Hutton Honors College
Indiana University-Bloomington

Undergraduate Research Symposium

Saturday, March 24, 2007
8:30am-4:00pm
Indiana Memorial Union
Welcome to the 2007 IU-B Undergraduate Research Symposium, sponsored by the Hutton Honors College!

Outstanding students from a variety of disciplines and majors have been selected by Indiana University-Bloomington academic departments and their faculty to participate in today’s event. These students, working with dedicated faculty mentors, are engaged in research and creative activities that have enriched their own educational careers and that have contributed to the intellectual liveliness of the whole campus.

This annual Research Symposium, coupled with the Undergraduate Research Fair, is designed to showcase and celebrate the achievements of these talented and hard-working students and to provide an opportunity for them to share with others some of the fruits of their labors. This is also an occasion to salute the contributions made by faculty mentors. Part of the mission of the Hutton Honors College is to encourage and support undergraduate research and creative activity, and we do this through research and creative activity grants and thesis and capstone awards. We also urge our students to take advantage of the many opportunities available on campus to work closely with IU-B faculty on a variety of exciting projects.

We are grateful for these students’ participation in the 2007 Hutton Honors College Undergraduate Research Symposium, and we congratulate them on their achievements.

Karen Hanson
Dean of the Hutton Honors College
Rudy Professor of Philosophy
Session Summary

Morning Sessions:

Session 1—Exploring Topics in Sociology
Dogwood Room, IMU, 9:00-11:00am

Session 2—International Issues
Persimmon Room, IMU, 9:00-11:00am

Session 3—Current Concerns in Business & Economics
Dogwood Room, IMU, 11:15am-12:30pm

Session 4—New Perspectives in Science
Persimmon Room, IMU, 11:15-11:45am

Lunch
State Room East, IMU, 12:30-1:45pm

Afternoon Sessions:

Session 5—Special Topics in the Humanities & Social Sciences
Dogwood Room, IMU, 2:00-4:00pm

Session 6—Exploring Medical & Psychological Questions
Persimmon Room, IMU, 2:00-4:00pm
Session Information

Morning Sessions

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Therapy and Advancement: Use of Medical Technology  
Presenter: Willow Brugh—sociology, senior  
Faculty Mentor: Elizabeth A. Armstrong

Evaluating Students’ Experiences with Restorative Justice Youth Conferencing in Indianapolis Public Schools  
Presenter: Emily B. Campbell—sociology, senior  
Faculty Mentors: John H. Stanfield II & Elizabeth A. Armstrong

Career Women as Mothers and Spouses? Interviewing College Students on Desirable Family Configurations  
Presenter: Catherine Gould—sociology, senior  
Faculty Mentor: Elizabeth A. Armstrong

An Examination of Joblessness and Drug use in Detroit  
Presenter: Mary B. Horner—sociology and criminal justice, senior  
Faculty Mentor: Elizabeth A. Armstrong

Survivors’ Constructions of Sexual Identity and Sexual Abuse  
Presenter: Megan Pease—sociology and communication and culture, senior  
Faculty Mentor: Elizabeth A. Armstrong

Seriously Enjoying Tabloids  
Presenter: Jessica Sosa—sociology, senior  
Faculty Mentor: Elizabeth A. Armstrong

Feminist Self Identification  
Presenter: Sarah Stallings—sociology and psychology, senior  
Faculty Mentor: Elizabeth A. Armstrong

The 1996 Welfare Reform and the Rate of Welfare Receipt: A State-level, Longitudinal Analysis  
Presenter: Chelsey Wininger—international studies and social policy and political responsibility – IMP, junior  
Graduate Mentor: Isaac Heacock
Session 2—International Issues
Persimmon Room, IMU      9:00-11:00am
Moderators: Margaret Hathaway & Maria Guerrero

Britain Breeds its Own Terror
Presenter: Amber Bacavis—Near Eastern languages & cultures and political science, senior
Faculty Mentor: John Walbridge

A Study of Logic and Mathematics in the Chinese Language
Presenter: Aaron Cantrell—Chinese, mathematics, and French, senior
Faculty Mentor: Jennifer Li-Chia Liu
Graduate Mentor: Han Xiaohan

Altamira: the Relevancy of a Case Study of Sterilization and Contraceptive Services in Brazil
Presenter: Paula Strickland Sauer Dias—anthropology, sophomore
Faculty Mentor: Alvaro D’Antona

Exterminating the Real Problem in Regards to Brazil’s Street Children
Presenter: Laura Fonseca—international studies, senior
Faculty Mentor: James J. Biles

Female Artists in Bolshevik Russia 1917-1944
Presenter: Lisa Maydwell—art history and theatre, sophomore
Faculty Mentor: Michelle Facos

The Iranian Revolution and the Algerian War of Independence
Presenter: Joseph Rosenberg—sociology, senior
Faculty Mentor: Elizabeth A. Armstrong

Structuring for Success: How pro-democracy student-based movements won in the recent “color revolutions”
Presenter: Charlie Szrom—political science and history, senior
Faculty Mentor: Jack Bielasiak

Sustainability of Democracy in the Russian Federation: A Political Culture Approach
Presenter: Tamara Polyakova—international relations, IMP, senior
Faculty Mentor: Dina Spechler

What Leads to a Successful Negotiation? The Israeli-Palestinian Case
Presenter: Margaret O’Connor—political science and Jewish studies, senior
Faculty Mentor: Dina Spechler
Corporate Governance in Japan
Presenter: Monica Baik—accounting, finance and international business, senior
Faculty Mentor: Dan Dalton

When Schools Compete: Charter Schools and Their Effect on Traditional Public Education
Presenter: Jacob Bower-Bir—political science, history and economics, senior
Faculty Mentor: Norman Furniss

Financial Leverage and Leveraged Buyouts
Presenter: David Gong—finance and math, senior
Faculty Mentor: Jun Yang

Taking Advantage of the “Big Mo”: Technical Indicators and High Uncertainty Stocks
Presenter: Brandon Henry—finance and accounting, senior
Faculty Mentor: Utpal Bhattacharya

What Explains Why Some Countries Have More Patents than Others?
Presenter: Joe Mazur—business and economics, senior
Faculty Mentor: Eric Rasmusen
Faculty Mentor: Michael V. Alexeev

Women with MBAs—Why Aren’t There More?
Presenter: Jessica Walker—marketing, senior
Faculty Mentor: Jamie D. Prenkert
### Session 4—New Perspectives in Science

**Persimmon Room, IMU**  
**11:15-11:45am**  
**Moderators:** Michael Amlung & Eduardo Fernandez

**Receptor-Level Understanding of Neural Plasticity in the Adult Brain**  
*Presenter:* Michelle Sarin—biology and English, sophomore  
*Faculty Mentor:* Preston E. Garraghty

**The Dilemma of a Plant, a Pollinator, and a Parasite: The Evolution of Cooperation**  
*Presenter:* Samuel V. Scarpino—biology, senior  
*Faculty Mentor:* Lynda Delph

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### Lunch

**State Room East, IMU**  
**12:30-1:45pm**
Afternoon Sessions

Session 5—Special Topics in the Humanities & Social Sciences
Dogwood Room, IMU      2:00-4:00pm
Moderators: Aaron Cantrell & Ellen Muehlberger

An Application of Critical Theory to the Commercialization of the German Film Industry
Presenter: Michael Bayles—business economic consulting, public policy analysis, international business and German, senior
Faculty Mentor: Benjamin Robinson

The Bildungsroman Model: A Narrative of Self-Extension
Presenter: Nathan Bell—English, senior
Faculty Mentor: Edward Comentale

Reassessing the Familial Arch: A New Perspective on Gender Roles
Presenter: Oliver Claycamp—anthropology, senior
Faculty Mentor: M. Nazif Shahrani

Virtue, Ethics and Orthodox Christianity: A Move Toward Social Action in the Liturgy
Presenter: Maggie Downham—religious studies, senior
Faculty Mentor: David Brakke

Pedagogy, Polemic, Propaganda: The Evolution of Martin Luther’s Art and Rhetoric
Presenter: Christine Helena Foust—religious studies, senior
Faculty Mentor: Constance M. Furey

Ritual Rebellion: Expressions of Agency and Solidarity in the University Student C-Store Run
Presenter: Margaret Hathaway—anthropology and folklore, junior
Faculty Mentor: John H. McDowell

Architecture of Indiana University Bloomington: A Contextualizing Analysis
Presenter: Sarah-Anne Lanman—art history, sophomore
Faculty Mentor: Diane Reilly

HIV/AIDS Awareness in the Media
Presenter: Alfred Poon Jun Haw—telecommunications & media advocacy, senior
Faculty Mentor: Thom Gillespie
Faculty Mentor: Bryant Paul
Exploration in *Rattus norvegicus*: Security, Information, and Memory

Presenter: **Jeff Alstott**—biology, cognitive science and history, junior
Faculty Mentor: William D. Timberlake

Neonatal Lesions of the Rat Nucleus Accumbens/Septum

Presenter: **Michael T. Amlung**—cognitive science and psychology, senior
Faculty Mentor: R. Andrew Chambers

Incidence of Trachoma in Two Prehistoric Lower Illinois River Valley Populations

Presenter: **Julie Euber**—anthropology and English, senior
Faculty Mentor: Della Cook

Do Toddlers Demonstrate An Agency Bias in Acquiring Language?

Presenter: **Leah Fey**—psychology and linguistics, senior
Presenter: **Chloe Battle**—psychology, senior
Faculty Mentor: Linda B. Smith

Neural Correlates of Expertise

Presenter: **Alexander Foss**—BSOF piano performance, psychological and brain sciences, senior
Faculty Mentor: Karin H. James

The Tower of London: A fMRI Study of the Effect of Problem Structure

Presenter: **John Greco**—biochemistry, sophomore
Faculty Mentor: Sharlene D. Newman

Associating Attention with Affect in the Still Face Paradigm

Presenter: **Amanda Hyde**—developmental psychology, junior
Faculty Mentor: John E. Bates
Graduate Mentor: Angela Staples

Semantic Component of Working Memory

Presenter: **Patricia Winkler**—psychology, international studies and East Asian languages and cultures, senior
Faculty Mentor: Aarre Laakso
Abstracts
Morning—Session 1: Exploring Topics in Sociology
Therapy and Advancement: Use of Medical Technology

Willow Brugh
Sociology
Senior

Elizabeth A. Armstrong
Assistant Professor and Director of Undergraduate Studies
Department of Sociology
Adjunct Assistant Professor in Gender Studies
Faculty Mentor

I am looking at how people feel about using technology for therapy or advancement of the human body. I will be researching these issues via online forums. I have picked out two forum groups for this purpose - a Deaf Community forum and a Transhumanist forum. Each of these groups has ideas on the use of technology for therapy, but only the Transhumanist has a stated position on advancement.

Prior research in sociology deals with disability versus difference, but not with advancement. Stigma is researched, but nearly all of this research has to do with people being at a disadvantaged physical or mental state, not an advanced one. As options for advancement are being developed, and will later be available to the populace, I believe it is important to explore viewpoints on their use.

I believe my research will generate a wide range of viewpoints, though I do not anticipate much variation within forum groups. For many participants, this will be their first time thinking about technology in this way, so I expect some extreme reactions. Many of the groups have established viewpoints on use of medical technology for therapy, but not for advancement, so I am interested to see what each has to say. After some time, I expect people to open up more to the idea and start talking about social implications of advancement rather than simply reacting to the idea.

Thus far the Transhumanist group has been the most interested in communicating with me about this subject. Responses have included an emphasis on functionality rather than appearance. The definition of Human has also been questioned, with value placed on high performance rates.
Evaluating Students’ Experiences with Restorative Justice Youth Conferencing in Indianapolis Public Schools

Emily B. Campbell
Sociology
Senior

John H. Stanfield, II
Professor
Adjunct Professor of Sociology, American Studies, Cultural Studies, and Philanthropic Studies
Department of African American & African Diaspora Studies
Faculty Mentor

Elizabeth A. Armstrong
Assistant Professor and Director of Undergraduate Studies
Department of Sociology
Adjunct Assistant Professor in Gender Studies
Faculty Mentor

What are the outcomes and experiences of students who participate in restorative justice youth conferencing?

I would like to present my honors thesis paper at the Hutton Honors Symposium. My thesis explores restorative justice conferencing as applied in public city schools. I will be evaluating a program run by the IPS- Police Department for the students of the Indianapolis Public School community. The program uses the family restorative justice conference model as an alternative to standard punishment for student offenders (often in lieu of suspensions, arrests). This study will expand upon the Hudson Institutes (Crawford, 2000) survey based finding that the conferencing method successfully reduces recidivism and has strong victim, offender satisfaction by exploring the students’ experiences more intimately. Much of my literature review is a discussion of the emergence of and need for successful alternatives to suspension. City schools have begun to explore such practices because of the continued rise in juvenile cases and persistent disproportionate representation of students of color (in amount of suspensions and cases in juvenile courts).

Research Design

I will observe and audio record 3-5 conferences. Through a series of two follow up interviews, I seek to gain insight into this process from all students involved. The first interview will be conducted within 7 days after the conference, and the second 30 days later. The students’ experiences, both victim and offender, are central to this project. I plan to investigate to what extent other aspects of students’ lives are affected by this conferencing method. The interview questions will prompt the students to speak of their roles (and at the 2nd interview possibly changing roles) as students, family members, community members and peers. Through the interviews, I hope to evoke a rich narrative of experiences about conference participation and its relation to misbehavior, academic achievement, the school atmosphere, and personal identity issues. I also plan to compare the number of repeat offenses among students who participate in these programs and school repeat offender rates as a whole. In students who demonstrate a shift in perspective and behavior (as revealed in interviews, recidivism), I will explore motivational factors behind the change in behavior.

Current Status

This paper currently has a strong literature review to frame the issues which the restorative justice youth conferencing raises. I have obtained approval from the Human Subject Committee, full committee review, and have commenced data collection as of February 1, 2007.
Career Women as Mothers and Spouses?
Interviewing College Students on Desirable Family Configurations

Catherine Gould
Sociology
Senior

Elizabeth A. Armstrong
Assistant Professor and Director of Undergraduate Studies
Department of Sociology
Adjunct Assistant Professor in Gender Studies
Faculty Mentor

This research study involves uncovering undergraduates’ views of desirable family configurations. The study compiled interviews and surveys from 5 male and 5 female college seniors. Interviews consisted of participants reading five vignettes describing different married couples. The vignettes differ in ways each couple balance work and family. Interviewees’ responses to the vignettes, other interview questions, and the survey will be coded in order to determine if any trends in the responses appear in their orientations toward marriage and work.

Current college seniors’ views surrounding marriage and family need to be explored. Because of the level of education and the employment opportunities open to today’s college seniors, they will take the place of the current middle class. They have the potential to create new trends in work family relationships or stick to a more traditional approach to marriage. How college students plan to approach marriage and how they view career women will leave a lasting effect on societal norms surrounding marriage, career, and family.
An Examination of Joblessness and Drug use in Detroit

Mary B. Horner
Sociology and Criminal Justice
Senior

Elizabeth A. Armstrong
Assistant Professor and Director of Undergraduate Studies
Department of Sociology
Adjunct Assistant Professor in Gender Studies
Faculty Mentor

Drawing upon a representative sample of residents in the Detroit region, this study will test for a suspected causal association between employment status and drug use. The data are from the Detroit Area Study conducted by the University of Michigan in 1995. The 1995 DAS explored the ways in which social influences, such as stress and racism, affected health, and the impact these influences had on the respondents’ outlook on life. This survey used a probability sample of adult respondents 18 years of age and older residing in households located in the Michigan counties of Macomb, Oakland, and Wayne. The final sample size was N=1,139 with an overrepresentation of African Americans. In this study drug use will be analyzed by many demographic variables, such as race, gender, age, employment status, education, marital status, and income.

Detroit is the home of the American Auto Industry, and with the decline of the industry many middle and lower class individuals lost their good paying jobs. The city experienced wide spread social decay and I would predict that joblessness would increase the likelihood of drug use (along with other factors). According to (Bray, 1999) the primary reason for first starting to sell drugs was economic. Nearly 60 percent of adult drug traffickers reported that they wanted to purchase things other than drugs as the primary reason for first starting to traffic in drugs. The second highest was that of family or peer pressure. Others said their initial involvement stemmed from an appreciation or aspiration to the drug seller’s lifestyle, and a small percentage said they got into trafficking to get drugs for themselves.

The increase in drug use and abuse among African-American males can be attributed to many factors; many are deeply rooted in the culture and various types of personality conflicts that many of them experience in our society (Taylor, 2004). Studies that look at demographic factors have constantly shown that urban, young, unemployed youths and minorities of lower socioeconomic status tend to cope with social conditions by drinking alcohol and using drugs (Taylor, 2004). Also, many of these males become involved in crimes that are drug related. The socioeconomic conditions among minority groups are significantly contributing to them becoming at risk for drug abuse, which may lead to health risks, criminal behavior, and reduced chances for improving their socioeconomic conditions (Taylor, 2004).
This project examines issues of sexual identity for women who have experienced adult-child sexual contact as a child. It is based on 4 semi-structured interviews with women who identified themselves as experiencing adult-child sexual contact as a child. The project analyzes the survivor’s discourse involving, a focused life history, details of contemporary experiences, and reflection on the meaning. In particular, the study will focus on the survivor’s’ construction of their own and others’ sexual identity in relation to their own understanding of their adult-child sexual experiences.
Tabloids may not seem like an essential part of life or culture but maybe they are worth more to people than meets the eye. My project focuses on tabloids and women’s feelings about them. For this project I am using common sociological techniques to uncover if a college woman’s feeling towards tabloids is related to her social status on campus. Last semester I researched ideas on celebrity, identity, power, and cultural capital. I hypothesize that women with positives feelings or attitudes towards tabloids will use that knowledge to gain power and social status on campus. Women not interested in tabloids will not use the information found in tabloids and will have a lower social status.

In order to test this hypothesis, I have conducted several group interviews throughout the Bloomington campus. Along with group interviews, participants were asked to complete a short survey so I could collect both demographic information and personal ideas about tabloids. This semester my data collection is complete and I have begun to explore the findings of my research with the group interviews.

Tabloids are more than a hobby. They provide women with images and ideas of what is popular and fashionable. Tabloids also give insight into what other people do in their private lives and in various social situations. Although most people feel tabloid information is not credible, it does appear in the evening news and channels such as CNN. Academia is saturated with research that analyzes films, books, and even pornography, but ignores tabloids. My research will show that tabloids, like many other elements in society, are used for the purpose of social gain and power. They serve as a form of cultural capital. Like wealth or knowledge of art, tabloid knowledge is used to wield images of culture and display power over others who are less knowledgeable or worthy.
Feminist Self Identification

Sarah Stallings  
Sociology and Psychology  
Senior

Elizabeth A. Armstrong  
Assistant Professor and Director of Undergraduate Studies  
Department of Sociology  
Adjunct Assistant Professor in Gender Studies  
Faculty Mentor

The Sociological Research Practicum “Constructing the Family” was conducted by Brian Powell in the summer of 2006 at the Center for Survey Research. I was part of the research team. We completed 815 telephone surveys. Areas of interest in the survey included family structure, gay marriage and rights, religiosity, relations among adults and feminism.

For my thesis I am focusing on a particular section of the survey concerning feminist self identification. Respondents were asked if they consider themselves feminists or not. A follow up question asked why they do or do not consider themselves feminists.

Most research on feminism focuses on either what people think about feminists or who is most likely to be a feminist. Little is known about why people who have typical feminist beliefs deny the feminist label. After exploring this topic I have learned that most researchers focus on small non representative samples of students. The data I analyzed has been nationally collected and therefore represents a much more diverse sample. The age range of respondents is 18 to 92 years old. The median age is between 47 and 48 years old. It consists of responses from both men and women. This is beneficial because studies of feminist identification typically focus on women.

My research question “Why do people who have feminist ideas not self identify as feminist?” will be answered by content analysis. I have coded the responses into different categories according to reasons why people do not self identify. I am using the statistical program Atlas to sort responses and look for trends.

Responses will be divided into three categories. First, people who have feminist views and identify as feminist; people who have feminist views and do not identify as feminist; and people who do not have feminist views but still identify as feminist. The bulk of my analysis will be on respondents who have feminist views but do not identify as feminist. I hypothesize that there are various reasons people who have typically feminist values choose to deny the feminist label. A possible explanation is the negative stereotypes surrounding feminism. I think some people want to separate their attitude and identity. This as a way of expressing one’s beliefs without accepting all that is encompassed in the label.
The 1996 Welfare Reform and the Rate of Welfare Receipt: A State-level, Longitudinal Analysis

Chelsey B. Wininger
International Studies, Social Policy and Political Responsibility
Junior

Isaac Heacock
Graduate Student in Sociology
Department of Sociology
Graduate Mentor

The 1996 Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) represented a fundamental shift in federal policy regarding the poor. The legislation was highlighted by its change in so-called “welfare” policy: Aid to Families with Dependent Children (AFDC) was replaced by Temporary Assistance for Needy Families (TANF). A manifest goal of PRWORA was to decrease “welfare dependency” thereby reducing various social problems believed to be caused, at least in part, by long-term welfare receipt. To accomplish this goal, TANF requires recipients to find work through the help of welfare agencies and local business training programs, as well as sets a maximum 60-month time limit at the end of which the eligibility of receiving benefits ceases. Under TANF, individual entitlements are replaced by federal block grants to state governments, which are then able to finance and operate their own social welfare programs with few federal regulations.

Since its passage, a central question for social researchers has been to determine the effects the legislation has had on receipt level as well as the social problems it was designed to reduce. Using state-level census data covering the period between 1980 and 2003, we provide a longitudinal analysis of states’ rate of welfare receipt. Not surprisingly, we find that rates of receipt declined after PRWORA’s passage. Our analysis differs from much previous research, however, in that it allows us not only to gauge the effect PRWORA had on receipt, but also to place the decline in a larger historical context. Results indicate that changes in rate of receipt are not uniform across states, suggesting other state-level factors have a large influence on receipt. We conclude by exploring some of these relationships.
Abstracts
Morning—Session 2: International Issues
Britain Breeds its Own Terror

Amber Bacavis
Near Eastern Languages & Cultures; Political Science
Senior

John Walbridge
Professor of Near Eastern Languages and Cultures
Adjunct Professor of Philosophy
Adjunct Professor of History and Philosophy of Science
Department of Near Eastern Languages & Cultures
Middle Eastern and Islamic Studies Program
Faculty Mentor

With the multiple attacks on British soil, most recently the foiled plot to smuggle liquid bombs onto passenger planes, Britain is no stranger to the rise of terrorism plots which target the Western World. Clearly this is a cause of concern; however, unlike other attacks typically credited to “Islamic fundamentalists”, most notably the September 11th strike, Britain stands alone in one major aspect: their terrorists are almost exclusively British-born citizens of Pakistani descent. Could it be that Britain’s terror is a direct result of domestic treatment which is at best neglectful and at worst antagonistic?

My research addresses this possibility, using a historical and sociological approach. My assertion is that the brutal and widespread racism faced by Pakistani immigrants and their British-born descendants is left over from Britain’s control of India. During the time when India was an English colony, the natives were divided between Hinduism and Islam. Typically Muslims tended to be a part of the lower class who converted, as one reason among many, to escape the rigid caste system of Hinduism. Considering the fact that British India developed from an economic endeavor, British officials typically dealt with more affluent Indians- essentially, Hindus. Thus, when the poorer population rebelled against the British in the Indian Mutiny, much of the blame was placed on Muslims, thereby beginning the demonization. Indian Muslims came to be hated among the British, laying the foundation for years upon years of scorn and abhorrence. This ill-will was carried over into the Indian population itself, eventually leading to the British sanctioned divide of the religious populations between India and the newly formed Pakistan.

The impact of this drama is still felt to day in England, where Pakistanis are treated as second class citizens and face more discrimination than Hindu immigrants or non-Pakistani Muslims. I believe that this prejudice is a direct result of the history of the British Empire in India. Furthermore, it is my claim that the recent explosion of terrorism in Britain committed by British-born citizens of Pakistani descent is nothing more than a frustrated, albeit misguided, response to a society who affords these people little respect or equality.

My thesis studies this claim, providing a historical background and hands-on anthropological research in the form of immersion in English Pakistani society.
In “A Study of Logic and Mathematics in the Chinese Language”, I explore linguistic ties to logic and intuition, logical structure differences between Chinese mathematics and literature, and the effects on the Chinese language of 20th century scientific writing in Chinese, especially translation of Western science and mathematics articles. I treat first the influence of traditional philosophies on Chinese and European languages. Philosophy in the West has roots in logical rigor, and thus language needed to provide a framework for the expression of formalized, deductive arguments; in contrast, Chinese philosophy relies on intuitive, inductive conclusions, and the Chinese language was for most of its history unable to support rigorous logical expression. Through comparisons of Chinese mathematics and literature, I briefly analyze logical forms and ambiguities in modern Chinese. I also explore the role of the “Metaphoric Chain” of Chinese: from phrases and words all the way to components of characters, metaphor plays an enormous role in the Chinese language. Thus, formal systems of language such as mathematics that lack connotative associations create a dramatic break from the foundations of Chinese—a language intended wholly for literature and whose metaphors are visible in its very appearance. Following the Opium Wars with Britain in the mid-19th century and the riots of the 1919 “May Fourth Movement” declaiming Western imperialist domination, China moved to translate thousands of Western science and mathematics articles. In addition to propelling China’s scientific advancement, these two waves of translation efforts had a tremendous impact on the Chinese language itself. The language evolved to accommodate logical arguments and precise scientific vocabulary. Grammar became more complicated, and the basic unit for Chinese words changed from a single character to multiple characters. In an era in which many scientific and high-level academic subjects are taught in English internationally, China is an exception. The Chinese language has stretched and responded to the needs of its linguistic community in a process lasting over 150 years, and its elasticity may prove the essential factor in its future as a viable language in realms of science and academia.
Sterilization has been the most common contraceptive choice among Brazilian women for decades, despite being an irreversible and risky procedure. It only became legal in 1997, but was previously practiced by public and private health clinics throughout the country. Sterilization legislation ensures access to and information about reversible contraceptive choices to potential sterilization patients. I examine data from Altamira, PA, a rural region in the Brazilian Amazon, to assess how local conditions affect sterilization choice in this area and how this compares to Brazil as a whole. I also briefly discuss the issue of relevancy and potential impact of such a study in local populations. Through surveys and interviews, we have collected information about health services in this area. We also have information about method mix and contraceptive prevalence for a group of women in this area in 1998 and 2005. The results indicate that sterilization is the most chosen contraceptive method for both years, in a higher percentage than for Brazil as a whole. Also, some women are being sterilized without having ever used reversible contraception. This case study shows that lack of accessibility to reversible contraceptives is leading women to choose sterilization, demonstrating the condition of contraceptive services in Brazil and raising questions of contraceptive availability, women’s rights and reproductive health. In turn, these conclusions can help as an assessment of local public policies and call attention to national problems in women’s health policies.

Support for this research has been provided by the National Institutes for Child Health and Human Development at NIH (HD35811-04/07).
Exterminating the Real Problem in Regards to Brazil’s Street Children

Laura Fonseca
International Studies
Senior

James J. Biles
Assistant Professor
Department of Geography
Faculty Mentor

The Candelaria Massacre of 1993 brought to the attention of the international community the street children of urban Brazil. Not only was there concern for the high number of children living in poverty, the murder of the six children as they slept on the church’s doorstep made violence against these children of greatest concern.

My research focuses on the creation of the “street child” and the efforts made in Brazil to accommodate the phenomenon. It views those labeled Brazil’s street children as the consequence of the economic and political climate in the country over the past two decades. It is a lack of understanding of the true causes for this crisis and the many misconceptions that follow that lead to a climate of violence towards street children.

Recognized globally as having one of the most progressive children’s rights laws, Brazil continues to struggle to with enforcing this legislation. A combination of government offices and non-governmental organizations are working in the urban areas of Brazil in an attempt to improve the lives of street children. Although many of these provide temporary relief, few of them promote a lasting and plainly visible change. The issue of street children roots much deeper than a lacking public education system or corruption, it is an issue of poverty and inequality.

Until Brazil is able to improve the standard of living of the favelados and close the gap between the social classes, the amount of children spending the majority of their time in the streets will remain significantly high and the acts of violence taken against them will continue.
Female Artists in Bolshevik Russia 1917-1944

Lisa Maydwell
Art History and Theatre
Sophomore

Michelle Facos
Associate Professor
Department of the History of Art
Faculty Mentor

Russian women historically have experienced a more equal stance with their male counterparts than in other European nations. However, these women have also experienced unique challenges that other European women have not faced. Bolshevism, Socialism, and Communism, as governmental bodies and economic structures, have created an environment unique to Russia. This environment has had a significant role in the lives of Russian women and the visual arts in Russia.

This presentation will discuss the differing visions of Lenin and Stalin and elaborate on the changes affected and tactics used to modernize Russia and make it a substantial power in the World including industrialization, agriculture. The “resolution” of Russia’s Women’s Issue, and the new role of the visual arts in Communism will also be addressed. To elaborate and illustrate, the works of a few prominent female artists have been chosen. Their work is unique but has been selected to represent a cross section of the work being done by visual artists in Russia at points from The Revolution of 1917 until World War II.
The Iranian Revolution and the Algerian War of Independence

Joseph Rosenberg
Sociology
Senior

Elizabeth A. Armstrong
Assistant Professor and Director of Undergraduate Studies
Department of Sociology
Adjunct Assistant Professor in Gender Studies
Faculty Mentor

Revolutions often occur when citizens are dissatisfied with the government in power. By comparing the Algerian War of Independence and the Iranian Revolution of 1979, I will advance the study of two revolutions from Arabic countries. Specifically, I am interested in observing how revolutions unfold, what causes them to occur, the various types of revolutions, the process of revolution, etc. I chose the aforementioned revolutions because they are both extremely rich in detail and helped contribute to the emergence of a concept known as militant Arab nationalism. Also, both revolutions occurred within a 30-year time frame permitting an appropriate historical comparison of Islam as a modern political force. Finally, the Algerian and Iranian Revolutions are still applicable today and can be used for understanding and implementing foreign policy in the Middle East.

The Algerian revolution, which occurred from 1954-1962, was a colonial war that ousted French authority in order to achieve political independence. On the other hand, Iran was officially a sovereign nation, but used the tactics of revolution to shift its governmental structure from a constitutional monarchy to an Islamic republic. While the countries achieved different results through their respective revolutions, I believe that the Islamic religion was an underlying theme contributing to the success of both movements. Moreover, I will like to compare and contrast specific characteristics of the individuals who were responsible for leading the successful independence movements. In fact, I suspect that there will be some striking similarities behind the people responsible for these revolutions. Change of this magnitude does not occur overnight and therefore it is necessary to explain each step the revolution thoroughly in order to draw proper conclusions. Finally, I will compare and contrast the social classes who were the driving forces behind each revolution.
Peaceful protestors topple cruel despots. In 2000 in Serbia, in 2003 in Georgia, and in 2004 in Ukraine, student-based movements made this dramatic storyline possible. But pro-democracy movements also existed in states, such as Azerbaijan and Belarus, where dictatorships remained in power. How did democracy movements in these “color revolutions” differ from groups in countries where regimes kept control?

The victorious groups structured themselves in horizontal, nonpartisan fashions while the less successful groups tended to organize in more partisan, hierarchical ways. Horizontal structures facilitated tactical innovation, unified activists of many different political stripes, sparked political participation among apathetic youth, and helped build resumes populations could trust. Hierarchical organizations gravitated towards the same methods and activist base used by traditional opposition parties. Since they could not use the benefits of an open structure, they failed to build truly national, robust movements and met the same fate as their nation’s opposition parties had for decades: they lost.

This answer holds importance for both policymakers and activists. The former group has sometimes understated activist movements’ strength to safeguard stability. Understanding what makes a good democracy movement can help policymakers re-examine the goals of democratization policies and develop strategies that better incorporate pro-democracy groups. Most importantly, activists themselves could learn how to better construct movements to achieve democracy in their nation. Works like The Democracy Advantage argue that democracy improves economic prosperity, and the democratic peace theory contends that democratic nations war with each other much less than autocratic ones. Thus, I think one could plausibly say that the world at large could benefit from stronger pro-democracy movements.

I chose the cases of student-based pro-democracy groups in Serbia, Ukraine, Georgia, and Azerbaijan. Distilling the characteristics shared by groups in the three former, successful cases helped produce a model not captive to the context of a single nation. I added Azerbaijan, where the regime held onto power after a falsified 2005 election, to compare the unsuccessful groups’ factors to those shared by their successful counterparts. I gathered my data from dozens of interviews in Azerbaijan and Georgia, from phone interviews with activists from Ukraine, Lebanon, and Iran, and lastly from secondary-source materials such as journals, newspapers and websites.

Sara Evans’ and Harry Boyte’s “free spaces” concept of open-ness within social movements let me build a theory that showed how determinants common to the successful cases but not present in the failed case resulted from organizational structure. Merging this understanding with democratization literature helped explain how differing organizational structures and accompanying factors did or did not assist in pro-democracy regime change.
Almost two decades have passed since the fall of the Soviet Union and the first formal establishment of democracy in Russian history, but it is still not obvious how deep democracy is rooted as the dominant Russian political system. Although the Constitution of the Russian Federation promotes such essential democratic values as free elections and freedom of conscience, speech, and press; there existed suppositions among the political scientists both in Russia and abroad about the possibility of a reversal to authoritarianism, which were further encouraged by the recent strengthening of the executive branch of Russian government under the rule of President Vladimir Putin.

The development of democracy in Russia is imperative not only to Russia’s own future, but to that of her geographical neighbors and international partners as well. The uniting forces of globalization make political autarky in the new world order practically impossible. Democratization of Russia will be determinate to the further spread of democratic values in Central Europe and Asia, and will condition Russia’s relations with the democratic countries of Europe and North America.

It is argued by the students of political culture that the most important factor in a country’s democratization process is the acceptance of democratic values by its citizens. The development of a sustainable democratic government depends heavily upon the orientations toward this process that are held by the population. This paper adopts the political culture approach to the study of democratic sustainability in Russia, and in order to predict the endurance of Russia’s democracy I will primarily focus on the analysis of opinion polls taken among Russian citizens since the fall of the Soviet Union. In Russia, what are people’s orientations toward democracy? What democratic values do Russian citizens value the most? What democratic values are people prepared to give up, and why? By analyzing the answers to these questions, I will evaluate the sustainability of democracy in Russia as predicted by the study of political culture.
What Leads to a Successful Negotiation? The Israeli-Palestinian Case

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What factors are necessary for parties in conflict to decide to negotiate? What conditions must be present for adversaries to reach a successful agreement? Scholars from many disciplines offer explanations, but no simple framework exists. I examine how current conflict-resolution theory addresses these issues, particularly in the prenegotiation and negotiation phases of a settlement. I explore the theories that inform conflict-resolution literature by isolating key variables and putting them into a comprehensive, workable framework, including ripeness/readiness theory in prenegotiations, policy entrepreneurs, reframing the conflict, reciprocity, nature of the issues, and third-party involvement in negotiations. I argue that these variables are dynamic and interactive and that integrating them provides a more robust picture of settlement.

I then apply this theory to the Israeli-Palestinian conflict – to the Declaration of Principles of the Oslo Accord of 1993 and to the inconclusive results of the Camp David Summit of 2000. I argue that the interaction of the various elements of the negotiations explain their different outcomes. Rabin’s and Arafat’s attitudes at Oslo, the secret and informal meetings, the supportive role of the Norwegians, and a clear focus on general principles and tangible interests – all these elements enabled the parties to transform their views of the conflict and of each other and to find common ground that led to a mutually acceptable solution. These elements influenced and reinforced one another: the leaders took risks, allowing the parties to form a relationship and discover possibilities, thus increasing the leaders’ confidence in, and support for, the talks.

However, Camp David declined into a vicious cycle of fear, doubt, and suspicion among both the Israelis and the Palestinians. The intransigence of the leaders, the high stakes and worldwide visibility of a summit, fear of exposure and loss of credibility, and the difficult core issues of the conflict all contributed to each side’s inability to transform its views of the struggle or of each other. The sensitivity of the issues stood in the way of flexibility from either side, so hostility prevailed, and fundamental issues became entrenched. Though some of the necessary elements for success were present, they were too few and too insubstantial for reaching an agreement. Instead of harmony, contention served only to increase mistrust and suspicion.

The findings that I present are useful not only for better understanding the Israeli-Palestinian conflict but for application more generally to other intractable conflicts. They can also influence how future negotiations are held between adversaries and allow parties either to learn from previous attempts or to enter negotiations from a different perspective.
Abstracts
Morning—Session 3:
Current Concerns in Business & Economics
Corporate Governance in Japan

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During the 1990’s Japan experienced an increase in internationalization of its financial markets and a downturn of the Japanese economy, impacting various sectors of the economy including governance. Using a framework for western governance mechanisms, namely disclosure/transparency and independence, I evaluate whether governance standards and empirical evidence suggest that Japanese corporate governance is converging to the western model.

Corporate governance in Japan has historically followed the control based system. Characteristics of this system include relationship based financing, concentration of debt and equity, and control (as opposed to portfolio) oriented investors. Japanese companies were highly integrated into groups called keiretsus. Within these groups there was a high degree of cross-sharing between companies and there existed a main bank that was the largest creditor.

During the 1990’s, however, several factors changed. The Japanese economy had a significant downturn, there was a rise in foreign institutional investors, domestic individual investors gained prominence, and there were several high profile corporate scandals. As a result changes started to occur in the structure of Japanese companies. The most significant of these changes included a decline in cross-shareholding and intervention from the main banks.

The framework I use to describe western governance looks at disclosure/transparency and independence. Disclosure/transparency is the concept referring to the widespread providing of relevant information that stakeholders need to make informed decisions. Independence refers to the ability to make decisions from an unbiased viewpoint which comes when personal interests are not at stake. Western governance mechanisms are founded on these two principles.

My research compares the disclosure/transparency and independence framework to the changes in Japanese corporate governance code and empirical evidence to determine if a trend is occurring indicating a convergence of Japanese corporate governance to the western model.
When Schools Compete:
Charter Schools and Their Effect on Traditional Public Education

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Whether it is because of a general distrust of government, faith in the free market, or the desire to preserve some illusory level of dynamism, there is a perennial movement to take long-established government responsibilities and place them in the care of private citizens or organizations. Recent market-based reforms in education have wedded the two sectors, directing public funds to privately run charter schools. By subsidizing these private education providers and relaxing regulations, the federal as well as various state and local governments aim to inspire competition between charter and traditional public schools. The hope is that by contending for consumer loyalty and building on the successful practices of one another, charter and non-charter schools will be a motor for each other to better edify students.

Beginning the first chapter is a review of the history of American public education, noting which trends and ideals characteristic of universal instruction the charter movement adopts or eschews. This is followed by a brief examination of the economic theory that sparked charter reform. The chapter concludes with an introduction to the political and institutional background surrounding education in Indianapolis, Indiana, the paper’s case study. Chapter two is similarly divided into three sections. The first portion analyzes the various models developed and findings reached by economists in their study of competition between charter and non-charter public schools. Next, the model and variables used to measure the effectiveness of competition in the case study are presented and scrutinized. A quantitative investigation into competition in Indianapolis closes the second chapter.

Education, to whom and in what form it is extended, are political issues. It is not enough to examine charter schools and competition in public instruction by means of positive analysis alone. Accordingly, the final chapter focuses on the normative issues raised by the initiation of charter reform in education. Certain philosophical and moral viewpoints are manifested in the market-based restructuring of a school system. Policy-makers, school administrators, teachers, parents, and students are all influenced by these viewpoints and would do well to understand them. The question that must inevitably be answered, although not in this paper, is whether charter schools have a place in the American system of public schooling. Only a first step, this paper offers general and case-specific insight into the empirical and non-empirical consequences of school competition.
Leveraged Buyouts, more frequently known as LBOs, are a type of strategy involving the acquisition of another company using a significant amount of debt. The goal of the acquirer or financial sponsor is to gain control of the company, apply various business techniques to increase shareholder value, and then exit the investment by either selling it to another acquirer or conducting an initial public offering (IPO) to make the company share publicly traded. Because debt is relatively cheaper than equity, the acquirers or sponsors put every effort to maximize the proportion of borrowed funds to their own equity. The proportion of debt in a particular transaction is called the leverage of the transaction and the assets or the steady cash flows of the target company are often used as collateral for the loans.

From my professional experience with the Leveraged Finance Group of JPMorgan Securities, who specializes in LBO financing, I have realized there are no industry standards in the leverage of a deal and it was different across the board. I was curious of whether the leverage of the transaction emitted information about the deal or affected the exit strategy of the sponsor.

To do so, I have manually collected data from a database called DealScan, which provided me with data of how much debt each financial sponsors took out. Then I used a database called VentureXpert and found out how much equity they put in and how the firm exited from the investment (sold, went public or failed). Thus far, I have found a relationship between the leverage and buyout but am still in the process of refining the data and finding other relationships that might exist.
The goal of this paper is to analyze the relationship between technical indicators and highly uncertain, illiquid stocks. This paper builds off an article in the *Journal of Finance* titled “Information Uncertainty and Stock Market Returns” which shows how a momentum strategy works particularly well in high-uncertainty stocks. If this evidence is correct, then using technical indicators for highly uncertain, illiquid stocks should create a more profitable trading strategy than for more certain and liquid stocks. My evidence shows this hypothesis is true in emerging markets like India but not true in developed markets such as the U.S. One reason why the association between technical indicators and illiquidity may hold for emerging markets and not for developed markets is that few to no research analysts cover specific companies in emerging markets whereas most stocks in the Russell 2000 at least have a few analysts covering them. Plus, international investors may not be able to access or read an Indian company’s financial statements as easily as an American company’s financial statements. This may result in higher information asymmetry and more reliance on technical indicators for investment decisions. This conclusion seems logical as investment analysis in the late 1800’s mainly used technicals to predict stock price movements because information necessary for fundamental analysis was not available to the general public. Although technical indicators work better for highly uncertain, illiquid stocks in India, none of the indicators used for the domestic or emerging markets produce annual returns (adjusted for transaction costs) in aggregate that exceed their respective index. Thus, prior academic research showing technical indicators (adjusted for transaction costs) in aggregate not to be profitable appears to be correct. However, summary statistics show why this strategy is still being used in practice as certain stocks do consistently produce outsized returns from using technical analysis. Evidence from the Bombay Stock Exchange shows that there may be an association between information asymmetry and the predictive power of technical indicators. Finally, my results show out of the indicators used, the Williams W&R, 50 day MA, and 200 day MA have the highest predictive power.
What Explains Why Some Countries Have More Patents than Others?

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To encourage the production and commercialization of ideas, most industrialized nations have developed systems of intellectual property rights. In the U.S. we know these as patents, trademarks, and copyrights, the holders of which are granted government sanctioned monopolies on the commercial benefit of their ideas. The promise of monopoly profits entices inventors, artists, and the like to produce new ideas, develop new processes, and create new works that would otherwise have been easily copied. Hence, intellectual property rights provide incentive for innovation and artistic creation.

One of the greatest benefits to society of patents is the role they play in advancing technology and enhancing productivity, two key factors in economic development. Many papers have already examined the impact of patents and patent systems on economic growth, finding that even a strong patent system does not necessarily lead to the research and development that engender growth – notably in less developed countries. This paper seeks to explain patent applications by establishing clear links between patent applications per capita in developing countries and various attributes of those countries, segmenting them into more developmental stages than prior studies.

Using a parametric regression approach, I will examine the impact of economic composition, market attractiveness, and patent system strength on patent applications per capita. Specifically, I will test to see if countries with a larger proportion of manufacturing and industry in GDP receive more patent applications, since innovators will seek to patent their ideas in the places most conducive to commercializing them. I will also test to see if innovators seek to patent in markets that are attractive for the sale, and not just the production, of their inventions. Finally, I will test to see if the patent system itself can entice innovators to patent in a given country. I will use attributes of the legal system in general as well as participation in patent treaties to measure patent system strength. From the analysis I will offer an explanation for how market attractiveness, economic composition, and various features of the patent system affect patent applications in countries around the world, and how these effects vary by GDP quintile.
My thesis seeks to provide recommendations for increasing the number of women enrolled in MBA programs in order to close the gender gap currently present in such programs. First, I discuss the discrepancy between the number of women pursuing an MBA versus other graduate programs, the difference between women with MBAs and the overall percentage of women in business, and the gap between the number of women taking the GMAT and those actually matriculating in graduate business programs, based on secondary information.

Next, I explore the reasons for these low numbers, drawing from literature on the subject. Common explanations include timing, the perception of the benefits versus the cost of attending, as well as qualitative concerns due to the perceived amount of math in such programs. After looking at the reasons, I consider whether it is in the best interest of the female students to pursue an MBA, and whether there are compelling reasons for MBA programs to focus on recruiting female students more heavily. In order to determine which reasons are most responsible for the low numbers, I am surveying undergraduate and graduate business students on the intentions of students to attend graduate programs in business and other disciplines, the reasons for attending or not attending, and the various criterion used when making their decision. Finally, I analyze possible initiatives to increase the appeal of MBA programs to women by asking survey respondents about the likelihood such initiatives would have affected decisions made already or future decisions to return to school.
Abstracts
Morning—Session 4: New Perspectives in Science
As our understanding of the developing adult brain has progressed, we have come to understand how truly complex it is. Neural plasticity is a theory which has gained wide acceptance over the last few decades and refers to the concept that the adult brain can change. This plasticity ranges from shifts in dendritic arborization and synaptogenesis to changes in receptive fields. It has been found that reorganization after nerve injury generally proceeds in two phases: the initial “unmasking” stage and the later, more protracted stage which involves neurons regaining responsiveness in deprived cortex. The immediate “unmasking” phase results from the use of disinhibition or latent inputs. This hypothesis is further supported by the reported decrease in GABA A, an inhibitory neural transmitter, in the deprived cortex. GABA B binding is also observed in decreased amounts at about one month after transection.

While this first stage of “unmasking” occurs in some areas of cortex, the majority of the region reorganizes during the second stage by mechanisms that are still unclear. It is observed that unlike the “unmasking” stage, the initiation of this longer stage of reorganization is assumed to be N-methyl-D-aspartate (NMDA)-receptor mediated because blockage of such receptors inhibits reorganization. Furthermore, NMDA receptors are not involved in the maintenance of reorganization. Additionally, a significant increase in AMPA, an excitatory amino acid receptor, binding was observed about one month after injury. Because NMDA is not implicated in the maintenance of the reorganization after injury, it is possible then that the increased levels of AMPA are responsible for the increased efficacy of synapses. One possible explanation for the mechanism of this prolonged reorganization is that it follows homeostatic plasticity and explains the observed increase in AMPA receptors. However, another lingering problem is the exact role of GABAB receptors because they are observed on both pre- and post-synaptic neurons, and it is unknown whether the receptor levels change on the pre- or the post-synaptic neurons and how that change affects the other type of neuron.

The project on which I am working aims to further elucidate the specific neural mechanism for reorganization after transecting a nerve, specifically, which AMPA phenotypes are increasing and the role of GABAA during reorganization during the nerve crush. We performed three nerve crushes on squirrel monkeys, then sacrificed them at varying periods after the injury. After median nerve transection, reorganization was observed, but after radial nerve transection, a silent cortex was observed. Finally, following a median nerve crush, peripheral re-innervation takes place along with median nerve regeneration. We used immunohistochemistry to visualize various receptors, particularly, GABAA, GABAB and AMPA receptors. The brains were extracted, sliced, and stained with chromium reagents. The StereoInvestigator program to perform cell counts and using luminance readings to determine the density of receptors in varying cell types.
Mutualistic interactions and their evolutionary stability have been a conundrum in science theory since Darwin hypothesized that “Natural selection cannot possibly produce any modification in any one species exclusively for the good of another species.” Nevertheless, ecological examples of mutualisms are prevalent. Previous research, centered on the evolutionary stability of mutualisms, presented an iterated adaptation of the Prisoner’s Dilemma game. This game has the potential to act as an intermediary relating the ecology of distinct cooperation systems. A modified version of this game was incorporated, in conjunction with empirical data on floral scent, to examine the relationship between a plant (*Silene latifolia*), a pollinator (*Hadena bicruris*) and a parasite (*Microbotryum violaceum* - anther-smut fungus).

*Silene latifolia* and *H. bicruris* interact in a nursery pollinator mutualism. This interaction provides the opportunity to examine the evolutionary stability of complex plant-pollinator relationships using the Prisoner’s Dilemma game. In this system, differences in floral volatile cues (scent) play an integral role in both pollinator attraction and oviposition cues. Because *S. latifolia* scent profiles are altered by anther-smut infection, floral-volatile signaling is potentially a key factor in this three-way relationship. By extrapolating fungal infection to be a frequency-dependant mechanism hindering *H. bicruris* larval development, an adapted version of the Prisoners Dilemma game demonstrates this interaction as an ESS. Additional models relating fruit abortion and nursery pollination mutualism stability support this conclusion.
Abstracts
Afternoon—Session 5:
Special Topics in the Humanities & Social Sciences
An Application of Critical Theory to the Commercialization of the German Film Industry

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I view this honors thesis as a capstone project for my German major in the College of Arts and Sciences. In preparation for the honors thesis itself and in accordance with protocol set forth by the Germanic Studies Department, I completed two semesters of study with Professor Benjamin Robinson. During the fall 2005 semester, we focused on the roots and influences of Critical Theory and the Frankfurt School in selected works of Marx, Engels, Benjamin and Hegel before dealing directly with the works of Adorno and Horkheimer. The spring 2006 semester was almost entirely dedicated to an exhaustive reading of Adorno and Horkheimer’s *Dialectic of Enlightenment*, which explicitly outlines the framework of Critical Theory and is often considered the seminal work of the Frankfurt School.

At its most basic level, Critical Theory encompasses the idea that people share a moral imperative to constantly question all assumptions. According to Adorno and Horkheimer, nothing should be treated as given; conventional wisdom must be systematically analyzed and evaluated. While the most frequent manifestations of this theory seem somewhat shallow in connection with the “selling-out” and “anti-establishment” arguments employed by the many detractors of modern popular culture, it also serves as the basis for mass counter-cultural movements around the world in the 60s. That these ideas have lost much of their revolutionary luster demonstrates not their lack of validity, but rather the extent to which their validity was recognized and therefore assimilated into the way we think.

The difficulty in applying Critical Theory is twofold: 1) it can be applied to any range of subjects, and 2) it is easy to get lost in identifying the problems and contradictions inherent to conventionally accepted systems and institutions. Therefore, the task in identifying a viable and productive topic for the thesis was selecting a narrow subject and avoiding unproductive, tangential arguments in order to facilitate the attainment of fruitful conclusions. After conferring with Professor Robinson, I decided to apply Critical Theory to the Commercialization of the German Film Industry.

For the project, I intend to take a close look at the factors and motivations that drive what I perceive to be a tradition of innovation and originality in German film and compare this tradition to its American counterpart (or lack thereof) where relevant. Why does it seem that market forces have managed to take root much more deeply in Hollywood than in Potsdam? To accomplish such a broad goal, I will focus on a select a few films to explicate in detail, drawing heavily on the expressionist movement of the 1920s and the troubled experiences of German directors trying to work as expatriates in the US during WWII. In the course of this exploration, I hope to uncover differences in what people expect from entertainment in the US and Germany and gauge the relative importance directors in both countries attribute to getting a particular message across to their audience. The ideal conclusion would be to use Critical Theory as a tool to help form a viable explanation for why Germany continues to produce German-centric titles instead of seeking the economies of scale achieved by mass appeal, in stark opposition to the Hollywood blockbuster model.
Coming-of-age stories exist in many different cultural and aesthetic varieties. They are timeless and ubiquitous, both personally and societally important. The general bildungsroman narrative nearly always suggests a change that is indelible and self-affirming.

A loose model of the coming-of-age progression captures elements of adversity, trauma, and identity expansion. The mark of the bildungsroman character is his/her ability to proactively assert agency in the face of an antagonistic situation. Five archetypal steps document the transformation from naiveté to a more worldly competence. These are: innocence, wound, internalization, neologism, and actualization.

Stages one through three – innocence, wound, and immediate response – may be seen to comprise the bulk of generic non-bildungsroman narratives, which arguably exhibit less interest in real character development than the bildungsroman. Rising action increasingly compromises character stasis until a climax is reached whereupon the character returns to a fixed state. The bildungsroman narrative is distinct from this more-overtly dramatic model in its further emphasis on conceptual events that take place after the climax in most generic narratives has occurred. Coming-of-age stories foreground the psychological modulation that a character undergoes in order to make sense of the traumatic action of the traditional narrative.

Stages three and four of the bildungsroman entail a psychological process of cataloging the wound. The internalization stage is characterized by the agent’s passivity, emotiveness, and lack of sophisticated reflection (e.g. Freud’s notion of the repetition-compulsion wherein the traumatic event loops persistently in the subject’s haunted consciousness). Stage four, neologism, consists of a new understanding of the wound via linguistic categorization and generation. A character regains active control of his/her own narrative by originating newly-engineered linguistic signifiers to contextualize, dissect, and define the event. For the character, this is akin to a psychological distillation – the memory of the traumatic event is purged and purified of its initial negative affect. The event of the wound remains but comes to signify something new.

In the final stage of the coming-of-age story, the character’s sense of self-worth is buttressed by this newfound capacity to transform pain into power. The character compensates for the diminution of the wound with a capacious self-aggrandizing production of enlightened hindsight. Agency, control, and creativity are highlighted in the rhetorical turn of the previous stage; now the character begins to recognize these qualities in him/herself. His/her own sense of identity is extended and sustained by the mnemonic story of this surmounting. Maturation is signified by the character’s documented ability to take control in the face of defeat.
The influence of the feminist movement on American cultural values has been immeasurable. The questioning of the previously unchallenged fairness of the foundational structures of society based on unequal gender relations was enough to radically alter woman’s views of themselves and their surrounding environment. Yet change based on the presumption of inequality alone may appear reactionary. Undoubtedly the founders of feminist philosophy were reacting to the structures of the day, the very structures that had helped build their own self-images and identity. Beyond the desire for equality there may not have been any consideration of why this masculine structure of oppression existed or what might happen once it was removed.

This paper seeks to argue that the patriarchal societal structure is a powerful and effective means of controlling the sex drive of the unmarried male. The Feminist movement removed power from the father [patriarch] thereby unintentionally causing females to come under the influence of the uncontrolled male sexuality. This power shift has had profound affects on American society. This perspective will be explored in America and the Middle East in an attempt to show the fundamental importance of controlling male sexuality.
As a church that originally consisted almost entirely of immigrants and for which ties to its European cultural roots remain highly significant, the Eastern Orthodox Church on the North American continent has sometimes been ambivalent about how engaged or withdrawn it should be from wider American culture. This paper will examine the connection between the Eastern Orthodox Church (in America) and its social responsibility, specifically focusing on Orthodox ethics as rooted in the Liturgy. I posit that for the Eastern Orthodox such a connection between worship and social action can be evaluated through a framework of virtue ethics. To achieve my goals I will study the Divine Liturgy, the main Orthodox service which in Greek originally was defined as “the people’s work”, with an aim to discover the theoretical connection between Orthodox worship and social action. In other words, to what extent is the Orthodox Liturgy intended to propel the people of Orthodoxy to social involvement and ethical deliberation in American public life? By considering the parallels between certain Orthodox theological concepts with those of virtue ethics, I posit that the Liturgy is intended to act as a catalyst by informing its participants of the telos they ought to seek and by teaching them how to achieve it through the living of a life within the community modeled after the Trinity, called the koinonia, as well as the Tradition of the Church itself.
Martin Luther becomes increasingly bolder through the course of his writings. His rhetoric turns uglier as do the woodcut prints that often accompany his writings. It makes sense that as Luther becomes more and more incensed by the problems of the early Reformation movement, his output reflects his rage. The once meek apologies turn into brash accusations and insults. The once placid woodcut pictures of Bible scenes turn into scenes of the Devil and his minions with defecation as a recurring motif.

While these changes are fairly obvious, the message underneath all of this bombast is often forgotten or misinterpreted. I argue that Luther’s message, despite its outward appearance, is consistent throughout his career. Luther was consistently fixated on one main principle: educate everyone on the true nature of Christ and His Church by teaching the Word of God.

Throughout Luther’s writings, he emphasizes that education is crucial to spread the Word. Whether addressing the Catholic Church and the Pope, the laity, or his Protestant opponents, he always uses the Bible as the cornerstone of his arguments. Luther’s criticism of the Catholic sacramental system, which occupies much of his writing, finds its entire justification in the fact that the system was man-made, whereas Luther believed that all appropriate religious action was mandated by Christ. This scripturally grounded theology is the basis for his pedagogical efforts. For example, early works such as his Small Catechism are meant for the common person; it presents religious concepts through plain language and simple woodcut pictures.

In Luther’s early output, he also justifies the tools on which he will later rely so heavily. While Luther admits that slander is unfavorable, he also defends its use, because Christ and the prophets insulted their opponents. At the peak of the iconoclastic movement in Wittenberg, Luther admits that although using images in religion is not appropriate, images are not banned by God; rather they are optional and may be used as long as they are not worshipped.

As the Reformation efforts progress, Luther becomes increasingly more vehement in his rhetoric and increasingly grotesque in the pictures he chooses to use. Still, the message remains constant; Luther is using new techniques to convey the same ideas. I classify Luther’s later writings as “propaganda”, because they are intended to personally attack and injure, as opposed to “polemic” which is meant to attack an idea or belief. The birth of this propaganda was not, however, a switch to a different mode of expression. It was just another teaching tool, this time teaching not what to believe, but with whom (not) to align one’s self. Propaganda, thus, was a form or pedagogy, albeit a negative and exclusionary pedagogy.
Ritual Rebellion: 
Expressions of Agency and Solidarity in the University Student C-Store Run

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At Indiana University, as at most universities across the United States, students living in college dormitories are required to purchase an annual meal plan for the on-campus cafeteria system. The price for these meal plans currently ranges from $1000 to $3328 at IU, representing a substantial annual investment for members of the student population. This project seeks to investigate student perceptions of the meal plan system and to identify the innovative consumption patterns employed by students for managing their university’s alternative currency.

Interviews with representative Indiana University students reveal that many individuals view their meal plans as burdensome expenses imposed upon them by a distant and disinterested authority. Students’ primary complaint is that meal plan options are in their opinion set according to an inflated scale that benefits no one but the university administration. Spending all of one’s meal points by the end of each academic year is considered a near impossibility but also an unofficial obligation. Unused meal points, having been paid for in advance by the students, are seen as concessions to an exploitative system. Through their efforts to fully utilize their meal point allotments, students seek to assert themselves as empowered consumers who are aware of their options for action and wish to be recognized as individuals who refuse to be taken advantage of anymore than they already have.

This presentation will focus on a particular strategy of meal point usage known as the c-store run. The term describes a ritual form of buying frenzy undertaken by university students towards the end of each academic year. Although the most commonly asserted function of these events is to “burn” remaining meal points, c-store runs serve a larger purpose for the student community by providing a safe venue for protest and a source of memories that serve to bond the participants of a run long after the actual buying expedition has concluded. C-store runs also operate as important mechanisms for reaffirming student solidarity by operating as mediated performance spaces in which the gifting of large quantities of convenience store merchandise becomes socially acceptable. Differentials in wealth are dissolved as part of a communal effort to avoid exploitation from an externally imposed system.
Everyday, many students on the Bloomington campus go to class without seeing what surrounds them—their architectural environment. In my research project, I want to discover why certain buildings look the way they do. More specifically, I want to identify a cohesive chronology of the buildings, finding when they were built, by what architect, and under what university president. How is the architecture of the time reflected in on the style of the building? Did the president’s office, or any one office, have a cohesive architectural plan? From this planning, or lack thereof, how did the campus evolve? Were personal preferences of those in power at the time represented, or were contemporary trends being followed? In this project, I will focus on the early buildings of the Old Crescent, those built during the 1930s, and seek to discover the history of architecturally anomalous buildings. Locally and nationally, the buildings should be placed in their historical context.

I will also include extensive photographic documentation (not exclusive to the buildings studied) that will serve as a document of what the buildings currently look like and how the campus is currently shaped by its architecture. Through archival and historical research, coupled with visual evidence, I hope to collect information on the campus architecture that contextualizes its aesthetics.
The media is a crucial element in the fight against the HIV/AIDS epidemic. It plays multiple roles of raising HIV/AIDS awareness among the public, breaking down of stereotypes, and even providing support for HIV/AIDS victims. Drawing upon interviews and published data from respective organizations, this study will analyzing the differences in the state, federal and international effort to raise HIV/AIDS awareness through the different media outlets.

The interviews with administrators in these HIV/AIDS organizations would provide a qualitative understanding of how they are using the media. This practical understanding of HIV awareness would give perspective to the role media advocacy should play in this HIV/AIDS epidemic. These interviews would also give me an insight into the practices within these different organizations, and I would analyze if this corresponds to how they use the media.

Drawing on published data by these different organizations, this study would analyze the variations in the media patterns of HIV/AIDS awareness campaigns. By trying to find discrepancies between message, target audience, financial cost and medium, I would calculate objectively the effectiveness of each HIV/AIDS awareness campaign. This study would also analyze how the media patterns differ in state, federal and international organizations, and their resulting effectiveness.

By the qualitative and quantitative study of HIV/AIDS organizations’ effort to raise awareness in the media, one could gain a holistic understanding to what is being done. This would allow these organizations to more efficiently fund future HIV/AIDS awareness campaigns in the media.
Abstracts
Afternoon—Session 6:
Exploring Medical & Psychological Questions
Since the 1930s, researchers have framed rat locomotion in a lit open field in terms of fear and anxiety. Modern studies have continued this interpretation, describing open field behavior in terms of security optimization. Since rats are a prey animal, such hypotheses certainly seem ecologically appropriate, and empirical research supports them. Rats placed in a new environment will spend most of their time next to walls or objects that provide some protection. However, the structure of rat movement in an open field cannot be predicted solely by fear reduction or security optimization. The sex of the animal, the lighting conditions, and the temporal stability of the environment can all significantly affect the ambulation of rats in a novel or familiar environment devoid of food. Additionally, where the rats spend most of their time, their "home base," is a function not just of a location's relative security, but also of its familiarity. These results indicate that information gathering has a significant role in rodent exploration, which can supplement and potentially supersede evolutionary pressures to maximize security.
Neonatal Lesions of the Rat Nucleus Accumbens/Septum

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**Background:** The nucleus accumbens (NAc) is implicated in major psychiatric disorders including addiction, schizophrenia, ADD, and OCD. Collectively, these disorders are associated with disturbances of motivational control as reflected by abnormal addictive drug responsivity, compulsivity, and/or impulsivity. Neonatal lesions to brain regions that project into the NAc (including hippocampus and amygdala) and adult lesions directly to the NAc have previously been shown to alter one or more aspects of motivational control. The behavioral impact of neonatal NAc lesions is unknown.

**Methods:** To explore the NAc in a neurodevelopmental context, we pioneered techniques for bilateral neonatal lesions (ibotenic acid) of the NAc and septum in 7-day-old rat pups. In adulthood, rats with sham surgeries were compared to those with neonatal NAc lesions (NNAcL) and neonatal septal lesions (NSL) in behavioral sensitization to cocaine (15 mg/kg IP per day) followed by measures of compulsivity and impulsivity in food-rewarded operant conditioning paradigms.

**Results:** Preliminary trends suggest that NNAcL vs. NSL produce differential activity profiles compared to control rats upon repeated cocaine injections. In control rats, cocaine history tended to increase compulsivity but decrease impulsivity. This drug effect tended to be attenuated by the presence of NSLs.

**Conclusions:** The results suggest the feasibility of neonatal lesioning of the NAc and septum. Lesions to these regions may produce differential effects on motivational endophenotypes reflected in cocaine sensitization and profiles of compulsivity and impulsivity. Further work is needed to better characterize the role of the NAc and septum in neurodevelopmental models of psychiatric syndromes.
Incidence of Trachoma in Two Prehistoric Lower Illinois River Valley Populations

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Trachoma is an infectious eye disease known to reach high rates in modern-day highly populated communities, but little has been done to investigate its occurrence in prehistoric times. During a study of Australian Aborigines, Stephen G. Webb encountered a lesion of the orbit which he attributes to repeat infections of trachoma (Webb 1990). This study looks at individuals above the age of 39 from the Schild site of the Lower Illinois River Valley in the Mississippian and Late Woodland periods, and four of the orbital lesions described by Webb were found. To further explore the age distribution of the lesion as an indicator of trachoma, individuals in the collection from ages 10-20 were also examined. Although no cases were found in this age bracket, there were many cases of cribra orbitalia, including a case that had a lesion similar to those on prospective trachoma victims amidst the cribrous lesions.
In using language to describe ideas of *who does what to whom*, we use what linguists refer to as transitive sentences. That is, the verb requires the argument structure of Subject; Verb; Direct Object. The distinction between Subject and Direct Object is sometimes described in terms of the *thematic roles* of “Agent” and “Patient” (the “doer” of the action and the “done-to”). Subject, Verb, and Object are grammatical terms, and Agent and Patient are semantic. Many theories of language and language acquisition are concerned with the links between grammar and semantics. Thus, there is a semantic component – what is being communicated in terms of thematic roles – and a grammatical component, which is using transitive sentence structure to describe events involving someone doing an action to someone else.

Some theories of acquisition assume that children start with semantic roles and map those to grammatical roles. This assumption makes sense intuitively. However, another reasonable idea is that it is from learning language itself that these constructs get built. Either way, finding out what young language learners understand about these roles is crucial to our study of language acquisition.

This study examines 2 to 4 year-olds’ ability to detect Agent and Patient roles in scenes. The scenes show various properties hypothesized to be relevant to agency (or subjecthood) and include both novel and familiar events. The preliminary results suggest an agency bias.
Using fMRI, this study compares neural activation to language, music, and random auditory patterns in musicians, non-musicians, and ballet dancers. Previous research suggests that music elicits activation from the language network in the brain, and that the recruitment of said language network is more pronounced in musicians than non-musicians. This seems to suggest that the so-called “language network” is actually a generalized expert auditory system involved in the processing of music, language, or any other auditory stimuli with which the listener has had extensive experience. Past research has not used matched language and music stimuli, rarely uses non-music auditory controls to language and music, and rarely uses matched non-musician controls, all of which are used in the current study. The current study also uses ballet dancers as a control group to the musicians: they undergo intense physical training that involves exposure to music without the formal study of music that musicians pursue. Results support the expertise hypothesis: neural activation to music and language overlapped in musicians more than it did in non-musicians suggesting the involvement of an expert network. Results also indicated distinct neural regions involved exclusively in the processing of language and the processing of music. Results from the ballet control group further elucidate the nature of the expert network.
The Tower of London: An fMRI Study of the Effect of Problem Structure

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Objective: The Tower of London (TOL) has been used extensively to examine problem-solving and planning functions in both behavioral and neuroimaging studies. However, only recently have investigators considered the influence of the problem structure of the TOL on subsequent processing. Not surprisingly, these studies have found that there can be significant differences in the cognitive demands of individual TOL problems. Based on these previous findings, the aim of this study was to further explore the effects of two problem characteristics on the neural architecture that supports problem-solving. More specifically, this study was designed to assess the influence of two parameters, goal hierarchy and number of optimal solution paths, on TOL performance. Goal hierarchy concerns the ambiguity of goal priorities. This ambiguity was manipulated by varying the arrangement of the goal state. In a previous behavioral study examining the effect of goal hierarchy and path length it was found that ambiguous and single path problems were more difficult than unambiguous and multiple path problems, resulting in longer planning times and more errors. The aim of the current study was to use fMRI to explore the underlying neural architecture that support TOL performance.

Methods: Participants were from Indiana University and all gave written informed consent. Scanning was conducted on a 3.0T Siemens Trio located at IUB. The experiment was a 2 (goal hierarchy: ambiguous vs. unambiguous) x 2 (path length: single vs. multiple paths) design that examined only 6-move problems. Participants solved the TOL problems using a button box to make each move. The protocol allowed participants to make and correct mistakes. An event-related design with each 15 second trial being separated by a 12 second rest period was employed. SPM2 was used to perform the preprocessing and statistical analysis. An ANOVA was performed to examine the main effects of goal hierarchy and path length.

Results: The brain activation results observed were found to follow the behavioral data reported previously, greater activation levels for ambiguous and single path problems. Here, the ambiguous problems elicited greater involvement of regions that have been found previously to be involved in TOL: the left parietal, inferior temporal and prefrontal regions. The effect of path length was primarily found in bilateral prefrontal regions and the right parietal cortex.

Conclusions: One interesting finding is that the goal hierarchy and path length manipulations resulted in quite different activation patterns. Goal hierarchy showed activation primarily in the left hemisphere while the path length manipulation elicited right hemisphere activation, suggesting that these two problem characteristics rely on different cognitive resources. The results also demonstrate that problem difficulty can be manipulated while holding the minimum number of moves constant, suggesting that using the minimum number of moves in TOL problems to characterize problem difficulty should be re-evaluated.
In early developmental theories, the infants’ communication behavior was viewed as an unorganized system, solely serving as an adaptive behavior allowing for survival. Infant communication was seen as nothing more than brief vocalizations to request nurturing responses from parents (Tronick, Als, Brazelton, 1979). Tronick and other researchers of his time focused on reversing this theory and showing that the infant was an active participant in dyadic communication and interaction.

Tronick (2003) created the still-face task, consisting of 3 infant-mother face-to-face segments, to observe the infant’s unaided ability to initiate interactions and reduce stress in an anxious situation. The still-face portion of the task presents the infant with a non-responsive mother with a neutral expression in between two periods of interactive play. The mother’s still-face is believed stressful for the infant because it interrupts the natural flow of communication (Tronick, Als, & Brazelton, 1980). This creates a setting in which the infant is forced to self-regulate in a potentially anxious situation.

The main purpose of the still-face procedure is to study infant changes in affect and attention when the interaction between parent and infant is unbalanced (Adamson & Frick, 2003). Studies have found that babies who look at their parents proportionally more tend to show proportionally less negative affect throughout the task (e.g., Mayes & Carter, 1990).

Mischel’s hot/cool-system of willpower suggests self-regulation is a function of time attended to a tempting stimulus (Metcalfe & Mischel, 1999). Attending to the stimulus (using the “hot” or “go” system) evokes strong emotions, whereas avoiding the stimulus (using the “cold” or “know” system) reduces emotional arousal. Based on this theory, the current study predicts that infants who are attending less to their non-responsive mother will actually express less negative affect. Unlike previous studies that only consider attention toward mom’s face as “looking at mom,” we are also considering looks towards mom’s body. Therefore, we expect that infants will vocalize distress more when looking at mom’s body than her face or at other objects since she is presumed to be the salient stimuli.

In addition, this study also looks to elaborate on the immediate and delayed effects attention shifts may have on vocalized affect by coding in quarter second intervals and analyzing the data as a time series. While previous work strongly suggests that attention serves as a regulator of distress, this will be the first study attempting to show this relation in real time.
Currently, the most widely accepted model of working memory contains only phonological/articulatory and visual/spatial components (and possibly an episodic buffer). In particular, it does not contain a semantic component. There is a variety of conflicting literature on whether and how semantic content might be integrated with working memory.

Despite the controversy, it seems probable that there is a semantic component to working memory, at least for certain stimuli, such as Chinese characters (in Japanese, kanji). The respective structures of the Chinese and Japanese languages, specifically the availability of phonetic scripts in Japanese, make Japanese the more practical language for this study.

Subjects, Japanese 4- and 5-year olds, will perform an “n-back” test to measure memory capacity for kanji and other similar stimuli. There will be four groups of stimuli: nonsense words (which will be presented auditorally for a purely phonological stimulus), words (written in hiragana or katakana, Japanese phonetic scripts, which provide stimuli that are both visual and semantic), radicals (which provide purely visual stimuli), kanji (which provide stimuli that are visual, phonological, and semantic).

The subjects will be presented with a series of stimuli and asked to respond by pressing one of two buttons if the latest stimulus is identical to the “nth” previous stimulus. A between-subjects experimental design will be used. Recall performance as a function of the working memory load will be compared across groups using logistic regression. If working memory has a semantic component as hypothesized, they will recall kanji accurately more often than radicals, kana words, or auditory nonsense words, respectively.
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