids: A New Breed of Latinos in American Cinema

Ramon Figueroa
Faculty Mentor: Gregory Kim-Ju

California State University-Sacramento

Since the introduction of motion pictures in the United States, Latinos have been consistently depicted in stereotypical ways. From the early greaser characters of the silent movies to the current portrayals of Latinos as criminals, sexual objects, and buffoons, these stereotypes have been mostly negative in nature. However, with the increasing number of Latinos in positions of power in the American film industry, we are beginning to see a shift in the way Latinos are being portrayed. Using an ideological approach, this study argues that Mexican American director Robert Rodríguez counters stereotypes of Latinos in his film *Spy Kids*.

Comparison of Protein Synthesis and Gene Expression in Loaded

Intervertebral Disc

Danielle Fontaine
Faculty Mentor: Ian Stokes

University of Vermont

The study being undertaken uses a rat-tail model of scoliosis by applying an apparatus to impose an angulated deformity and compressive load to the tails of growing rats. Using radioactive labeled “tracers” to measure the incorporation of sulfate and tritium into intervertebral discs, we will measure the synthesis of aggrecan and collagen. The project will utilize RT-PCR measurements of mRNA levels of these proteins and enzymes in loaded and “control” discs. The proposed work will test the hypothesis that altered levels of mRNA correlate with alteration in the amount of synthesis of collagen and aggrecan dependant on deformity and load.

Power and Politeness in Teacher-Student Relationships in American and Chinese Colleges

Mariana Freitas
Faculty Mentor: Hannah Lin

West Virginia University

This research will examine the differences in etiquette/politeness in the United States and China with a focus on how they relate to the teacher-student relationship. The purpose of this research is twofold. It will analyze the similarities and differences between American and Chinese teacher-student interactions at the college level and factors influencing these interactions. It will also determine if the current linguistics politeness theory developed by Brown and Levinson (1987) can be applied to the relationship. Data will be gathered and analyzed from Discourse Completion Tests containing open-ended questions and interviews with students from both China and the United States.

An Examination of the Relationship Between the Role of Masculinity and Systematic War Rape: The Case of Yugoslavia

Geeta Gangadeen
Faculty Mentor: Marcia Esparza

John Jay College of Criminal Justice

While engendering masculinity may differ depending on region, religion and culture, inherent in all masculinities is the practice of power and control. Because the concept of gender is constantly transforming, there is room for examining masculinity in war situations. This research examines the role masculinity plays in systematic rape during war and armed conflict. Through an analysis of court transcripts from the International Criminal Tribunals for the Former Yugoslavia, the research hopes to explore the role that the beliefs and attitudes inherent in both hegemonic masculinity and military culture play on systematic rape during war.

Creative Nonfiction: Where is it going?

Dawn Gannon
Faculty Mentor: Sascha Skucek

The Pennsylvania State University

Providing a more concise description of the Creative Nonfiction genre and the ethical issues involved, this presentation examines the progress of the genre from the beginning until present day. Using resources including journals and collections, and sampling some creative nonfiction works, it analyzes how the ethics changed as the genre changed. This presentation offers the opinions of several authors on the ethics and the genre, knowledge of creative nonfiction basics; what to do and what not to do when writing creative nonfiction, and determines definite points of ethical changes within the genre to explain its transformation into creative nonfiction today.

**Sexploitation of Children: Reliability of Data and Existing Patterns
in Six Countries**

Tatiana Gochez-Kerr
Faculty Mentor: Laurie Scheuble

The Pennsylvania State University

Problem: Child sexploitation data is difficult to find and often of questionable validity. To understand the scope of the problem and see criminal patterns, data needs to be charted across time on a large scale and analyzed in context with structural factors. ***Methods:*** To see what data are available, six countries were examined, and a data set developed. The data were quantitatively compared to national structural factors (ex: infant mortality rates). ***Results:*** There was very little accurate data. Very rough estimates were obtained, but cannot be construed as scientifically reliable. ***Conclusions:*** Accurate research with replicable methodology will lead to a better understanding of the problem so that real patterns can emerge from real data.

**The Media After 9/11: How They Interpret Relevance, Honesty and Freedom of
Speech In The New National Security State**

David Gomez
Faculty Mentor: Elisabeth Daeumer

Eastern Michigan University

This literature review of the Press is intended to explain its fundamental role in our republic. The Founding Fathers intended for the Press to report on the government and act as watchdog against corruption and abuse of power. Our mainstream press like FNC, MSNBC, ABC, CBS, and CNN tells the public they are doing this job to the best of their ability. Media critics Robert McChesney and Norman Solomon believe the press became too involved with the officials it was watching over. After 9/11 the Press failed the people and regurgitated disinformation that involved the U.S. in a war with no end in sight.

**The Effects of LEMS on P/Q-Type Calcium Channel's Subunits, Alpha-1A, and
Their Replacements by N and R Type Channels**

Maryvi Gonzalez-Sola

Univ. of Puerto Rico at Cayey/Michigan State Univ.

Faculty Mentor: William Atchinson

Lambert-Eaton Myasthenic Syndrome, (LEMS) is described as the damage suffered in the subunits of P/Q-type calcium channels in pre-synaptic somatic motor neurons as part of neuromuscular junctions. LEMS affects the immune system, by blocking calcium channels with auto-antibodies. If these calcium channels are blocked, then calcium flow is slowed down, affecting the acetylcholine release to muscle fibers, which in turn inhibits muscle contraction. Tottering mice have been treated with LEMS by injections of plasma from LEMS patients to determine if LEMS leads to an unmasking of other subtype of calcium channels.

An Examination of the Relationship Between Environmental Factors and Health in Diabetics

Chrystle Greene

John Jay College of Criminal Justice

Faculty Mentor: Erica King-Toler

Diabetes is a serious chronic illness that affects 23.6 million children and adults in the United States; an estimated 5.7 million of which are unaware that they have the disease. This research utilizes Bronfenbrenner's theory (1979) to study whether various environmental factors play significant roles in diabetics living healthy lives. It is hypothesized that counseling, family, and education will play a larger role in managing glucose control, rather than race, age of onset, or gender.

Observers Response to Racial Harassment in the Work Place

Ashley Groggins

Michigan State University

Faculty Mentor: Norbert Kaminski

Due to racial harassment (RH) being a cancer in the workplace, the researchers examine what influences observers use to intervene in a RH situation. Based on Bowes-Sperry and O'Leary-Kelly (2005) model of observer intervention, as well as literature on racial harassment in the workplace. We examine how intervention is influenced by the type of harassment, and the ethnicity of the victim and harasser. Perceptions of costs and benefits emotional reaction to the harassment, relationship to the target, recurrence beliefs, and social dominance orientation evidenced some connections to intervention are also influenced. Implications for developing zero-tolerance climates in organizations are discussed.

Improving LSI-Based Bug Localization Using Historical Patch Data: (Reports of Preliminary Findings)

Cory Hayes

The University of Alabama

**Faculty Mentor: Monica Anderson
Nicholas Kraft**

With the increasing complexity of modern software and the inherent issues of software maintenance, resolving bugs in source code becomes increasingly time-consuming. Latent Semantic Indexing (LSI) seeks to assist developers in locating and fixing bugs in code more efficiently by measuring semantic relationships between various source code elements. However, LSI has its own limitations as well, mainly the possible range of differences in the vocabulary of user-submitted bug reports and the source code. Our new approach will focus on adding historical patch data to source code elements to minimize the gap between these two components and make LSI more reliable.

Latino Fathers' Parenting and Practices in the Context of Immigration

**Cindy Hernandez
Faculty Mentor: Kevin Roy**

University of Maryland-College Park

This is a qualitative study that explores how immigration shapes Latino fathers' parenting and practices. For the purpose of this study, 19 life long story interviews that were collected by a case manager researcher were analyzed using three waves of coding: open, axial, and selective. Three narrative themes gave meaning to the fathers' immigration experiences and involvement with their children: immigration, role models, and co-parenting practices.

Scene Aware Information Layout

**Sean Hernandez
Faculty Mentor: Sean White**

Columbia University

Proper placement of graphical and textual information in physical scenes remains a challenge in augmented reality. In this paper, we propose a technique for visual analysis of the scene in order to place and arrange information while optimizing readability and minimizing occlusion of important aspects of the scene. Our technique is based on the hypothesis that textures of high or low frequency in a scene are generally of little importance to the viewer. We experiment with alternative segmentation and feature extraction methods and present a comparative study evaluating our technique relative to random placement and existing alternative techniques.

An Exploration of Language, Culture and Limited Perspectives

**Alfredo Hernandez-Corsen
Faculty Mentor: Judy Whipps**

Grand Valley State University

The complexities of our culturally diverse communities require us to reflect on pre-conceived notions of understanding that shape our worldviews. This project combines an

examination of language as a crucial contributor to outlining perception, with an analysis that compares and contrasts inflexible methods of knowing through a study of religious and scientific fundamentalist perspectives. This research articulates the need for dialogue and open-minded approaches that acknowledge the existence and importance of multiple ways of knowing, while it challenges the inadequacies of incomplete fixed mindsets that promote exclusiveness by discouraging and undervaluing diversity in postmodern times.

**The Voices of Introverts and Extroverts: Perceived, Displayed, and
Desired Social Support**

Michelle Herrera
Faculty Mentor: Niall Bolger

Columbia University

Personality characteristics must be considered when aiming to understand what qualifies as support for some but not others. This paper explores the relationship between how introverts/extroverts (a) perceive, (b) display, and (c) desire either practical or emotional support. Eighty participants (forty couples) held two 7-minute discussions where the recipient discussed a personal issue and the provider offered support. We conducted pitch analyses, utilized the Linguistic Category Manual (LCM) to code couple discussions, and reviewed background questionnaires. We predict introverts will perceive, display, and desire far less support than extroverts. Introverts will display a greater preference for providing/acknowledging practical support over emotional support.

**General Contractors Awareness and Participation in Sustainable
Construction Practices**

Shirley Hu and Awale Awale
Faculty Mentor: Scott Fee

Minnesota State University-Mankato

In this study, the awareness and participation in the LEED system are being investigated among general contractors in the upper Midwest region of the United States. A survey of 15 questions was sent via email to the members of Associated General Contractors. An increase of 23% in awareness and 27% in participation were observed among general contractors in the new study when compared to 2005's study.

**Improving Supports for African American Students at Two Predominantly White
Institutions (PWI) in the New England Area**

Jem Hughes
**Faculty Mentor: Holly-Lynne Busier
Dorian McCoy**

University of Vermont

African American students have lower retention rates at predominately White institutions (PWIs). An absence of academic and social supports often contributes to these students not persisting through graduation. In this study, I use the “Circle of Courage” framework to provide recommendations for improving supports for African American students at two PWIs in the New England area. The “Circle of Courage” framework suggests that students must experience/develop Belonging, Independence, Generosity, and Mastery, to feel supported.

Black Faculty and Their Mentoring Relationship With Black Students

Quortne Hutchings

The Pennsylvania State University

Faculty Mentor: Kimberly Griffin

Many researchers have addressed the benefits of mentoring for Black students, yet little is known about their mentors, who are often Black professors. This study addresses three questions: How do Black faculty benefit from mentoring, how do Black students benefit from the support faculty offer, and what barriers keep Black faculty from mentoring students. This is a qualitative study. Interviews were conducted with eleven Black faculty at a large research university. Findings indicate that although Black faculty sees the benefits of mentoring for themselves and students, institutional pressures may be hindering them from mentoring more.

Butt-Slapping and Towel-Snapping: Gender, Homophobia and Homoerotic Touching in Team Sports

Jessica Hyman

University of Maryland-Baltimore County

Faculty Mentor: Kris Weller

Using textual analyses of athletes’ personal narratives, games, advertisements, and film, this study explores sport as a symbol of hegemonic masculinity, and its relationship to homoerotic touching among athletes in high status, team sports. It is proposed that the policing of heterosexist, racialized notions of masculinity and femininity dictates divergent same-sex touching norms for male and female athletes. Findings will produce knowledge regarding the ways in which sexism and homophobia inform practices within sport. This knowledge is important, considering the international cultural significance of U.S. team sports, widespread veneration of professional athletes, and the high revenue production of sports.

A Rural and Urban Comparison of Breast Cancer Stage at Diagnosis and Date of Treatment (for African American Women)

Kimika Jackson

The University of Alabama

Faculty Mentor: Cassandra Ford

Rural women and African American women with breast cancer have shown later stage at diagnosis and decreased access to treatment, relative to urban women and Caucasian women (e.g., Amey, Miller, & Albrecht, 1997; Higginbotham, Moulder, & Currier, 2001; Liff, Chow, & Greenberg, 1997). This study extends these findings by comparing staging of breast cancer malignancies and duration between diagnosis and initiation of treatment by race and geographic locale. Data were obtained from the Alabama Statewide Registry and the Alabama state cancer profile from the National Cancer Institute. Results are discussed in terms of equity in breast cancer diagnosis and treatment.

Drug Trafficking and Crime in West Africa and its Implications for Political Stability in Liberia

Sekou Kesselly

John Jay College of Criminal Justice

Faculty Mentor: Yahya Affinnih

The purpose of this research is to explore the impact of West African cross border drug trafficking on drug use and crime in Liberia. This is important because research is needed to examine this issue, particularly since it has the potential to undo the fragile peace in the region. Secondary and historical sources will be used to conduct this research.

Ancient Greek Music and Kithara Reconstruction

Tanner Lake

University of Vermont

Faculty Mentor: John Franklin

The music of ancient Greece is a relatively neglected area of Classical studies. I will conduct my own research in this field, exploring topics of rhythm, tempo, scales, melody, and notation through ancient writings and modern scholarly texts. I will also research the ancient kithara, examining many different representations and taking proportional measurements by comparing the instrument's internal dimensions in relation to the players; the goal is to derive average measurements for all the kithara's elements. I will also research the materials these instruments were made from. This data will be used to commission a modern reconstruction of a kithara.

Leucine Zipper Motifs for the Engineering of Functional Organophosphate Hydrolase Biomaterials

Hoang Dung Lu

Columbia University

Faculty Mentor:

Many organophosphates deactivate serine proteases, potentially leading to subsequent neurological failure and death. Organophosphate compounds' toxicity have been exploited, some serving as pesticides or even nerve gas weapons. Unfortunately, widespread use of organophosphate pesticides has resulted in environmental contamination, contributing up to three million cases of organophosphate poisonings annually. Here, we present self assembling organophosphate hydrolase fusion proteins that can form biomaterials capable of degrading organophosphates, engineered from organophosphate hydrolase and previously designed leucine zipper moieties. These new proteins can serve as a platform for OP degradation and detection technologies, and demonstrate the efficacy of leucine zipper protein fusion strategies.

Diffusion Barriers in Drosophila Neurons

Esteban Luna

The Pennsylvania State University

Faculty Mentor: Melissa Rolls

Neurons are highly specialized cells that require the specific localization of proteins within the cell to function. If the correct localization is compromised it can lead to neurological diseases. One of the proteins implicated in keeping proteins in their proper location is Ankyrin. Here we use RNAi to decrease the expression of Ankyrin 1 and 2 in Drosophila to see how it affects the axonal diffusion barrier in ddaE neurons. We are also creating a GFP and RFP of Rdl, a protein isolated to the dendrites, to view protein restriction in dendrites.

A Defense of the Complex Matter Reading of Aristotle

Jeffrey Mahaney

West Virginia University

Faculty Mentor: Beverly Hinton

This purpose of this research is twofold. First, this research aims to give an explication of Aristotle's conception of matter and change, and of scholarly interpretation of his work, along with all of the relevant surrounding information. Second, this research aims to defend what will be called the "complex matter" reading of Aristotle. In doing so, textual evidence will be appealed to, along with other lines of reasoning.

Gender Performance and the Gender Binary in the Films of Martin Lawrence, Eddie Murphy and Tyler Perry

Lesa Marks

University of Maryland-Baltimore County

Faculty Mentor: Jodi Kelber-Kaye

Tyler Perry's Medea has become a well known fixture in popular Black film and has garnered her creator great commercial success. Nevertheless, she is not the first of her kind. This project explores the gender binary in the films of Tyler Perry, Martin

Lawrence, and Eddie Murphy with respect to their female alter egos. The methodology for this project compares the male characters in the films and their gendered employment as well as their family roles. The anticipated result is that the male character will conform to prescribed gender while the women show the worst stereotype of the Black female.

Refugee Resettlement: History and Policies of Refugee Resettlement in the U.S

Briana Martin

University of Vermont

Faculty Mentor: Susan Comerford

Interest: I am exposed to the growing population of refugee families located in town. I became aware of many of the transitioning struggles that refugee families endure. I want to further analyze the impact refugee resettlement have on families and the implications for social work. Field Work: I'll be shadowing Organizations that work with Refugees. The organizations are: Vermont Refugee Resettlement Program and the Association of Africans Living In Vermont, Inc. I'll be recording field notes and data. Methods of research: Journal Databases, Books, and Government Documents.

Assessing the Utility of Genetic Data as a Monitoring Tool: A Case Study of Eastern Red Bats (Chiroptera: Vespertilionidae: Lasiurus borealis)

Anne McNeely

Grand Valley State University

Faculty Mentor: Amy Russell

Many populations of bats, namely *Lasiurus borealis*, have experienced fatalities due to turbines at wind energy facilities. Traditional demographic methods are unsuccessful at estimating effective population size, and an effective means of estimating population size for bats must be established to understand the consequences of the use of wind energy. We will assess the utility of genetic markers for monitoring population size and will model population declines for *Lasiurus borealis*, manipulating parameters (population size, structure, mortality rate, time since onset of decline, and type of molecular marker) to determine under which circumstances these data are best utilized to monitor declines.

Mental State Talk Between Mothers and Their Typically Developing Children and Children With Autism

Chelsea McShane

University of Vermont

**Faculty Mentor: Tiffany Hutchins
Patricia Prelock**

Previous research suggests that mothers adjust their interaction strategies in response to their children's developmental level. This study examined how mothers of typically developing children and children with ASD used mental state language. Approximately 20 mothers of children with ASD and 24 mothers of typically developing children participated in story-telling tasks using wordless pictures specifically designed to elicit

mental state talk. All interactions are being coded reliably for the presence of a variety of mental state types and functions. Results will be analyzed using a series of independent t-tests. Implications, limitations, and directions for future research will be considered.

Poverty Within the United States: its History, Importance and Causes

Kofi Mensah

University of Vermont

Faculty Mentor: Patrick Neal

America, the world's wealthiest and most innovative country in present day history has an ever-increasing problem of poverty. From low numbers in its early years to numbers now high in the millions, it is estimated that 12 and 17 percent of Americans now live below the federal poverty line at any given moment and about 58 percent of American s will spend at least one year below the poverty line between the ages of 25 and 75. This research will take an in-depth look at reasons behind this critical problem.

The Implications of Participating in Extracurricular Activities in Regards to Grades and Retention of CAMP Students at the University

Maria Meza

California State University-Sacramento

Faculty Mentor: Mary Kirlin

The body of research that focuses on students in the College Assistance Migrant Program (CAMP) is limited, but the existing research shows that CAMP students, despite entering the university facing threats to their academic success, still reach higher academic achievement than their same year peers. The present study examines the influence of non-CAMP extracurricular activities on the success of these students. This research uses secondary data and interviews to compare the level of extracurricular engagement of CAMP students to non-CAMP students at a metropolitan state university in Northern California.

Transnational Motherhood: An examination of the Latina immigrant mothers sense of resiliency and protective factors

Denise Mises

John Jay College of Criminal Justice

Faculty Mentor: C. Jama Adams

The purpose of this study is to identify resiliency, coping and protective factors that Latina immigrant mothers experience during a separation from their child(ren) when the mother decides to immigrate to the United States. The aim is to examine how the conceptual framework of motherhood has been modified to accommodate living and working apart from their children. An examination of protective factors that contribute to the resiliency that has helped these women cope with the distance between themselves and their child(ren) will also be examined. The cases of Latina immigrant mothers in New York will be utilized to explore historical events and the diverse economic and

familial circumstances that have given rise to a reorganization of productive and reproductive tasks both at the local and the global level.

The Effect of Zoledronic Acid on Osteoblasts in Vitro

Genevieve Miller
Faculty Mentor: Erwin Vogler

The Pennsylvania State University

The purpose of this study was to observe and quantify the effect of zoledronic acid (a bisphosphonate used clinically to treat bone metastasis) on osteoblasts. Murine calvarial pre-osteoblasts (MC3T3-E1) were grown to varying maturities and treated with zoledronic acid (ZOL) in 0.05, 0.5 and 5.0 μM concentrations. Drug effects on osteoblast proliferation and differentiation were assessed. The effects of ZOL were also observed on breast cancer colonization of 3D osteoblastic tissue grown in a specialized bioreactor. MC3T3-E1 were continuously cultured for 60 days in the bioreactor, challenged with human metastatic breast cancer cells (MDA-MB-231) and treated with ZOL.

Novel Mechanisms of PKA Regulation in Fission Yeast

Jessica Mitchell
Faculty Mentor: Stevan Marcus

The University of Alabama

Cyclic AMP (cAMP)-dependent protein kinase (PKA) is a serine/threonine kinase involved in numerous signal transduction pathways in eukaryotic organisms. Our laboratory has recently discovered novel cAMP-independent mechanisms regulating the expression and phosphorylation of the PKA catalytic subunit (Pka1) in *Schizosaccharomyces pombe* in response to various physiological stresses. The current research investigates the contributions of the PKA regulatory subunit, phospholipase B1 (Plb1), and Phosphoinositide-dependent protein kinase (PDK1) in cAMP-independent Pka1 regulation in *S. pombe*. In addition, whether mitochondrial stress induces cAMP-independent upregulation of Pka1 expression and phosphorylation is investigated, since PKA is required for normal mitochondrial integrity in *S. pombe*.

Relationship Models: An Exploratory Study Researching Alternatives to the Heteronormative Dichotomy

W. Taylor Monson
Faculty Mentor: Mark Klinger

The University of Alabama

This study investigates heteronormative romantic relationship interactions, focusing on how biological sex, gender identity, and sexual orientation relate to the awareness and adoption of gender roles when interacting in dating situations. Heterosexual and homosexual men and women, 18 to 24 years old and varying in gender identity (Personal Attributes Questionnaire; Spence & Helmreich, 1978), completed the Behavioral Response Scale and Cognitive Response Scale. These investigator-developed

questionnaires, based on Rose and Frieze (1989) and Klinkenberg and Rose (1994), reflect, respectively, the utilization and awareness of heteronormative roles. Reliability of measures is addressed and findings discussed in terms of cognitive and gender theories.

The Differences Within Children With Autism of Different Ethnicities

Rachel Moore

Michigan State University

Faculty Mentor: Margaret Semrud-Clikeman

This study explores the differences between African American and Caucasian children diagnosed with Autism. Autistic Spectrum Disorder causes children to have issues communicating with others. This study investigates the differences across both groups as it relates to brain biologically and the child's environment. N=2 main participants will both have fMRI Scans on their brains, focusing on how their brains interpret emotions. The images of these two brains will be compared for differences. This study also analyzes previous studies, comparing the aspects of both ethnicities' environment to find any factors that could contribute to Autistic Spectrum Disorder.

Quaternary geology: Raised Terrace Deposits, Toco, NE Trinidad, West Indies

Mallory Morell

Grand Valley State University

Faculty Mentor: John Weber

Pablo Llerandi-Roman

Trinidad's geology preserves deformation related to fossil oblique convergence between the South American and Caribbean plates (pre-10 Ma) and more recent, active transform motion. Records of both tectonic processes are present in the Toco region of NE Trinidad, which lacks an accurate and modern geologic map. We are mapping, making field observations through stratigraphic columns, characterizing (through sieving, grain analysis, and X.R.D), and dating (using O.S.L., etc.) raised Quaternary marine terrace deposits to test whether they are possibly flexural features related to active sinking into the Gulf-of-Paria pull-apart basin in western Trinidad and creating a more exact location map.

Full Service Schools: Collaborating to Achieve Goals

Rafiqah Mustafaa

The Pennsylvania State University

Faculty Mentor: Dana Mitra

Full service schools offer a wide array of services and programs that aim to address the various needs of students and foster healthy development and academic achievement in students and their communities. An increase in the number of full service schools in the United States has compelled those involved in the planning processes to ask questions pertaining to the purpose of the schools, the actors in the schools, and how those actors collaborate to achieve the schools' goals. This study explores how full service school planners examine these questions and how they apply their gained knowledge to their

school policies.

An Examination of Binding Properties Between Aptamers and the Chemotherapeutic Drug Cisplatin

Anand Narayanan
Faculty Advisor: Peter Gannett

West Virginia University

Cisplatin is a common chemotherapeutic drug used to treat patients with lung, bladder, ovarian, and other cancer variants. However, it exhibits toxic side effects that limit the administrable dosage. Additionally, cisplatin concentration measurement in the patient's blood is cumbersome. The objective of this research is to prepare aptamers to which the cancer agent, cisplatin, will bind. The aptamers serve as a detection element for an electrochemical biosensor. DNA charge transfer is utilized in the biosensor through the aptamers as a current measurement; the greater the cisplatin concentration, the greater the number of drug-DNA interactions, and the greater flux in current.

A Closer Look at School Policy and Its Affect on Academic Achievement

Malik Nelson
Faculty Mentor: Jamal Benin

Temple University

When looking into the many factors affecting student academic achievement, the three main concerns as supported by literature are, parental involvement, teacher expectations, and peer relations. My research focuses on how school policy can influence these three factors to promote or hinder academic achievement, with a focus on urban communities.

Forgotten Children: How Law Enforcement Agencies and Child Protective Services Deals with Children of Arrested Parents

Kristin Neville
Faculty Mentor: Donna Selman

Eastern Michigan University

When a child's sole caretaker is arrested a number of things can happen depending upon which law enforcement agency makes the arrests. There are no guidelines that all police departments follow, in fact some departments have no guidelines set in place. This can cause children to "fall through the cracks". This is a problem because not only can it put the child in danger, but also it can have psychological side effects on the children. This research will help to find the possible gaps between law enforcement agencies and Child Protective Services.

Computer-Aided Student Study Group Formation

Kurt O'Hearn
Faculty Mentor: Roger Ferguson

Grand Valley State University

Many students thrive in collaborative learning environments, especially through the usage of study groups. Currently, students face challenges during study group formation such as scheduling conflicts, limiting study-mate selection to one's class, and knowing compatible study-mates. In an attempt to overcome these challenges, we are developing an artificial intelligent, Internet-based system that aids in formation of study groups. This system, constructed of a XHTML/CSS/PHP web interface with a MySQL database backend, takes into account age, gender, group size, and knowledge level when forming groups. After development of this system, analysis of student surveys will provide feedback on usability and viability.

Who Am I? A Study of How Black Athletes Have Shaped the Black Identity

Trisha Okine
Faculty Mentor: Kate Brown

University of Maryland-Baltimore County

It is clear from the images in society, that the role models and most notable black males. The black athlete embodies the success story that many Black boys aspire to follow. Several studies have focused on Black Athletes but none attempted to find out why. How history created a person that represents a strong, rich, and powerful black man. The aim of this study will be to find out how the presence of Black athletes, influenced the Black Identity. This study will hopefully result in a better understanding of what is important to Black males and how they see themselves in America.

Comparing The Cultural Competency Between African American and Caucasian Foster Mothers Caring For African American Foster Children

Brittany Overstreet
Faculty Mentor: Sedalia Crase
Thomas Hill

Iowa State University

This study compares the cultural competence of three African American foster mothers and three Caucasian foster mothers of African American foster children, in order to understand how cultural competence is taught to children, and thus help improve the foster care system. Telephone interviews were conducted with participants to better understand how they view cultural competence and how culturally competent they are. The recorded interviews were transcribed and analyzed, yielding three themes and several subject areas to determine how the two racial groups of mothers responded to the questions relative to teaching cultural competence to their African American foster children.

The Impact of IMF and World Bank Lending on Nigerian Development

Victoria Oyaniran
Faculty Mentor: Yahya Affinnih

John Jay College of Criminal Justice

There has been a growing debate whether the policies of International lending organization hurt or help developing countries. This project explores the effects that IMF and World Bank lending policies, as well as the implementation of these policies by the government, have had on Nigeria's development. This study adds to the body of existing knowledge regarding the intersections of accountability, corruption, and development. It is hypothesized that the IMF and World Bank policies, along with corrupt Nigerian Government Officials, have contributed to underdevelopment in Nigeria. Historical and archival data will be utilized to investigate this hypothesis.

Income and Inequality and Mortality Rates Predicting Risky Sexual and Criminal Behavior

DiTallianna Patterson
Faculty Mentor: Carlos Navarrete

Denison University/Michigan State University

This research examines the possible relationship between income distribution inequalities as well as mortality rates and high-risk future-discounting behaviors of African-Americans. We hypothesize that income inequality and high mortality rates yield an increased engagement in future-discounting behaviors. Methods include a survey which will measure various factors such as socio-economic status of participants, involvement in criminal behaviors, high-risk sexual behaviors, and perceived intrinsic value of future endeavors among other things. If the hypothesis is supported, it will be important to understand and target those factors that influence engagement in high-risk future-discounting behaviors instead of focusing solely on the behaviors themselves.

An Examination of the Relationship Between Smoking and Delayed Gratification Capacity

Nelly Pimentel
Faculty Mentor: William Gottdiener

John Jay College of Criminal Justice

The proposed project aims to determine the effects of nicotine and frustration on the capacity to delay gratification in smokers. Sixty nicotine abusers will first smoke a cigarette and then be randomly assigned to complete a solvable (control) or unsolvable anagram (experimental/frustration). Then the delay discounting task (a measure of delay of gratification) will be administered. I predict that delay of gratification capacity will be significantly reduced in participants in the unsolvable condition. The study findings could provide important knowledge about factors that reduce the capacity to delay gratification in smokers; "a considerable problem for them (Gottdiener, et al. 2008)."

Systems Modeling of Chagas Disease in Bolivia, Argentina, and Guatemala

Naomi Pollica

University of Vermont

Faculty Mentor: Lori Stevens

Chagas disease is the most serious infectious disease in the Americas. Transmitted mainly through Triatoma insects, Chagas disease causes human system malfunction. With no vaccine, control efforts focus on prevention not treatment. With STELLA closed system modeling of hosts, vectors and environmental factors exploring how Chagas disease spreads and measuring control strategy effectiveness is possible. Initial parameters were gathered from existing literature. Data accumulated from bloodmeal analysis of Triatoma collected from Arizona and Bolivia demonstrates feeding preference and genetic distribution of Triatomas. The final model compared to existing literature from Argentina and Guatemala, will further the understanding of Chagas disease.

Surviving Under Free Trade: A Standpoint Analysis of Small Collective Farmers in Mexico

Nancy Preciado

California State University-Sacramento

Faculty Mentor: Manuel Barajas

Mexican history teaches us that there are certain characteristics that initiate uprisings. One of those is the oppression of peasants. The Mexican government since the Mexican Revolution has attempted to avoid these uprisings. The tri-national NAFTA displaced small-scale farmers; to compensate them for their loss under NAFTA the Mexican government established PROCAMPO. This study uses comparative historical analysis to evaluate if PROCAMPO significantly helps small-scale farmers or if it was used by the government to buffer the discontent among farmers. The evaluation of PROCAMPO will determine if small-scale farmers need additional assistance in order to survive in a neo-liberal context.

Affirmative Action: Is There an African American Perspective on Affirmative Action?

Pattrese Reynolds

University of Vermont

Faculty Mentor: Alec Ewald

This project will explore African American perspectives on affirmative action. In assessing whether there is an "African American perspective" or even 'African American perspectives' on affirmative action, I will analyze viewpoints of the policy in public opinion polls, publications of legal advocacy organizations such as the NAACP, and the writing of black intellectuals such as Patricia J. Williams and Stephen Carter. Finally, I will explore the concept of standing or the "right" to make certain arguments that are linked to ones racial identity.

Enlightenment and the Teaching of To Kill a Mockingbird

Victoria Roberts

Denison University/Michigan State University

Faculty Mentor: Suzanne Wilson

This study explores the teachings of To Kill a Mockingbird through the lens of Enlightenment. In particular, examining how the guides view notions of the “enlightened” individual. Various structures, such as schools and the justice system portray Whites as enlightened individuals, while African Americans are often are not viewed the same. The researcher wants to display how Whites are emphasized as “enlightened” individuals in To Kill a Mockingbird, as well as in other realms. Furthermore, the researcher expects to find that African Americans are also enlightened individuals, but the definition is not identical to that of White individuals.

An Examination of the Impact of Protracted Violence on Human Trafficking in Colombia

Lina Rojas

John Jay College of Criminal Justice

Faculty Mentor: Carmen Solis

According to the Survivors’ Rights International organization, human trafficking is a global business. Colombia has been engaged in violence for half a century, which has resulted in opportunities for human trafficking. The social, political, and economic situation has made it easier for human traffickers to find victims. Traffickers falsely promise women who are desperate for employment jobs. This study examines how violence and political instability influence this issue. Documents and qualitative data will be collected from organizations and analyzed to assess the relationship between violence in Colombia and human trafficking of women.

Disparities In The Healthcare System: How Fair Is It?

Carla Roscoe

Michigan State University

Faculty Mentor: Harry Perlstadt

Research shows racial minorities suffer from poorer health and receive poorer healthcare than Whites. This study will explore whether racial discrimination plays a role in the healthcare system, specifically in Michigan. Two surveys will be used to assess participants’ perception of the healthcare they and others receive. First is a statewide telephone survey. Second is a face-to-face interview of patients at health clinics/centers. We expect to find that minorities believe there are more health disparities and discrimination in the healthcare system than Whites. However, minorities have higher satisfaction during their visits at clinics/centers.

“Magic in My Neighborhood: Curanderas and Folk Healing in Late Twentieth Century Corpus Christ, Texas”

Martha Ruiz

Texas A&M University-Corpus Christi

**Faculty Mentor: Laura Munoz
Sandrine Sanos**

Curanderismo is the process of folk healing that has been practiced by Mexican Americans in the southwest. It is characterized by its holistic vision of mind and body, unlike modern medicine. Through oral history, this paper investigate the practices of three contemporary Mexican American, Catholic, female curanderas in Corpus Christi, Texas. It argues that their “gifts of healing” are linked to their Catholic religious ties and their heritage with a positive relationship between the historical and cultural evolution of Mexican Americans. This study will examine how these three curanderas experience and understand their role and place in the local community.

An Exploration into Alabama Students’ Thoughts on Evolution and Religion

Bailey Sanders

The University of Alabama

Faculty Mentor: Fred Andrus

Evolution is a subject that evokes passions, even 200 years after the birth of Charles Darwin. The current study investigates how today’s university students view the relationship between evolution and religion. A heterogeneity sample of approximately 500 University of Alabama undergraduates were asked questions on evolution and religion. Although past survey results have tended to indicate a public preference for creationism, including a February 2009 Gallup Poll which indicated only 4 out of 10 people believe in evolution, the majority of respondents in this study feel that one can believe in both evolution and God.

Sequencing of pACK2 from Staphylococcus Simulans Biovar Staphylolyticus

Katie Sandlin

The University of Alabama

Faculty Mentor: Gary Sloan

Bacteria expend large amounts of energy to maintain plasmids and generally will lose those that are not advantageous. Staphylococcus simulans biovar staphylolyticus is unusual; it has maintained five plasmids for over thirty years without any selective pressure. Research into genetic factors contributing to the maintenance of the se plasmids is in progress. pACK2, the second largest plasmid, is being sequenced using primer walking to identify what genes reside on this plasmid. To date BLAST analysis has revealed the presence of a biofilm-associated protein (bap) and a cadmium resistance factor (cadD). Studies are underway to determine whether these genes are functional.

The Waiting Culture

Mohamed Seck
Faculty Mentor: Kathryn Elliott

Minnesota State University

Since Israel's establishment as an independent state in 1948, the social and political currents of Israel and Palestine have been a constant source of debate, and the borders of Israel and Palestine have been a cataclysmic junction. The societal conditions of both Palestinians and Israelis have sparked questions among social scientists, concerning both the major sources and the nuances of their conflict. The primary focus of this study is the role of national identity in the Palestinian-Israeli Conflict, it was conducted to examine the claim that the establishment of a truly sovereign Palestinian state is requisite for regional stability.

Gender, Discussion Networks, and Political Mobilization

Rita Snyder
Faculty Advisor: Erin Cassese

West Virginia University

This paper addresses gender differences in informal political discussion networks. Differences in network characteristics were investigated, revealing evidence of sex-based segregation. The gender composition of discussion networks was found to impact political engagement and participation in a manner consistent with the psychological phenomenon known as stereotype threat. Levels of agreement and disagreement in networks were roughly comparable for men and women. Men reported modestly more agreeable discussants than did women, though the prevalence of disagreement did not vary. Despite these similarities, disagreement had somewhat distinct effects on political engagement and participation on men and women.

Wake Up and Pay Attention: Relationship Building Between Teachers and Students in African-Centered Schools

Jessica Speakes
Faculty Mentor: Erin Morales-Willisms

Temple University

African American students in public school systems have experienced numerous academic deficits. There has been a great deal of research on schools systems' efforts to examine and rectify educational deficiencies experienced by African Americans. Many studies engage topics regarding African American education from a non-inclusive, European perspective. In order for a student of African descent to prosper in the academic realm, he or she must be educated in an institution that understands and teaches from his or her cultural perspective. This study will observe specific dynamics of social relationships within an African-centered classroom.

Development of Innate Immunity in Nestling Tree Swallows, Tachycineta Bicolor

Tammy Stambaugh

Grand Valley State University

Faculty Mentor: Michael Lombardo

The innate immune system provides an immediate, first-line of defense from pathogens; its appearance early in development in vertebrates is evidence of its critical importance. However, studies have not focused on age-specific variation in developmental stages transitioning from immatures into adults. Microbicidal and phagocytosis assays will be conducted on blood collected from nestling Tree Swallows at three stages. Defense mechanisms are compromised at an early age due to rapid growth; therefore, immunity should increase as birds mature. Our research may provide insight into patterns of disease susceptibility, which in turn influence evolutionary fitness and population dynamics.

Genetic Variation Within Plasmodium Mexicanum Reveals Criteria for Defining Species

Katherine St. Denis

University of Vermont

Faculty Mentor: Joseph Schall

One of evolutionary biology's greatest challenges lies in determining where one species ends and another begins. Defining a single-celled parasite species is even more difficult. I address this problem through study of the malaria parasite Plasmodium mexicanum in its host, the western fence lizard. By sequencing an approximately 600 base pair segment of the mitochondrial cytochrome b gene in a large sample of infections, I will determine how much genetic variation exists in this gene segment for a single well-characterized species of Plasmodium. These data will be useful in revealing criteria to define a species beyond its morphological characters.

Scholarship and Empowerment in the Age of the Video Vixen: Promoting Black Adolescent Females' Academic Success

Stephanie Stevenson

University of Maryland-College Park

Faculty Mentor: Sheri Parks

Throughout American history, popular culture and academia have created limited characterizations of low income, urban, Black adolescent females as hyper sexual vixens who are at risk for early sexual activity and low academic achievement. The promulgation of these negative sexual myths may cause black adolescent females to internalize these beliefs, increasing the chances of low academic achievement. The future ethnographic/ self ethnographic study will explore ways that families and the media affect the girls' motivation to obtain academic success, and resist negative sexual myths that may decrease their chances of success.

**The Longitudinal Impact of Social Mobility on Political Preferences Among
University of Alabama Professors**

Courtney Stone

The University of Alabama

Faculty Mentor: Patrick Cotter

Studies show that, in general, voters with higher income and more education vote more conservatively, while voters who are less educated and of lower income vote more liberally (Erikson and Tedin 2005). Other studies, however, reveal an anomaly: political preferences of university professors as a whole tend to be more liberal (Zipp and Fenwick 2006). The current study surveys a sample of University of Alabama professors' longitudinal political preferences, education levels, and income levels in an attempt to determine if changes in social mobility, in terms of education and income, help explain this inconsistency.

An Analysis of the Public Health of Slaves During the Antebellum Period

David Suggs

Michigan State University

Faculty Mentor: LaShawn Harris

This study analyzes the public health of enslaved blacks during the antebellum period and its impact on subsequent African American communities of the 20th and 21st centuries. This project specifically explores the nature and characteristics of slavery and plantation life in the Chesapeake and Low-Country, and uncovers the various health dilemmas, medical treatments, and diseases among enslaved African Americans. The researcher suggests that inadequate diet and public health of enslaved men and women had an adverse affect on African American communities during the first and second half of the 20th century and the dawning of the 21st century.

Democracy vs. Military Rule in Guinea and its Impact on Emigration

Kadiatou Sylla

John Jay College of Criminal Justice

Faculty Mentor: Zelma Henriques

Following the death of Sekou Toure, President from 1958-1984, the military took over Guinea by coup and continue to rule despite the "democratic" election that was conducted in 1993. The aftermath brought confrontations between the military and the civilians which resulted in the death, torture and jailing of many Guineans. This study will examine how this phenomenon has impacted the emigration of Guineans. A qualitative analysis featuring interviews with Guinean who has relocated to New York will be used to test the relationship between the 1993 election in Guinea and its impact on emigration.

Examination of College Students Perceptions and Knowledge of Sex Offender Policies in their Communities

Ysaeric Taveras

John Jay College of Criminal Justice

Faculty Mentor: Zelma Henriques

This project will address college students' (ages 18-24) perceptions and knowledge of sex offender policies in their communities. The purpose of this research is to figure out how informed people are about the policies created and how these policies operate in communities. This research will be conducted through surveying a sample of students living in New York City. It is hypothesized that the student's level of knowledge of sex offender policies will impact their support for disclosure of information on registered sex offenders.

The Dating Preference of Black Males

Antione Taylor

University of Maryland-Baltimore County

Faculty Mentor: Shawn Bediako

The study will investigate the influence of similarity and another factor thought to impact attraction-physical appearance: skin complexion. Participants (80 Black males) will rate two female faces on two dimensions: attractiveness and which stimuli they would be most likely to date. The stimuli will vary with regard to their complexion (light vs. dark) and participants will also receive bogus feedback about their attitudinal similarity with the target persons (high vs. low). The results of 2 between groups factorial ANOVAs are expected to show that high similarity of attitudes would be rated as more favorable.

The California Latino Population and the Need for Bilingual Education

Angelica Tellechea

California State University-Sacramento

Faculty Mentor: Wilfrido Corral

The Latino population is one of the fastest growing ethnic groups nationwide. The state of California and the county of Los Angeles, house the largest numbers of this population. Young people make up the majority of the Latino population; these people are currently challenged by English-only academic systems that threaten their acculturation and educational attainment processes. Using a meta-analysis of U.S. Census data and existing literature, the present research argues for the urgent need for the implementation of bilingual education programs in California.

Incarceration and Recidivism in the Work Place

Simone Terfa

Michigan State University

Faculty Mentor: Christina DeJong

One challenging aspect within criminal justice is understanding offenders' recidivating after being released from incarceration. This study explores the connection between unemployment and recidivism among African-American male offenders. The data used has been collected through the National Longitudinal Survey of Youth, interviewing respondents on an annual basis beginning in 1997. Our hypothesis is that offenders who remain unemployed during periods of release from prison will be more likely to recidivate, especially for African-American males who have the highest rates of incarceration, recidivism and unemployment. We expect to see a positive correlation between rearrest rates of African-American males and unemployment.

An Examination of Product Placement on Reality Television and Its Effects on Young Adults

Brandon Thomas

West Virginia University

Faculty Advisor: Jan Boyles

Previous researchers have illustrated that product placement is a dominant force in today's television programming (LaFerle and Edwards). The study considered awareness—by a small audience of young adults—of product placement. Through surveys and show excerpts, the research uncovered numerous correlations between viewing habits and placement awareness as well as attitudes towards product placement and reality television.

Effects of Vegetative Cover on Stream Channel Migration of Two Streams in Chittenden County, VT

Maya Thomas

University of Vermont

Faculty Mentor: Donald Ross

Allen and Indian Brooks are located in a rapidly urbanizing area in Chittenden County, Vermont. Field measurements and remotely sensed images will be used to quantify channel migration of the streams, which will be related to the quantity of riparian tree cover. It is expected that the worst erosion will be found where the streams are surrounded by grassy areas with no tree cover. This study will help identify the geomorphological importance of wooded areas near streams, and hopefully encourage the replanting of riparian trees in urban areas.

“Metafora Contagiosa”: Cultural Representations of HIV/AIDS in the Spanish-Speaking Caribbean and its U.S. Diaspora

Jonathan Vaknin

University of Pennsylvania

Faculty Mentor: Yolanda Mart[~]nez-San Miguel

In her 1988 essay “AIDS and its Metaphors,” Susan Sontag examines the numerous ways in which HIV/AIDS is represented in culture. Extending the arguments she had expounded in “Illness as Metaphor,” she underlines the tendency to perceive disease through a series of metaphors. Using Sontag’s essays as a point of departure, my project examines representations of HIV/AIDS in literature and music of the Spanish-speaking Caribbean and its U.S. Diaspora. I employ Sontag’s theories to prove that the attachment of meaning to HIV/AIDS in these cultural productions occurs through metaphor and, further, that these metaphors can hinder patients’ ability to cope with their condition.

PathIntegration in Rats After Blockade of NMDA Receptor-Mediated Glutamate Transmission

Cheng Vang

California State University-Sacramento

Faculty Mentor: Jeffrey Calton

Our knowledge of a form of navigation known as path integration is very limited. More complete understanding of path integration could lead to treatment for those who have a deficit in that area. The present study, based on Morris’s famous water maze experiment (1982), tested Long Evans Rats for the accuracy of navigating in search for a hidden platform. Since MK-801, an NMDA antagonist, interrupts the formation of spatial memory, the researcher hypothesized that rats under the influence of MK-801 would perform at a slower rate compared to the control rats.

Perceptions of Women in Male-Dominated Majors: Do Classroom Experiences Change the Perceptions of Womanhood?

Brenda Vela

Texas A&M University-Corpus Christi

Faculty Mentor: Michael Ramirez

This project intends to build upon findings about the experiences of women in male-dominated majors. Focusing on the under representation of women and the “chilling” experiences normalized as accepted patterns of behavior. The persistence of male-dominated majors while women are out-pacing men in college completion rates warrants in-depth investigation. Past research has intended to focus on white middle class norm but this current research will provide new insight on minority women. Inquiries on women’s experiences conducted through interviews. This research endeavors to contribute to a growing body of scholarship on the classroom experiences of women and their conceptions of womanhood.

**Understanding Academic Success: A Survey of Four Year Old Native American
Head Start Children**

Kristyn Wong

Michigan State University

Faculty Mentor: Jessica Barnes

Preschool programs for low income minority children have shown to help better their opportunity for future academic success. Nin American Indian Head Start centers across the state of Michigan were visited in order to assess four year old American Indian children and survey their parents and teachers in order to try to understand what factors may contribute to the children's academic success. These factors include their basic knowledge of shapes, numbers and letters, along with the teacher-child relationship, and their environment at home (including parental involvement in academics).

Effects of Head Joint Materials and Cuts on the Timbre of the Flute

Corinth Young

The University of Alabama

Faculty Mentor: Diane Boyd Schultz

Musicians are at odds regarding whether the material make-up of an instrument, the flute in particular, affects the tone quality (Boehm, p. 54; White, p. 34). However, no objective data are available, only findings based on the human ear's perception of whether metals of the flute affect the tone quality. The current research investigates, using a spectrometer, whether the constituent materials of the flute's head joint and the cut of its embouchure hole affect the timbre of the sound. The wavelengths of recorded head joints are analyzed for similarities and variations, and the extent of any variation.

**The Response of the Mexican Working Class towards the California
Economic Recession**

Veronica Zavala

California State University-Sacramento

Faculty Mentor: Julie Figueroa

This study explores how the 29.2 million Mexicans living in the United States, specifically those living in California, are responding to the current economic recession. High job loss, housing foreclosures, and economic turmoil spurn further instability in an already unstable population. These immigrants play a crucial role in the economy of California and the United States; therefore, their responses to the current economic crisis will impact their future, and the future of the entire country. This study examines the forced decisions this population makes as they negotiate the recession. Interviews revealed the radical adjustments this population is making to survive.