



Undergraduate Scholarship

in the **College of Arts and Sciences**

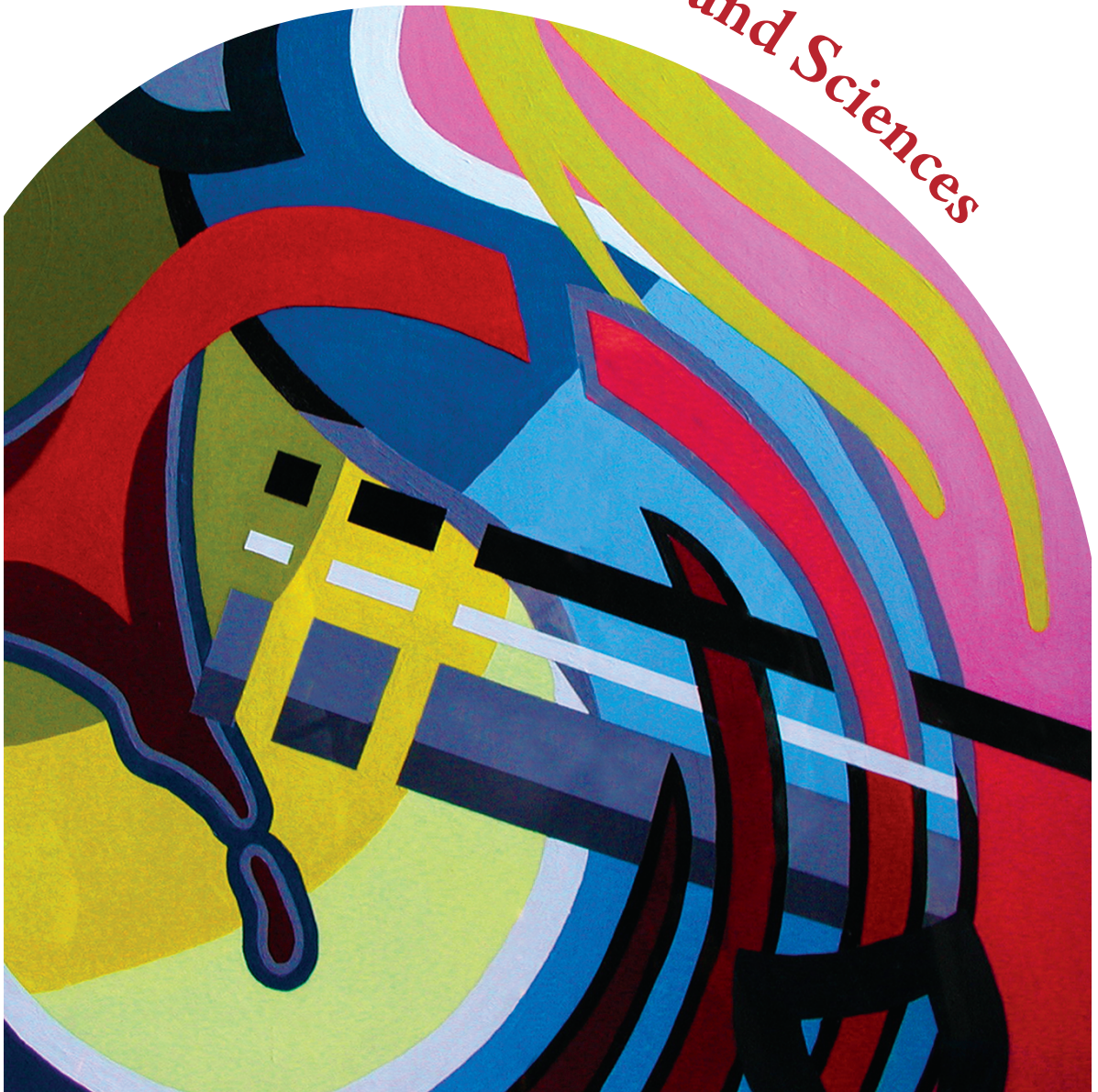
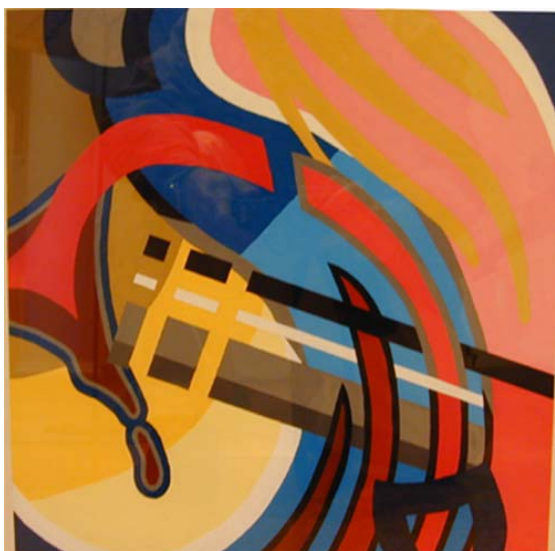


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Cover art was contributed by
Kimberly Taylor, Sculpture Major (2007)
and Gerry Derksen, Assistant Professor of
Visual Communication Design

INTRODUCTION

In his work entitled *The Advancement of Learning* (1605), Francis Bacon expresses the need for students and their teachers to push beyond current knowledge by testing accepted theories, developing new paradigms, and discovering new information. The abstracts in this booklet are clear examples of how students and faculty in the College of Arts and Sciences are advancing knowledge in a variety of disciplines. From the analysis of particular proteins to the examination of various literary themes, the students whose scholarly endeavors are represented in this booklet pursued research projects that have explored new ideas; and their teachers have helped them to achieve their goals by providing expert guidance in the field of study, by challenging students to excel, and by encouraging them as they developed their ideas. Students and faculty should be very proud of the work reflected in these abstracts. These individual efforts and collaborations reveal what is best about Winthrop University as a learning community.

I want to thank everyone who participated. My hope is that your work will inspire other students to engage in research that promotes profound learning and intellectual engagement. Dr. Tom Moore, Vice President for Academic Affairs and Dean of the Faculty, deserves our thanks for his development of and continuing support for the College's undergraduate research initiative. Special thanks go to Dr. Dwight Dimaculangan, the College's Director of Undergraduate Research, and the Arts and Sciences Undergraduate Research Advisory Committee for their dedication to and work on behalf of undergraduate research and scholarship.

Dr. Debra C. Boyd
Dean of the College of Arts and Sciences
Winthrop University
April 2004

WINTHROP UNIVERSITY
UNDERGRADUATE RESEARCH INITIATIVE

College of Arts and Sciences

The Winthrop University Undergraduate Research Initiative (WUURI) in the College of Arts and Sciences supports a student-centered learning environment that fosters student research, scholarship, and creative activities. The Initiative encourages students and faculty mentors to collaborate in the design and implementation of projects and the dissemination of results.

Director of Undergraduate Research:

Dwight Dimaculangan, Ph.D.

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Chasta Parker, Ph.D. – Chemistry
Jean Silagyi-Rebovich, Ph.D. – Office of Assessment
Jane B. Smith, Ph.D. – Director of the Writing Center

ABSTRACTS FROM PUBLICATIONS

METALLOREGULATION OF YEAST MEMBRANE STEROID RECEPTOR

HOMOLOGUES Thomas J. Lyons, Nancy Villa, Lisa Regalla, Brian Kupchak, Anna Vagstad, and David J. Eide

University of Florida, Gainesville, FL.

In Press, *Proceedings of the National Academy of Sciences*

Student: Anna Vagstad (2004)

Faculty Mentors: Thomas Lyons, Ph.D., University of Florida; Chasta Parker, Ph.D.

Department of Chemistry

Zinc is an essential micronutrient that can also be toxic. An intricate mechanism exists in yeast that maintains cellular zinc within an optimal range. The centerpiece of this mechanism is the Zap1p protein, a transcription factor that senses zinc deficiency and responds by up-regulating genes involved in zinc metabolism. A screen for novel Zap1p target genes suggested a role in zinc homeostasis for four homologous yeast genes. Two of these genes, YDR492w and YOL002c, are direct targets of Zap1p. YOL002c is induced by excess Zn²⁺ as well. Exposure of yeast to high levels of Zn²⁺, Co²⁺ or Ni²⁺ induces the expression of a third homologous gene, YOL101c, via the Mga2p hypoxia sensor. Furthermore, YOL101c is induced by deletion of the AFT1 iron responsive transcription factor. These three genes, along with a fourth yeast homologue, YLR023c, have phenotypic effects on zinc tolerance and Zap1p activity. Due to their metalloregulation, zinc-related phenotypes and highly conserved motifs containing potential metal binding residues, this family has been renamed the IZH gene family (Implicated in Zinc Homeostasis). Furthermore, these genes are regulated by exogenous fatty acids, suggesting a dual role in lipid metabolism. The IZH genes encode membrane proteins that belong to a ubiquitous protein family that includes hemolysin III and vertebrate membrane steroid receptors. We propose that the IZH genes affect zinc homeostasis either directly or indirectly by altering sterol metabolism.

RAPD ANALYSIS OF mtDNA FROM TOMATO FLOWERS FREE OF NUCLEAR DNA

ARTIFACTS Christine Gianniny, Pravda Stoeva, Adam Cheely, Dwight Dimaculangan
In Press, *BioTechniques* (May 2004)

Student: Adam Cheely (2003)

Faculty Mentor: Dwight Dimaculangan, Ph.D.
Department of Biology

We demonstrate a simple and inexpensive procedure that generates high amounts of purified mtDNA and results in highly reproducible mitochondrial specific RAPD without nuclear DNA artifacts. The method combines a differential centrifugation protocol for mitochondria isolation from small amounts of flower tissue with a DNase I treatment that is optimized by assessing the amount of nuclear DNA contamination by PCR. This mitochondrial specific RAPD analysis proved a sensitive tool to demonstrate genetic diversity between mitochondrial genomes of *Lycopersicon* species and for tracking mitochondrial DNA structural changes in cytoplasmic male sterile plants. The method can be applied in studies of rare genotypes in breeding programs and of protected and endangered plant species in their native habitats, since it allows the characterization of flowering plants without sacrificing the studied individuals.

PHYSICIANS' PERCEPTIONS OF COMPLIANCE AND ATTITUDES TOWARD COMPLEMENTARY CARE

(2003) Daugherty, T., Sherenco, K., Davis, H., McClelland, M.

Published in *Psychological Reports*, Vol. 93

Students: Katrina Sherenco (2003), Harold Davis (2003), Melissa McClelland (2002)

Faculty Mentor: Tim Daugherty, Ph.D.
Department of Psychology

Thirty-one surveyed physicians perceived that between one-third and two-thirds of patients do not comply with instructions and that nearly one-third of those who comply do not show optimal treatment response. The physicians expressed concerns about the validity and cost of complementary approaches that might increase medical compliance and enhance treatment response.

A COMPARATIVE ANALYSIS OF SUBSTANCES USED BY SUICIDAL AND NON-SUICIDAL HIGH SCHOOL STUDENTS

Manetta, A. A., and Ormand, T. G.,
In Press, *School Social Work Journal*

Student: Teresa Ormand (2004)

Faculty Mentor: Ameda A. Manetta, Ph.D., MSW,
BSW, BA, LCSW
Department of Social Work

The majority of studies on suicidal behaviors are based on populations already diagnosed with clinical disorders. These studies have acknowledged that substance use is related to suicidal behaviors, yet the relationship of specific substances has not been identified. In this study a sub-sample of 4,828 suicidal and non-suicidal adolescents who completed the 2001 Youth Risk Behavior Survey was used. A logistic regression model identified that alcohol and inhalants showed the two strongest associations to suicidal behaviors. In our discussion we identify various screening tools available that school social workers could use to implement prevention strategies in schools.

THE MIGRATIONAL MOVEMENTS OF BULL TROUT OBSERVED ALONG THE PRIEST AND PEND OREILLE RIVERS

J.C. Ballenger
Abstract published in the *Department of Energy's Journal of Undergraduate Research*, 2003
Presented to the Department of Biology, Winthrop University, Fall 2003

Student: Joseph C. Ballenger (2004)

Research Mentor: Richard Brown, Ph.D.
Ecology division of the Pacific Northwest National Laboratory

Bull trout (*Salvelinus confluentus*) have become a concern to many fishery scientists since their designation as a separate species from the Dolly Varden in 1978. In 1998, their numbers became so low that they were designated as "threatened" by the U.S. Fish and Wildlife Service. Migratory life histories of bull trout are categorized as either anadromous, fluvial, or adfluvial. This study looked at the juvenile and adult migratory movements of bull trout within the upper Pend Oreille river sub-basin, Idaho. The migratory movements of juveniles and adults in the Middle Fork of the East River were observed to determine if individuals migrate into Lake Pend Oreille or if some are entrained below the Albeni Falls Dam. Bull trout were captured through electro fishing and night snorkeling in the Middle

Fork of the East River and just downstream of the Albeni Falls Dam. A total of 141 bull trout were captured, of which 131 were considered juveniles. The ten adult bull trout were captured below the Albeni Falls Dam. Of the 141 bull trout captured, 140 were pit tagged and 15, ranging in size from 21-44g, were tagged with radio transmitters. In addition, seven adult bull trout were tagged with radio transmitters. Also, eight adult bull trout that were tagged with radio transmitters the previous August were tracked. Individuals were tracked by using stationary and mobile radio transmitter receivers. The adults moved from the Middle Fork of the East River and overwintered either in the Pend Oreille River or Lake Pend Oreille. Three tagged adults were observed moving into the spawning areas the following June and July. No migratory movements were seen in the 15 juveniles after they had been tagged. From the results, it is seen that at least some adult bull trout that overwinter in Lake Pend Oreille and the Pend Oreille River migrate to the Middle Fork of the East River to spawn in the fall months. No conclusions can be made about what percentage of juveniles migrate upstream into Lake Pend Oreille or down stream past the Albeni Falls Dam.

SYNTHESIS OF THE SILVER(I) COMPLEX OF $\text{CH}_2[\text{CH}(\text{PZ}^{4\text{ET}})_2]_2$ CONTAINING THE UNPRECEDENTED $[\text{Ag}(\text{NO}_3)_4]^{3-}$ ANION: A GENERAL METHOD FOR THE FORMATION OF 4-ALKYL PYRAZOLES

Reger, D. L.; Gardinier, J. R.; Grattan, T. C.; Smith, M. R.; Smith M. D.
Published in the *New Journal of Chemistry* 2003, 27, 1670.

Student: Monica Smith, Pharmacy School at Univ. of S. Carolina

Faculty Mentor: T. Christian Grattan, Ph.D
Department of Chemistry, Physics, and Geology

A general two-step method for the synthesis of 4-(alkyl)pyrazoles was developed. The first step involves the reaction between organyl diethylacetals and the Vilsmeier reagent to give a mixture of ethoxy- and dimethylamino-acroleins. This mixture reacts directly with hydrazine monohydrogenchloride to yield the desired (4-substituted)pyrazoles. The 4-(phenyl)pyrazole derivative exhibited a markedly lower solubility in common organic solvents. In solid state structure the phenyl and pyrazolyl groups are nearly coplanar and extensive intramolecular CH- π interactions organize the molecules in two-dimensional sheets that are held in a three-dimensional arrangement by $\text{NH}\cdots\text{N}$ hydrogen bonds.

Tetrakis[(4-ethyl)pyrazolyl]propane, $\text{CH}_2[\text{CH}(\text{pz}^{4\text{Et}})_2]_2$, was prepared by a transamination reaction and reacts with $\text{Ag}(\text{NO}_3)$ to yield a compound with a 4 : 3 metal : ligand mole ratio that when crystallized by diffusion of Et_2O into an acetone solution produced $[\text{Ag}_2\{\mu\text{-CH}_2[\text{CH}(\text{pz}^{4\text{Et}})_2]_2\}_2]_3[\text{Ag}(\text{NO}_3)_4]_2$. This complex contains dimeric units in which two silver cations are sandwiched between two $\text{CH}_2[\text{CH}(\text{pz}^{4\text{Et}})_2]$ ligands and the counterion is the unprecedented tetra(nitrato)argentate anion. ESI mass spectral data support the existence of both the cationic dimeric units and the $[\text{Ag}(\text{NO}_3)_4]^-$ anion in solution.

BIRTH AND REBIRTH: A JUNGIAN ANALYSIS OF JANE EYRE

Originally submitted for English 300 December 9, 2003

Revised and submitted to *The Oswald Review: A Journal of Undergraduate Research and Criticism in the Discipline of English*

Student: Jessica Davis (2005)
Mentor: Siobhan Brownson, Ph.D.
Department of English

One of the reasons *Jane Eyre*, by Charlotte Brontë, has remained so popular over the years is that it contains archetypes, or shared memories, that are common to the human race. Carl Jung created the idea of archetypes, saying that they were common experiences or collective memories of humanity's history. Archetypes surface through literature, art, dreams, and religion. Archetypes will engender emotional responses in readers because of the readers' preexisting attachment to and knowledge of these shared memories. In the novel, memories that the human species remembers as "good" (such as birth or rebirth) are those that triumph. There are several archetypes that are expressed in *Jane Eyre*, such as motherhood, birth, death, rebirth, and the cycle of the seasons. The archetype of a nurturing mother is inverted in the beginning of the novel in the figure of the harsh Mrs. Reed. The archetype seeks resolution throughout the rest of the novel, and Jane is mothered, at different levels, by Miss Temple, Mrs. Fairfax, and Mother Nature herself. Finally, the archetype reaches resolution when Jane becomes a mother, caring for her own son and for Adele. The resolution of this archetype is pleasing to the reader because s/he subconsciously enjoys stories that relate the growth and continuance of the human race. The archetypes of birth, death, and rebirth are inseparably connected within the novel; Jane experiences many deaths throughout her life, but each death instigates

new life or growth within an area of Jane's life. Seasonal weather in the novel also enforces the idea of rebirth; often during times of great hardship, the weather will be warm and beautiful. Once again, the reader finds this archetype of rebirth, or birth from death, fulfilling; human readers naturally enjoy a story that relates the success and growth of their own race.

HONORS THESIS ABSTRACTS

EFFECT OF TRAINING ON THE MAXIMAL RATE OF OXYGEN CONSUMPTION IN COLLEGE-AGE TRACK ATHLETES

Presented to the Biology Department, Winthrop
University, April 21, 2004

Student: Lauren McNair (2004)

Honors Thesis Committee: Jim Johnston, Ph.D.,
Bill Rogers, Ph.D., and Laura Glasscock, Ph.D.
Department of Biology

The body uses oxygen in the process of breaking down sugars and fats to produce ATP, the body's form of energy. When no oxygen is available, the body produces lactic acid when breaking down sugar, and the lactic acid begins to build up in muscles causing fatigue. The more the body is able to supply oxygen to the muscle tissue, the longer it can use aerobically produce ATP and the longer the person can work without fatigue. It follows that those who train by running long distances should have greater abilities to supply oxygen than those who train by running short sprints. The maximum rate (ml of O₂/kg/min) that the body can consume oxygen is described as the VO₂ max. It was hypothesized that distance runners would have a significantly higher VO₂ max values than sprinters. For this test, 18 college-age track athletes (6 sprinters and 12 distance runners) had their oxygen consumption and carbon dioxide production measured while riding a bicycle ergometer to exhaustion. Based on the data obtained for all athletes (VO₂ max for sprinters = 24.3 ml of O₂/kg/min, $s = 2.0$, VO₂ max for distance runners 32.87, $s = 9.33$, $d.f. = 14.4$, $T_{crit} = 2.145$, $T_{cal} = 3.06$), the VO₂ max for distance runners was significantly greater than for sprinters and the hypothesis was accepted. However, based on the data comparing female sprinters to female distance runners, there was no significant difference (female sprinters, $n = 5$, $x = 23.5$, $s = .63$, female distance runners $n = 7$, $x = 28.3$, $s = 5.94$, $d.f. = 6.3$, $T_{crit} = 2.447$, $T_{cal} = 2.12$). Some of the female distance runners reported that they were just recovering from injuries, thus they had recently resumed their long distance training. Since only one male reported being a sprinter, statistical comparisons could not be made between male sprinters and male distance runners. This honors thesis research project was approved by the Committee for the Protection of Human Subjects.

THIS LET-DOWN WORLD OF POLITICS: UNDERSTANDING YOUTH VOTING

Presented at Southern Regional Honors Conference

Student: Bobbi Gentry (2004)

Honors Thesis Committee: Scott Huffmon, Ph.D.,
John Holder, Ph.D., Department of Political Science,
and Kathy Lyon, Ph.D., Department of Psychology

Understanding the complexities of youth voting leads to a more pragmatic way of looking at a democracy as a whole. Several barriers to youth voting include developmental, institutional and social, which hinders youth civic participation. Young people are developing an identity and exploring their roles in society. Looking towards developmental scholars (Erikson and Bandura), I probe the questions of identity acquisition in relationship to political acquisition.

The dismal figure of 18-24 year olds in the last presidential election of 2000 was 32.3% (Roska & Conley, 2003). Taking a closer look at South Carolina, this study looks at previous cases involving college students and voter registration laws and current obstructions.

Current students display different behaviors than those suggested by the evident data of our time; research suggests those who have more education and volunteer more often are likely to vote, yet the current youth trends are not following these data.

THE COST OF CONFORMITY: ASSIMILATION IN THE AUTOBIOGRAPHY OF AN EX-COLORED MAN, INVISIBLE MAN, AND THE BLUEST EYE

Student: LaRonda M. Sanders (2004)

Honors Thesis Committee: Debra C. Boyd, Ph.D.,
Kelly Richardson, Ph.D., and Litasha Dennis, Ph.D.
Department of English

During the late nineteenth and early twentieth centuries, the racism and oppression that African Americans faced produced the distinct ideologies of Booker T. Washington and W.E.B DuBois. Both African American leaders hoped to attain social equality for their people; however, Washington's accommodative and gradualist approach which included industrial education conflicted with DuBois's method, which advocated agitation, immediate restoration of rights, and liberal arts education. While both men believed in the assimilation of African Americans into American

society, their definitions of assimilation were as distinct as their philosophies. Each of these ideologies had and—to some degree—still has a tremendous impact on the African American community. This thesis is an analysis of how Booker T. Washington's and W.E.B. DuBois's distinct methods of assimilation, along with the latent and manifest consequences on American society, are reflected in three twentieth-century works by African American writers: James Weldon Johnson's *The Autobiography of an Ex-Colored Man*, Ralph Ellison's *Invisible Man*, and Toni Morrison's *The Bluest Eye*.

A MICROBIOGEOGRAPHICAL ANALYSIS OF THE ICHTHYOFAUNA OF KINGS MOUNTAIN NATIONAL MILITARY PARK, YORK COUNTY, SC.

Presented to the Winthrop Biology Department, April 21, 2004

Student: Joseph C. Ballenger (2004)
Honors Thesis Committee: William Rogers, Ph.D., James Johnston, Ph.D., and Peter Phillips, Ph.D.
Department of Biology

The ichthyofauna of Kings Mountain National Military Park (KMNP), York County, SC, has never been assessed. Thus, we undertook this microbiogeographical study to determine what species were present in the tributaries of the park in order to create distribution maps and a checklist that will act as a baseline for on-going monitoring of the aquatic resources of KMNP. Based on literature surveys, we estimated that there might be seventy-five species, representing thirteen families, located in the waters of the park. Specimens were collected by electro-fishing on 11 different dates through 2001 and 2002. On each date, we visited a single stream and performed at least one (usually several) 100 meter collecting transects. All fish collected in these transects were brought back to the lab for identification using several taxonomic keys. We found a total of twenty-four different species of fish belonging to five different families: Catostomidae (suckers), Cyprinidae (minnows), Centrarchidae (freshwater sunfish), Percidae (perches), and Ictaluridae (bullhead catfishes). Sixty-three percent of the species (15/24) identified were cyprinids, with the genera *Clinostomus*, *Hybopsis*, *Nocomis*, *Notropis*, and *Semotilus* all represented; we identified two species of *Hybopsis* and nine species of *Notropis* while the remaining three cyprinid genera were represented by only a single species each. Thirteen percent of the species (3/24) were percids, and all

were in the genus *Etheostoma* (darters). Catostomidae was also represented by three species with one in each of the genera *Catostomus*, *Hypentelium*, and *Scartomyzon*. Two centrarchids, both in the genus *Lepomis*, accounted for 8.3% of all species encountered. Ictaluridae accounted for only 4.2% of all species and was represented by the single species *Noturus insignis* (Margined madtom). All species found were expected but the park possesses a relatively impoverished fish fauna compared with published species distributions. While two minnows (rosy-sided dace and greenhead shiner) were collected at all localities, the remaining 22 species were less widespread; in fact, nine species were found only once each. There appears to be a north/south difference in species diversity with the southern-flowing streams supporting fewer species. This may in part result from the effects of a 5-year drought coupled with the damming of streams outside the park that prohibits repopulation of streams on the park's southern slopes.

BUSINESS PARTNERSHIPS WITH K-12 SCHOOLS: ARE THEY HITTING THE TARGET?

Presented at the Southern Regional Honors Conference, April 15-17, Wilmington, NC.

Student: Bryan Snyder (2004)
Honors Thesis Committee: Stephen Smith, Ph.D. Department of Political Science, Jonathan Marx, Ph.D., Department of Sociology, and Carol Pearson McNulty, Ph.D., Department of Curriculum and Instruction

One of the most fundamental and essential institutions that impact every child's life is education, and the education system in the United States faces an immense predicament with respect to funding. There exists a wide disparity in funding both between districts and within districts, and this creates large disparities in the educational opportunities provided the nation's students. More and more schools nowadays are turning to corporate partners to partially compensate for this lack of money. My research sought to determine if these corporate partners are helping to eradicate the problem or if they exacerbate the existing inequalities.

I used quantitative (regression analysis) and qualitative (participant observation and formal interviews) methods, focusing on Target Corporation's Take Charge of Education program, and found that school principals and PTAs have more of an impact on the success of a partnership than

demographic factors. My results provide an excellent gateway to future research.

POLITICAL INSTITUTIONS AND EDUCATION FUNDING INEQUITIES: A COMPARATIVE PERSPECTIVE (2004)

Roberts, Michele.

Presented at the Southern Regional Honors Conference, April 15-17, Wilmington, NC.

Student: Michele Roberts (2004)

Honors Thesis Committee: Stephen Smith, Ph.D., Department of Political Science, Jennifer Disney, Ph.D., Department of Political Science, and Elke Schneider, Ph.D., Department of Curriculum and Instruction

Fifty years after *Brown v. Board of Education*, questions of racial and fiscal equality remain prominent issues in United States educational policy. Funding inequities among public school systems in the United States make it difficult to provide all children with equal educational opportunities. This paper attempts to examine the extent to which these discrepancies are created by the institutional structure of our political system by comparing the United States with Great Britain. By conducting statistical analyses on expenditures on education by different units and levels of government in the two countries, this paper will explore the hypothesis that centralized control of national education systems creates a more fiscally equitable system. This exploration will contribute to an understanding of the institutional arrangements that can improve public education.

THE JUST WAR TRADITION AND THE BUSH ADMINISTRATION'S WAR ON TERROR

Student: Kelly Campbell (2004)

Honors Thesis Committee: Jennifer Disney, Ph.D.; Michael Lipscomb, Ph.D., Department of Political Science, and Edward Haynes, Ph.D., Departments of History

The Just War tradition began soon after the Crusades and consists of two clauses: *jus ad bellum*, a just reason for going to war, and *jus in bello*, moral conduct during the war. There are six parts to *jus ad bellum*: just cause, legitimate authority, right intention, last resort, ultimate goal of peace, and proportionality. *Jus ad bello* consists of three parts: immunity of noncombatants, intended vs. unintended results, and specific proportionality.

My thesis applies the tenets of the just war tradition to counterterrorism. I analyze the U.S. war on terror in light of the just war tradition, using the two case studies of the American military action in Afghanistan and in Iraq. In my analysis of the war on terror, I address the current relevance of the just-war tradition. Although it has never explicitly prevented war, it has provoked debate about the justification for wars and allowed leaders to use the term “just” while inspiring their peoples’ support in wars—even though they may not mean “just” in the traditional sense. I explore the extent to which the American counterterrorism war meets the criteria for a just war and whether or not it is possible for any counterterrorism war to be just. I argue that the just war tradition remains politically relevant despite its inability to prevent war and that the U.S. war on terror cannot be classified as a just war.

MEETING ABSTRACTS

PROBLEMATIC INTERNET USE

(2004) Hodges, P., Adkins, K., Gentry, B., Daugherty, T., Shockley, J., & Johnson, E. Presented at the Southeastern Psychological Association Convention, March 2004.

Students: Pete Hodges (2004), Kelly Adkins (2005), Bobbi Gentry (2004), Jeremy Shockley (2004)
Faculty Mentor: Tim Daugherty, Ph.D.
Department of Psychology
Staff Mentors: Alicia Marstall, Student Affairs
Eric Johnson, Institutional Research

As many as a half-billion people may currently have consistent access to the internet (Nua, 2004). While beneficial uses abound, some problematic uses of the internet have been cited. Problematic Internet Use (PIU) has been conceptualized in terms of empirically-derived dimensions (Daugherty et al, 2003), impulse control deficits (Young, 1999), cognitive-behavioral deficits (Caplan, 2002), and addiction (Kandell, 1998). The current study examined a revised, abbreviated version of the dimensional scale developed by Praterelli et al (1999). Principle components analysis supported a unifactorial dimension. Predicted correlations were found with age, time-on-line, and self-reported problems. Gender differences and correlations with academic variables were not found. Overall, support for the empirical-dimensional approach to PIU appears limited. Future research will address the addiction model of PIU.

PRODUCTION OF A RECOMBINANT C8 α PROTEIN FRAGMENT FOR STRUCTURAL ANALYSIS

Elizabeth Dimond, Devon E. Bork, Kelly D. Murphy, Nisheeth Rai, Brian Chiswell, James M. Sodetz, Chasta L. Parker
Presented at the 55th Southeastern Regional Meeting of the American Chemical Society, 2003.

Students: Elizabeth Dimond (2004) – presenter, Devon Bork (2004), Kelly Murphy (2004)
Faculty Mentor: Chasta Parker, Ph.D
Department of Chemistry, Physics, and Geology

C8 α is a 64 kDa subunit of human complement component C8, which is one of five components (C5, C6, C7, C8, C9) that interact to form the cytolytic membrane attack complex of complement (MAC). C8 α is homologous to the C8 β subunit and along

with C6, C7, and C9 form the MAC protein family. The objective of this project is to produce and crystallize a recombinant form of the putative membrane-binding domain of C8 α . This self-folding domain is referred to as the MACPF region. It is approximately 43 kDa in size, contains two disulfide bonds and no carbohydrate. Recombinant MACPF has been produced in small quantities in the mammalian cell line COS-7. Experiments described here will show how cDNA clones encoding the C8 α MACPF were constructed and used to explore expression in a bacterial system as a means of producing milligram quantities of protein. Once expression has been optimized, the protein will be purified and attempts will be made to obtain diffraction quality crystals for structural analysis. This would be the first structural information about a MAC family protein, thus providing new insight into how C8 α and its structural homologues C6, C7, C8 β , and C9 perform their cytolytic function. (Supported by a SC-BRIN/EPSCoR CRP grant)

A MOTIVATIONAL MODEL OF INTERNET USE: PROPERTIES OF THE IMQ

(2004) Daugherty, T., Gentry, B., Hodges, P., Adkins, K., Turner, M., Marstall, A., Thompson, G., & Johnson, E. Presented at the Southeastern Psychological Association Convention, March 2004.

Students: Bobbi Gentry (2004), Pete Hodges (2004), Kelly Adkins (2005), Meredith Turner (2005), Geneene Thompson (2004)
Faculty Mentor: Tim Daugherty, Ph.D., Department of Psychology
Staff Mentors: Alicia Marstall, Student Affairs;
Eric Johnson, Institutional Research

The Internet provides access to a wide range of activities, information, entertainment, and processes (Anderson, 2001). Its use is rising in quantity and complexity, with typical college students spending approximately three hours online per day (Rotunda, Kass, Sutton, & Leon, 2003). As access to the Internet continues to become more ubiquitous, internal motivational factors may explain more variance in use. The purpose of the current study is to examine the psychometric properties of a three-dimensional measure of Internet use motives. The authors developed the measure based on the model of drinking motives articulated by Cooper (e.g., Cooper, Russell, Skinner, & Windle, 1992). Cooper's Drinking Motives Questionnaire (DMQ) suggests that use of alcohol is guided by three sets of motives: coping motives, social motives, and enhancement motives. The Internet Motives Questionnaire (IMQ)

was created to assess the same motives measured by the DMQ. Results provide evidence of the measure's reliability, three-factor structure, and concurrent validity

WHAT'S BUGGIN' YOU? A SEARCH FOR A NOVEL TOXIC PROTEIN FOR STRUCTURAL ANALYSIS

Megan Dowdy and Chasta L. Parker
Presented to the Department of Chemistry, Winthrop University, 2003

Student: Megan Dowdy (2005)
Faculty Mentor: Chasta Parker, Ph.D.
Department of Chemistry, Physics, and Geology

Research was performed in order to locate a novel protein for structural analysis. SciFinder, Medline, AGRICOLA, Google and Infotrac were used to identify this protein. The goal was to use the search engines to find a protein with no known structure, that was toxic to organisms or cell types, but non-toxic to humans. V-cathepsin, a cysteine protease that is toxic to insects, was chosen. Further research was performed to determine v-cathepsin's function, amino acid composition, origin, and current information or research being done on v-cathepsin. Future research will include the production, isolation, crystallization, and structural analysis of this protein.

ACADEMIC SCHOLARSHIP RETENTION: APPLICATION OF THE HEALTH BELIEF MODEL

(2004) Daugherty, T., Turner, M., Adkins, K., Hodges, P., Gentry, B., Thompson, G., Bell, T., Marstall, A., & Shockley, J.
Presented at the Southeastern Psychological Association Convention, March, 2004.

Students: Meredith Turner (2005), Kelly Adkins (2005), Pete Hodges (2004), Bobbi Gentry (2004), Geneene Thompson (2004), Tamekia Bell (2004), Jeremy Shockley (2004)
Faculty Mentor: Tim Daugherty, Ph.D.
Department of Psychology
Staff Mentors: Alicia Marstall, Student Affairs, Eric Johnson, Institutional Research

As strapped states shift money from tertiary education budget lines to tenuous scholarships (Dee & Jackson, 1999; Seligno, 2003), college students are facing new performance requirements. Failing to meet a requirement may result in thousands of dollars lost from state scholarships. Students' efforts to prevent scholarship loss appear as variable as individuals' efforts to prevent illness (Rosenstock,

1974). The Health Belief Model suggests that a combination of the following factors explains health-related behaviors: perceived susceptibility, perceived consequences, perceived impediments, and cues to action. The purpose of the current study was to examine these factors with regard to scholarship retention among college students. Support for each hypothesis was found, but the practical significance of the findings (approximately 10% of variance explained) lagged the statistical significance. While the Health Belief Model has conceptual flaws (Ogden, 2003), the pragmatic utility of the model in current and future research will be discussed.

THE TRANSITION TO CIVIC AND PROFESSIONAL ENGAGEMENT: ASSESSMENT OF THE UNDERGRADUATE EXPERIENCE (2004) Daugherty, T.K., Ardaiole, F.P., Injaychock, T.C., Marstall, A., Gentry, B., Hodges, P. Shockley, J., Thompson, G., & Bell, T. Presented at the South Carolina Psychological Association Convention, April, 2004.

Students: Bobbi Gentry (2004), Pete Hodges (2004), Jeremy Shockley (2004), Geneene Thompson (2004), Tamekia Bell (2004)
Faculty Mentors: Tim Daugherty, Ph.D.
Department of Psychology Department
Frank Ardaiole, Student Life
Staff Mentors: Alicia Marstall, Student Affairs; Tom Injaychock, Career Services

The authors set out to "assess existing programs and opportunities supporting graduating students in their transition from the world of academic and civic engagement to the world of professional and civic engagement" (*Vision of Distinction: 2003-2004*). This paper will present both assessment methodology and findings. A four-pronged approach was taken, addressing academic departments, student life programming, student attitudes, and the career center. All academic departments were assessed to determine the extent to which existing courses provide students with career intensive instruction. The Division of Student Life collected data from student groups who self-identified as professional in nature. Career self-efficacy and working alliance were measured in a sample of students, using two newly developed scales. Also, the policies and offerings of the career services office were reviewed. Implications for curricular and co-curricular practice will be discussed.

PSYCHOMETRIC PROPERTIES OF A REVISED HUMOR STYLES QUESTIONNAIRE

(2004) Shockley, J., Bell, T., Daugherty, T., & Thompson, G., & Potts, C.

Presented at the South Carolina Psychological Association Convention, April, 2004.

Students: Jeremy Shockley (2004), Tamekia Bell

(2004), Geneene Thompson (2004)

Faculty Mentor: Tim Daugherty, Ph.D.

Department of Psychology

Staff Mentor: Alicia Marstall, Student Affairs

The Humor Styles Questionnaire (Martin, Puhlik-Doris, Larsen, Gray, & Weir, 2003) is a thirty-two item scale measuring four dimensions of humor use: Self-Enhancing, Affiliative, Self-Defeating, & Aggressive. Authors of the current study developed a short version of the HSQ, in order to facilitate quick administration while maintaining strong psychometrics. Four items per scale--including one reverse-coded item per scale--were developed. Data were collected from 103 college students for a pilot study. Factor analysis produced support for a four factor solution consistent with the original HSQ. Scale reliabilities ranged from .38 (Affiliative) to .73 (Self-Defeating). Item analysis revealed that one item on the Affiliative scale was not performing well and is being replaced in the next phase. Scale relationships with gender, ethnicity, attachment, and self-esteem were examined.

EFFECTS OF FUNGAL ENDOPHYTE NEOTYPHODIUM COENOPHIALUM ON TALL FESCUE FESTUCA ARUNDINACEA GROWTH UNDER STRESSED CONDITIONS

Presented to the Department of Biology, Winthrop University, April 14, 2004.

Student: Jennifer Major (2004)

Faculty Mentor: Susan Marks, PhD.

Department of Biology

Endophyte-infected and noninfected tall fescue are seen in nature usually intermixed with each other in the temperate grasslands across the United States and Europe, among other places. The competition of the same resources and niches makes the evolutionary advantage endophyte infection present particularly interesting to study. The fungus produces alkaloids from metabolic processes within the cells, with aid in deterring herbivorous insects. With the reduced herbivory and competitive advantage under ideal environmental conditions present through the symbiosis studied here, the endophyte-infected tall

fescue is a hardy competitor in the family of rye grasses.

Conflicting evidence exists regarding the competitive advantage of biomass growth of E+ tall fescue and E-tall fescue. For a period of ten weeks, the effect of temperature and drought stresses on the symbiotic relationship between fungal endophyte, *Neotyphodium coenophialum*, and tall fescue, *Festuca arundinacea* was monitored. A three-way ANOVA of water stress, temperature stress, and fungal infection as independent variables was used with genotype and initial tiller fresh weight as the co-variant. Dependent variables were root biomass, shoot biomass, and total biomass. Results revealed that the endophyte-infected tall fescue under optimal temperatures and watering conditions showed a larger increase in their root, shoot, and total dry biomass when compared to the non-infected tall fescue. However, when environmental stressors were imposed, the advantage presented by the symbiosis between *N. coenophialum* and *F. arundinacea* was minimal or not present.

PRODUCTION OF A RECOMBINANT C8 α PROTEIN FRAGMENT FOR STRUCTURAL ANALYSIS

Rai, N., Bork, D., Murphy, K., Dimond, E, Chiswell, B., Sodetz, J.M., and Parker, C.L.

Presented at Duke University's "Excellence in Chemical Biology Undergraduate Research Poster Contest," 2003

Student: Nisheeth Rai (2006)

Faculty Mentor: Chasta Parker, Ph.D.

Department of Chemistry, Physics and Geology

C8 α is a 64 kDa subunit of human complement component C8, which is one of the five components (C5b, C6, C7, C8, C9) that interact to form the cytolytic membrane attack complex of complement (MAC). C8 α is homologous to C8 β subunit and along with C6, C7, and C9 form the MAC protein family. The objective of this project is to produce and crystallize a recombinant form of the putative membrane-binding domain of C8 α . This self-folding domain is referred to as the MACPF region. It is approximately 43 kDa in size, contains two disulfide bonds and no carbohydrate. Recombinant MACPF has been produced in small quantities in the mammalian cell line COS-7. Experiments described here will show how cDNA clones encoding the C8 α MACPF were constructed and used to explore expression in a bacterial system as a means of producing milligram quantities of protein. Once

expression has been optimized, the protein will be purified and attempts will be made to obtain diffraction quality crystals for structural analysis. This would be the first structural information about a MAC family protein, thus providing new insights into how C8 α and its structural homologues C6, C7, C8 β , and C9 perform their cytolytic function. (Supported by a SC-BRIN/EPSCo CRP grant)

MURDER SUICIDE: WHAT CORONER RECORDS REVEAL Manetta, A. A. & Smalls, M. Presented at the 18th Annual Spring Symposium—Social Work 2004 National Association of Social Workers, South Carolina Chapter, March 5, 2004.

Student: Makita Smalls (2004)
Faculty Mentor: Ameda A. Manetta, Ph.D., MSW, BSW, BA, LCSW
Department of Social Work

During the past few years, South Carolina has held the distinction of being listed among the top five states in the United States for men murdering their partners. In 2001 SC ranked 1st; in 2000, the state ranked 3rd; in 1999, 5th; 1998 1st; and 1997 the state ranked 4th. Children also become victims either as a result of being murdered at the same time as their mothers or from witnessing the violent act. Many of the men who complete murder in domestic violence situations ultimately take their own lives and some men take their lives without murdering their partners. In 2001, South Carolina ranked 28th in the Nation for completed suicide. Of the 433 suicides completed, 103 suicides were women and 330 suicides were men. There is no national databank that identifies those who commit homicide or take their lives as a result of domestic violence. The information has to be pieced together by means of a psychological autopsy in which coroner records, police incident reports, and newspaper items are reviewed. Existing studies have postulated different reasons for suicide and homicide. In suicidal behavior, the majority of causative factors are described as intrapersonal issues of the individual, such as depression or bi-polar disorder. In cases that involve domestic homicide of women, causative factors tend to examine the behaviors of the women rather than the interpersonal interactions with the men who murder them. In this pilot study of 53 coroner records, we found interpersonal problems rather than intrapersonal, were factors in the murder of women and suicides of men. Divorce, separation, and domestic violence were the three major events cited as precipitating factors in the deaths. A postvention approach toward

working with survivors and a public health approach, that included prevention strategies aimed at work with families, neighbors, employers, and police departments were identified as means to decrease the murder and murder/suicide rates. Prevention efforts of the Maryland Network Against Domestic Violence were identified as a successful model that could be adopted in South Carolina.

MID-CATAWBA RIVER BASIN WATER QUALITY COMPARISON BETWEEN A DROUGHT YEAR (2002) AND A RAINY YEAR (2003). Phillips, P., and Turner, J.

Presented by J. Turner at the Thirteenth Annual Southeastern Lakes Management Conference, March 7-9, 2004, Isle of Palms, South Carolina

Student: John Turner (2004)
Faculty Mentor: Peter Phillips, Ph.D.
Department of Biology

Controlling sediment and nutrient input into the Catawba River is more challenging as the landscape changes due to Charlotte's growth. An interesting comparison is presented by the radically different rainfall patterns between 2002 (drought) and 2003 (rainy). In 2002, Lake Wylie water clarity improved over the long-term pattern. Total nitrogen (TN) and phosphorus (TP) were also high. In 2003, water clarity decreased as did TN and TP. From March - August 2002, total rainfall was 15.9", representing a deficit of 6.1". Lake turbidity averaged 4.8 (Spring) and 4.4 NTU (Summer). TN and TP exceeded nutrient criteria in bottom samples and were high in surface samples. In 2003, rainfall was 49.7", 27.8" above normal. Lake turbidity averaged 33.0 (Spring) and decreased to 9.7 NTU (Summer). The turbidity standard is 25 NTU for Piedmont ecoregion lakes. Average nutrient concentrations significantly decreased in this high rainfall period. In two lake tributaries, the same general turbidity and nutrient pattern was apparent. During 2002, phosphorus, a limiting factor in algae growth, was frequently found in excess of the nutrient criteria 0.06 mg/l, whereas it was generally undetectable during 2003. In 2003, TN concentration, although high (often greater than the 1.5 mg/l nutrient criteria), was lower than 2002. Significantly higher than normal 2003 rainfall may have led to unavoidable episodes of sediment pulses entering the river system. Unpredictable climate variations will occur and indicate the need for improved management of stormwater runoff, installation of sediment trapping devices, implementation and rigorous enforcement of riparian

buffers and public education regarding alternatives to traditional fertilizer application.

COMPARISON OF ADOLESCENT SUICIDAL AND NON-SUICIDAL BEHAVIORS AND SUBSTANCE ABUSE

Manetta, A. A., and Ormand, T. G., Paper presented at the 18th Annual Spring Symposium—Social Work 2004 National Association of Social Workers, South Carolina Chapter. Myrtle Beach, S.C, March 5, 2004.

Student: Teresa G. Ormand (2004)
Faculty Mentor: Ameda A. Manetta, Ph.D., MSW, BSW, BA, LCSW
Department of Social Work

In 2001, millions of adolescents under the age of 20 reported use of alcohol, marijuana, inhalants, steroids, ecstasy, heroin, cocaine, and methamphetamines. Substance use is a primary risk of suicidal behaviors. Comparing adolescent suicidal behaviors with adolescent substance use provides insight into which substances are connected with suicidal behaviors in the teen years. Complete findings of the study, of suicidal behaviors, and substance use in adolescents based on 4,824 participants surveyed in the 2001 National Youth Risk Behavior Survey are explained. Various assessment techniques and suggestions for intervention are discussed within the context of the study.

REVISION OF THE PROBLEMATIC INTERNET USE SCALE (2004) Daugherty, T.K., Gentry, B., & Hodges, P.
Presented at the South Carolina Psychological Association Convention, April, 2004.

Students: Bobbi Gentry (2004), Pete Hodges (2004)
Faculty Mentor: Tim Daugherty, Ph.D.
Department of Psychology
Staff Mentors: Alicia Marstall, Student Affairs

Problematic Internet Use (PIU) has been linked to impairments in job performance, academic achievement, and interpersonal and intrapersonal functioning (Pratarelli & Browne, 2002). Daugherty et al. (2003) found that neuroticism and psychoticism were associated with problematic patterns of Internet use, using Pratarelli and Browne's (2002) 74 item scale. The scale's utility was limited by its prohibitive length and lack of theoretic base. Hodges et al. (2004) reported on the psychometric properties of a new, brief measure of

PIU; while demonstrating that PIU could be reliably assessed with a brief measure of twenty-five items, the study failed to provide strong empirical support for the validity of a purely dimensional approach to measurement of PIU. Based on these findings, a further revision more closely tied PIU to existing models of pathological addiction. Items were adapted to mirror criteria for substance use disorders from the DSM-IV-TR. The current study found that the revised PIU scale, though composed of only twenty items, demonstrated improved reliability and validity. Limitations of the scale will be discussed and future phases in scale development described.

ANTIFEEDANT EFFECTS OF PAWPAW (*Asimina triloba*) ON MILKWEED BUGS (*Oncopeltus fasciatus*)

Johnson, C. E. Presented at the Southeastern Branch Meeting of the Entomological Society of America, February 2004. Presented at the Beta Beta Beta Southeastern Regional Convention, held in conjunction with the Association of Southeastern Biologists' Annual Meeting, April 2004. Presented to the Winthrop Biology Department, April 2004.

Student: Christy E. Johnson (2004)
Faculty Mentors: Paula Mitchell, Ph.D. and John Schmidt, Ph.D.
Department of Biology

Pawpaw (*Asimina triloba*), is a small annonaceous tree native to the southeastern United States. Historically, the fruit served as a food source for Native Americans and Appalachian settlers; in addition, plant extracts have been used for control of lice infestations. Current pharmaceutical research is directed at potential anti-tumor activity of ethanolic extracts and development of insecticides. In the present study, leaves, seeds and twigs were tested for antifeedant activity against piercing-sucking insects. These insects feed by inserting their stylets into plant tissue; saliva is exuded each time the mouthparts contact the plant surface. Milkweed bugs, *Oncopeltus fasciatus* (Hemiptera: Heteroptera: Lygaeidae), were offered sunflower seeds dipped in concentrations of aqueous extract ranging from 0-20%. Seeds were stained with acid fuchsin to count salivary deposits. At 5% concentration, all plant parts reduced feeding compared with the distilled water control. The response to leaf and seed extracts was concentration-dependent. Therefore, aqueous pawpaw extracts could be potentially useful in pest control, in that insect feeding damage may be significantly reduced without application of toxic chemical insecticides.

ADOLESCENT SUICIDAL AND NON-SUICIDAL BEHAVIORS AND SUBSTANCE USE: RESULTS FROM THE NATIONAL AND SOUTH CAROLINA YOUTH RISK BEHAVIOR SURVEY

Manetta, A. A., and Ormand, T. G.
Presented at Social Work's Spring Field Institute,
Winthrop University, April 16, 2004.

Student: Teresa G. Ormand (2004)
Faculty Mentor: Ameda A. Manetta, Ph.D., MSW,
BSW, BA, LCSW
Department of Social Work

Current statistics show suicide is the 3rd leading cause of death among adolescents. Substance use is a primary risk of suicidal behaviors. Furthermore, substance use is prominent among adolescents. Even though there have been studies on alcohol there has not been much research to identify the relationship between individual substances and suicidal behavior. Information was presented based on a study drawn from the 2001 Youth Risk Behavior Survey. Findings were based on a sub-sample of 4,828 suicidal and non-suicidal high school youths who completed the 2001 YRBS. A logistic regression model that identified the odds ratio between alcohol and substances and showed that alcohol and inhalants had the two strongest relationships to suicidal behaviors was the basis for this presentation. A special section included 2003 YRBS information on substance use and suicidal behaviors among 3,115 South Carolina youth. A discussion on the utility of various screening tools available for use by South Carolina school social workers in their efforts to implement prevention strategies in schools was presented.

MULTIELEMENT ANALYSIS OF WEAR METALS IN USED ENGINE OILS BY HIGH RESOLUTION ELECTROSPRAY MASS SPECTROMETRY

Rai, N., and Calloway, C.
Presented at the South Carolina Academy of Sciences
Annual Conference, 2004.

Student: Nisheeth Rai (2006)
Faculty Mentor: Clifton Calloway, Ph.D.
Department of Chemistry, Physics, and Geology

Inductively Coupled Plasma Mass Spectroscopy (ICP-MS) and Graphite Furnace Atomic Absorption Spectroscopy (GF-AAS) are powerful techniques for the determination of trace metals in complex matrices, exhibiting similar performance characteristics. Electrospray Ionization Mass Spectrometry (ESI-MS) is a sensitive technique of choice for non-volatile organic compounds in

solution with high molecular weight, but has not been widely applied to the determination of trace metals. However, the electrospray ion source can be used as an efficient atomizer for metals in solution, and the mass range allows for the observation of many metals at once. Detection limits are shown to be similar to ICP-MS and GF-AAS. An acid extraction of used engine oil, followed by neutralization and ESI-MS allows for the quick determination of several metals characteristic of engine wear.

DOMESTIC VIOLENCE: MURDER FOLLOWED BY SUICIDE IN SOUTH CAROLINA

Manetta, A. A., & Smalls, M.
Presented at the American Association of
Suicidology 37th Annual Conference, Miami, Florida,
April 13-17, 2004.

Student: Makita Smalls (2004)
Faculty Mentor: Ameda A. Manetta, Ph.D., MSW,
BSW, BA, LCSW
Department of Social Work

Murder followed by suicide in domestic violence situations is not well understood in American society. In the United States, during the past five years, South Carolina has ranked number one three times in regard to women murdered by their partners and in 2002 ranked 28th for suicide. Some people believe domestic violence is a function of power and control; others believe men who murder their wives/partners may be experiencing depression. In fact, mental health problems including major depression, bi-polar disorder, and substance abuse are three of the most commonly identified diagnosis associated with completed suicides. Depression in men often results in isolation from others including the unwanted separation from an intimate partner who has left or is threatening to leave them. Indeed, a South Carolina study found that male perpetrators of violence against others were likely to engage in suicidal behavior. We hypothesized that male batterers may be experiencing undiagnosed depression. Using Choen, Llorente, and Eisdorfer (1998) rudimentary indicators of mental health problems we report the finding from a preliminary analysis of available information (coroner, police reports, and newspaper articles) on murder/suicide in South Carolina domestic violence situations.

PREDICTORS OF PRIVATE AND PUBLIC RELIGIOSITY. Oyoo, G. Presented at the Southeastern Undergraduate Sociology Symposium, Athens GA, March 2004.

Student: Geraldine Oyoo (2004)
Faculty Mentor: Jennifer Solomon, Ph.D.
Department of Sociology

This study investigates the causes of private religiosity (how religious a person thinks he/she is) and public religiosity (attendance of religious services). The hypothesized predictors for both types of religiosity were race, gender, parental religiosity, region of residency, childhood religiosity, religious schooling, and socio-economic status (which was measured using the respondents' level of education). Females were found to be more religious in terms of public religiosity. The research also suggests that race, social class, and maternal religiosity were good predictors of public religiosity, whereas race, social class, and religious schooling explained private religiosity.

EFFECT OF A PHYSICALLY DISABLED PERSON'S PRESENCE ON ATTITUDES TOWARD PHYSICALLY DISABLED PEOPLE. Badr, M. Smoak, L., Bailey, S., & Sleigh, M. Presented at the Southeastern Psychological Association Conference, March 2004.

Students: Mona Badr (2005), Leslie Smoak (2005), Shanta' Bailey (2005)
Faculty Mentor: Merry Sleigh, Ph.D.,
Department of Psychology

The number of disabled individuals entering college is increasing. Previous research on students demonstrated that non-disabled peers report some negative attitudes toward the physically disabled, with the most positive attitudes held by women and religious individuals. We investigated whether the presence of a physically disabled individual would alter reported perceptions of physically disabled individuals. Participants were 56 undergraduate students recruited from upper-level psychology courses. Sixty-eight percent of the participants were Caucasian, and the remainder were African-American. Participants were given a 25-question survey that measured attitudes toward the physically disabled, on a Likert scale of 1 (strongly disagree) to 4 (strongly agree). Survey questions were taken from three existing scales: (1) General Attitudes Toward People With Disabilities, (2) Attitude Toward Disabled Persons Scale, and (3) Disability Factor

Scale (Antonak, Livneh, & Yunker, 1988). Half of the participants completed the survey at the request of a physically disabled person, and half of the participants completed the survey at the request of a non-disabled person. There was no significant difference between the attitudes of the group with the disabled person present, $M = 75.22$ ($SD = 8.09$), and the group without the disabled person present, $M = 72.45$ ($SD = 6.67$), although results were in the predicted direction. There was also no significant difference between the attitudes of individuals with previous contact with a physically disabled person, $M = 74.0$ ($SD = 7.48$), and individuals without previous contact, $M = 71.0$ ($SD = 7.51$). Although female participants reported more positive attitudes, $M = 74.62$ ($SD = 7.21$), than male participants, $M = 69.44$ ($SD = 7.57$), the difference was not significant. In addition, there were no differences in attitude among age categories or ethnic groups. Overall, our data revealed more positive attitudes toward the physically disabled than did previous research. One explanation may be that student attitudes toward the physically disabled are improving, as the physically disabled are more visible on college campuses. Alternatively, the positive attitudes seen in our sample may be the result of a high percentage of psychology and education majors with previous classroom training on disabilities.

A DISTRIBUTED ALGORITHM FOR COUNTING FINITE TOPOLOGIES

Rae, S.
To be presented at SIAM Conference on Discrete Mathematics, June 13-16, 2004.

Student: Sean Rae (2004)
Faculty Mentors: William Thacker, Ph.D.
Department of Computer Science
Dawn Strickland, Ph.D., and Thomas Polaski, Ph.D.
Department of Mathematics

There is currently no known formula for calculating the number of possible topologies on a given set. The binary sequence for the order of a set and the number of topologies that can be constructed from that set is known up to order 16 and no solution other than brute force calculation is known to extend to order 17 and beyond. I propose a distributed algorithm for computing this sequence, given a user-inputted set order.

LOCAL VS. LONG DISTANCE DATING: RELATIONSHIP BETWEEN INFIDELITY AND SELF-ESTEEM.

Harris-Shaw, J., Parker, B., & Lang, C.
Presented at the Southeastern Psychological Association conference, March 2004.

Students: Justin Harris-Shaw (2005), Brittany Parker (2005), Candace Lang (2005)
Faculty Mentor: Merry Sleigh, Ph.D.,
Department of Psychology

Previous research has demonstrated a link between low self-esteem and infidelity. In contrast, geographic distance has not been shown to relate to infidelity. The current study further examined these issues. Participants were unmarried, undergraduate students (24 men and 34 women). The mean age was 19.31 (SD = 1.39). Our distributed survey included the 'Self-Esteem Rating Scale' (Nugent & Thomas, 1993) and portions of 'Dating Relationships Scenarios' (Sheppard, Nelson, & Andreoli-Mathie, 1995). The 'Dating Relationships Scenarios' scale was modified to include questions pertaining to geographic distance from partner. For each participant, a total score for infidelity was created by adding the number of cheating behaviors that a participant reported having done in the past. Results revealed that lesser forms of infidelity (e.g., kissing, spending time together) were more common and more accepted than were more intimate forms of infidelity (e.g., emotional closeness, sexual intercourse), a finding that supports previous research. Participants who had committed infidelity had higher ratings of acceptance of infidelity than participants who had not committed infidelity, $t(50) = 2.27, p < .05$; however, even participants who rated infidelity as unacceptable reported an average of .67 (SD = 1.42) unfaithful behaviors on a 0-5 scale. The more committed relationships participants had experienced, the more infidelity had occurred, $r = .46, p < .05$. No difference was found between local and long-distance relationships on level of infidelity, $t(26) = .20, p > .05$. Similarly, no difference was found between local and long-distance relationships on level of partner's infidelity, $t(26) = .96, p > .05$. These results match previous research. In contrast to previous studies, there was no relationship between participants' self-esteem and infidelity score, $r = -.16, p > .05$. Similarly, no difference in self-esteem was found between participants who had committed infidelity and those who had not, $t(26) = .96, p > .05$. Men and women did not differ in their overall self-esteem levels, $t(36) = 1.07, p > .05$. Our study provides some support for previous research on infidelity and points to new avenues for continued

examination of this psychological and social phenomenon.

USING MUSIC, RHYTHM, POETRY, AND DANCING IN THE FOREIGN LANGUAGE INSTRUCTION

A workshop presented at the South Carolina Foreign Language Teachers' Association, Columbia, SC, February 21, 2004.

Students: Courtney Wachob (2004) and Gabrielle Lee (2004)
Faculty Mentor: Aurora Fiengo-Varn, Ph.D.
Department of Modern Languages

This presentation was designed to show foreign language teachers some ways they can use music, rhythm, dancing, and poetry in their foreign language instruction to increase students' participation and engagement. It provides a theoretical background in the role of music with its cultural and linguistic application in language instruction. It explores the idea of multiple intelligences with a diversity of learners in the context of foreign language instruction. More than 150 foreign language students were surveyed and the results corroborated that music and movement are effective techniques to use in the foreign language classroom.

The presentation included sample songs that were used for vocabulary, grammar, pronunciation, and cultural discussion. It sampled Winthrop's International Festival as a successful instance where foreign language students used foreign languages with creativity and outside the classroom environment. It gave ideas about the incorporation of poetry that can be read aloud in a chorale. The presentation was multi-media. It used power point, slides, and culturally authentic audio and video clips.

EXAMINING THE IMPORTANCE OF PARENT RELATIONSHIPS ON TODDLER OUTCOMES Bussey, S.

Presented at the 2004 International Conference on Infant Studies

Student: Shawna Bussey (2004)
Faculty Mentor: Cheryl A. Fortner-Wood, Ph.D.
Department of Psychology

The affects of parents and caregiver relationships and the affects of parent-social support on the outcomes of toddlers were investigated for this study. The amount of social support was determined by answers

of the parents and caregivers on the Social Support Survey. The parent and caregiver relationships were investigated by using the Parent-Caregiver Relationship Scale. The results indicated that the relationships between parents and caregivers do indeed impact the social outcomes of the toddler. Support was found for concurrent links between social support, relationship report agreement, and child care quality. Parents' support was significantly related to agreement scores and caregiver's support was significantly related to child care quality. There was also significant results found between the number of types of support to parents from caregiver and the number of types of support to caregivers from parents.

RELATIONSHIP BETWEEN PARENTAL DIVORCE AND ATTITUDES ABOUT INTIMATE RELATIONSHIPS. Mobley, B. and Ritchie, M.

Presented at the Southeastern Psychological Association conference, March, 2004.

Students: Brook Mobley (2004), Melissa Ritchie (2003)

Faculty Mentor: Merry Sleight, Ph.D.,
Department of Psychology

The present study examined how personal experience with divorce impacts young adults' attitudes about divorce. In line with previous research, we hypothesized that participants who came from a divorced background would have more favorable attitudes towards divorce than other participants. Participants were 63 undergraduate students (48 women, 15 men). The mean age was 19.7 (SD = 5.75). We created a survey that consisted of 24 questions assessing participants' relationship status, general attitudes toward divorce, and attitudes about divorce as a personal option. The majority of participants felt that having divorced parents does not increase an individual's likelihood of getting divorced (65%) and reported not worrying about divorce in their own future (81%). Ninety percent disagreed that society would be better off if divorces were more difficult to obtain. We calculated a variable called 'Experience with Divorce' (EWD) by adding a participant's previous divorce experiences, and a variable called 'Attitudes about Intimate Relationships' (AIR). There was no significant relationship between EWD and AIR, $r = -.19$, $p > .05$. There was no difference between participants in relationships and participants not in relationships on EWD, $t(61) = .69$, $p > .05$ and on AIR, $t(61) = -.16$, $p > .05$. Similarly, there was no difference between

men and women on EWD, $t(61) = .68$, $p > .05$ and on AIR, $t(61) = .31$, $p > .05$. A correlation revealed no significant relationship between age and EWD, $r = .08$, $p > .05$, or age and AIR, $r = -.04$, $p > .05$. An ANOVA revealed no significant difference among races on EWD, $F(3, 62) = 1.27$, $p > .05$ and AIR ($F(3, 62) = 2.25$, $p > .05$). Thus, young adults' age, race, gender, and previous divorce experience were not related to their attitudes toward divorce. Although divorce rates are high, most of our unmarried, young adult participants were accepting of and unworried about divorce. These attitudes may change over time, and relationship behaviors may be different than reported attitudes. A better understanding of young adult attitudes has value for both young adults and relationship counselors.

RELIGIOUS COPING STYLES AND ANXIETY LEVELS IN YOUNG ADULTS. Watkins, L.,

Turner, S., & Hanson, J.
Presented at the Southeastern Psychological Association conference, March 2004.

Students: Lisa Watkins (2005), Stephanie Turner (2005), Jennifer Hanson (2005)

Faculty Mentor: Merry Sleight, Ph.D.,
Department of Psychology

One way that individuals cope with stress is with religion. Four religious coping styles have been established. In the self-directing style, God plays a passive role in decision making. In the deferring style, the individual plays a passive role. The collaborative style is characterized by an equal partnership between God and the individual. In the surrender style, the individual actively chooses to follow the will of God, regardless of how he or she feels. Past research has shown that high self-directing scores correlate with high levels of anxiety, while high collaborative and surrender scores correlate with low levels of anxiety (Day, 2000). Our study modified these established scales in order to study these relationships without relying exclusively on Judeo-Christian terminology and populations. We hypothesized that the general population would provide results similar to those obtained through Christian populations. Our participants were 41 undergraduate students (14 men and 27 women) from various ethnic and religious backgrounds. The age range was 18 to 21 ($M = 19.27$, $SD = .63$). We used three established scales: the Religious Problem Solving Scale (Pargament et. al, 1988), the Surrender Scale (Wong-McDonald, 2000), and the Beck Anxiety Inventory (BAI). We modified the first two

scales by replacing the term 'God' with the term 'Higher Power' in order to make the scales more accessible to the general population. Our hypothesis was not supported. There were no significant correlations between the BAI and the four religious coping styles: collaborative ($r = .03$, $p = .85$), self-directing ($r = -.07$, $p = .66$), deferring ($r = -.12$, $p = .45$), and surrender ($r = -.12$, $p = .42$). Age was also not related to scores on the four coping styles, a finding supported by previous research. These findings may indicate that changing the terminology to 'Higher Power' altered the way that participants interpreted the coping scales, rendering them less useful. Alternatively, these findings may indicate that individuals outside of the Judeo-Christian heritage are less reliant on their spirituality as a coping mechanism. The current study points to the need for additional research on and understanding of diverse populations.

GENDER, EXTRACURRICULAR ACTIVITY, AND ACADEMIC DISHONESTY. Williams, S., Barger, S., Mobley, M. & Sleigh, M. Presented at the Southeastern Psychological Association conference, March 2004.

Students: Seteria C. Williams (2005), Sarah B. Barger (2004), Mary B. Mobley (2003)
Faculty Mentor: Merry Sleigh, Ph.D.,
Department of Psychology

There has been an increased interest in research on academic dishonesty within the last twenty years, due to the fact that academic dishonesty has become a major problem throughout the nation among college students (Davis, Grover, Becker, & McGregor, 1992; Rittman, 1996). We examined this issue at Winthrop University. Based on previous research, we hypothesized that men would report a higher level of academic dishonesty than women. We also hypothesized that the more extracurricular activities an individual was involved in, the more cheating behaviors that person would report. Participants were 58 undergraduate students. The sample consisted of 77% women and 23% men. Sixty-two percent identified themselves as Caucasian and 36% as African-American. We created a survey that consisted of 27 questions to assess participants' involvement in extracurricular involvement, frequency of plagiarism, frequency of different forms of cheating, and perceived motives for others' cheating. A demographic portion of the survey asked participants information about their age, sex, and ethnicity. Our hypotheses were not supported. There was no difference between men and women and how

often they reported cheating, $t(56) = 1.34$, $p = .19$, or on their attitudes toward cheating, $t(56) = 1.05$, $p = .30$. There was also no difference between ethnic groups and how often they reported cheating, $t(55) = 1.07$, $p = .29$, or on their attitude toward cheating, $t(55) = .522$, $p = .60$. Previous research had not examined cheating levels in Caucasian students compared to African-American students. A correlation revealed no significant relationship between hours spent in extracurricular activities and how often participants reported cheating, $r = -.001$, $p = .99$, or their attitudes toward cheating, $r = .13$, $p = .44$. Similarly, there was no significant relationship between hours worked per week and how often participants reported cheating, $r = .04$, $p = .82$, or their attitudes toward cheating, $r = .08$, $p = .69$. The lack of significant findings may be the result of our participants reporting very low levels of cheating, which made differences difficult to detect. Alternatively, our findings may suggest that there are fewer differences between these categories of students than previously thought.

SOCIAL SUPPORT TO INFANTS' PARENTS PREDICTS CHILDHOOD SOCIAL OUTCOMES

Student: Jennifer Cox (2005)
Faculty Mentor: Cheryl Fortner-Wood, Ph.D.
Department of Psychology

Data from the National Institute of Child Health and Human Development (NICHD) Study of Early Child Care were used to examine direct links between the social support parents receive and children's social development. Parents' social support indirectly affects child outcomes by directly impacting parenting (see Cochran & Niego, 1995; Melson, Ladd, & Hsu, 1993; Belsky, 1984; Cochran & Brassard, 1979). In this study we 1) provide longitudinal evidence regarding the direct link between support and child outcomes, 2) focus on a variety of child social outcomes, and 3) examine the role of parent personality on this relationship.

Here, data from one month through 54 months were used to explore the relationship between this social characteristic of parents and social outcomes of their children. Initially 1,364 infants and their mothers were enrolled in the project. At 54 months, data from approximately 1,100 children from the original sample were available. Social support to mothers was measured when the focal child was 1, 6, 15, 24, and 36 months (see Weiss, 1974 and Marshall & Barnett, 1993). Parents' extraversion was assessed when the

child was 6 months old (NEO Personality Inventory, Costa & McCrae, 1985). Social outcomes of the child were measured at 4 ½ years.

Parents' ratings of the social support they received when their child was an infant were significantly related to a variety of children's social outcomes at 54 months. Parents' social support reports during the first two years were related to children's externalizing behavior, social problems, negative relationship with playmates, positive relationship with playmates, and number of playmates. Also, parents' social support at 1, 15, and 36 months was related to child's later social competence.

We also explored the effects of mother and child characteristics that may play a role in this direct link between social support and child outcomes. Specifically, mother's ethnicity, age, and personality as well as child gender were considered.

Additional analyses will be presented in an attempt to fully explore the nature of the link between this social characteristic of parents and social outcomes in their children.

THE SEARCH FOR CANDIDATE PROTEINS WITH A FUNCTION IN FIBROMYALGIA SUITABLE FOR STRUCTURAL DETERMINATION

Student: Justin Daniel (2006)
Faculty Mentor: Chasta Parker, Ph.D.
Department of Chemistry, Physics, and Geology

Fibromyalgia (FM) is a debilitating syndrome characterized by pain in the joints, fatigue, muscle aches, sleep loss, and depression-related symptoms. The etiology of FM remains elusive. Approaching the syndrome from a biochemical stand point and by researching proteins that may be active in causing FM or in its resulting symptoms may yield better diagnostic techniques, new drugs to relieve or alleviate its symptoms, or new treatment options for FM patients. The goal of our research project is to determine a novel protein involved in FM that is suitable for structural analysis. A broad review of recent abstracts featured in scientific journals was conducted. Particular attention was paid to background and current lines of inquiry into the syndrome. A careful review of all the conclusions of all abstracts was performed to determine the involvement of each of the featured proteins studied in FM. The criteria used to determine if the protein could be used in this study was unknown structure,

plausible role in FM, and a reasonable chance to be purified and structure determined. The search involved the use of refereed internet sources to narrow down the list of plausible candidate proteins. In particular, the accredited site www.rcsb.org/pdb/ (a protein database used by biochemists as well as doctors and health officials) was used to check all proteins for structural information. The molecular weights and sources for all of the proteins were determined as well. Ultimately, the search resulted in neurokinin 1 receptor protein (Tachykinin) as the best possible novel candidate protein.

BILL CULP: THE LIVING HISTORY OF WINTHROP UNIVERSITY Elliott, L.

Presented at the South Carolina Historical Association, March 6, 2004.
Presented at the Southern Regional Honors Conference, April 17, 2004.

Student: Leslee Elliott (2004)
Faculty Mentor: Andy Doyle, Ph.D.
Department of History

Mr. Bill Culp is one of Winthrop University's most enduring and cherished personalities. Born on the campus, he served as its facilities manager for fifty years and has seen the school evolve from an all-female normal school into the racially integrated coeducational institution of today. Extensive oral history interviews with Mr. Culp provide insight into the school's changing social, cultural, and technological advances and how several generations of women responded to those changes. The small women's college that existed within the confines of a single building grew into a large and technologically advanced campus, with much of this growth occurring under his stewardship. Significant archival research complemented these interviews, allowing a more complete understanding of how Winthrop women struggled to gain greater independence and career opportunities. The papers of Dr. D. B. Johnson, the college's founder and first president, demonstrate how Winthrop faculty and administrators worked to achieve this end without causing waves in the conservative Southern society of the late nineteenth and early twentieth centuries. Students received a modern, career-oriented education, but they were also trained in the intangibles that allowed them to fulfill their role as Southern ladies. Evidence gleaned from the campus newspapers supplemented the Culp interviews and allowed the attainment of a more complete picture of Winthrop's day-to-day life, campus culture, and technological modernization. The modernization

process that Bill Culp played such an important role in implementing on the campus brought significant improvements in energy management, information, and transportation. While technology made some aspects of life faster and easier, it seemed to ruin the sense of closeness and community felt by the earlier campus generations. The experience of gathering Mr. Culp's stories provided a special flow of ideas across generations, a flow that gave both parties a renewed appreciation for the school and its origins.

ACCESS TO MENTAL HEALTH CARE: A BRIDGE TOO FAR Sullivan, H.

Presented at the Southern Regional Honors Council Conference, 2004

Student: Holly Sullivan (2004)
Faculty Mentor: Tim Daugherty, Ph.D.
Department of Psychology

Barriers obstruct members of some populations from gaining access to effective mental health care. Underutilization of psychological services is a pervasive problem with deep-rooted causes. Mental health care can be expensive; but even when care is free, many persons with mental illness do not gain effective treatment. Beyond the financial barriers, research points to pragmatic and cultural obstacles. In underserved populations, symptoms of mental illness may not be recognized or may be attributed to physical or spiritual causes. Some groups may perceive more stigma associated with mental illness, show more passivity in help-seeking behaviors, and be less trusting of professionals—who tend to come from different socioeconomic backgrounds. Beyond exploring barriers to mental health care, I propose ways to break down these barriers and bridge the disparate communities of mental health professionals and those with the least access to care.

OTHER VOICES, OTHER CLASSROOMS: ESL STUDENTS IN NEW YORK. (2003)

Dell, Courtney A.
Presented at the National Council of Teachers of English conference in San Francisco, California, November 24, 2003.

Student: Courtney A. Dell (2003)
Faculty Mentors: Kelly Richardson, Ph.D. and Marguerite Quintelli-Neary, Ph.D.
Department of English

The panel examined ESL students in South Carolina and New York and the accommodations made for

them in the classroom. We also focused on several different students of different ages, cultures, and educational achievements. I compared the differences in testing accommodations. In my research I also concentrated on the recreational activities of these students, where we learned that many spend most of their time on the computer to avoid the language barrier they encounter everyday. My research also focused on the activities and events that can help ESL students feel more welcome in the classroom as well as teach non-ESL students about promoting cultural diversity.

SYNTHESIS OF BIS AND TRIS (4-PHENYLPYRAZOLYL) METHANE LIGANDS

Presented a Poster at Southeastern Regional Meeting of the American Chemical Society, Atlanta, GA, November 2003.

Presented to the Department of Chemistry's Research Seminar, December 2003.

Student: Elizabeth Baynard (2004)
Faculty Mentor: T. Christian Grattan, Ph.D.
Department of Chemistry, Physics, and Geology

The synthesis of bis and tris (4-phenylpyrazolyl)-methane was presented. Implementation of the new synthetic pathway toward the synthesis of 4-substituted pyrazoles has allowed for the production of the associated pyrazolylmethane ligands. These derivatives will allow for increased solubility in pyrazolylmethane-metal complexes as well as novel multitopic ligand metal architectures

SYNTHESIS OF FUNCTIONALIZED BIS AND TRIS (4-PENTYLPYRAZOLYL) METHANE LIGANDS

Presented a Poster at Southeastern Regional Meeting of the American Chemical Society, Atlanta, GA, November 2003.

Presented to the Department of Chemistry's Research Seminar, December 2003.

Presented a Talk at the South Carolina Academy of Sciences Annual Meeting, Charleston, SC, April 2004.

Presented a Poster at the Sigma Xi Celebration of Research, Discovery Place, Charlotte, NC, April 2004.

Student: Michael Morant (2005)
Faculty Mentor: T. Christian Grattan, Ph.D.
Department of Chemistry, Physics, and Geology

The synthesis of bis and tris (4-pentylpyrazolyl) methane was presented. Implementation of the new synthetic pathway toward the synthesis of 4-substituted pyrazoles has allowed for the production of the associated pyrazolylmethane ligands. Substitution of the methine hydrogen with an alcohol functional group to allow for linking the ligands together through a benzyl group. These derivatives will allow for increased solubility in pyrazolylmethane-metal complexes as well as novel multitopic ligand metal architectures.

SYNTHESIS OF FUNCTIONALIZED TRIS(3-TERT BUTYLPYRAZOLYL)METHANE LIGANDS

Presented a Poster at Southeastern Regional Meeting of the American Chemical Society, Atlanta, GA, November 2003.

Presented to the Department of Chemistry's Research Seminar, December 2003.

Presented a Talk at the National Conference of Undergraduate Research, Indianapolis, IN, April 2004.

Student: Jennifer O'Neal (2004)
Faculty Mentor: T. Christian Grattan, Ph.D.
Department of Chemistry, Physics, and Geology

The synthesis of tris (3-*tert*-butylpyrazolyl)methane ligands substituted on the central methine carbon were presented. These substitutions allow for alterations in the solubility of various ligand systems studied as well as introducing functional groups to the backbone carbon atom. Using these functional groups, the individual ligands may be linked to form multitopic. These multitopic ligands are interesting subunits in the construction of novel nanoscale molecular architecture.

MULTINATIONAL CORPORATIONS: A THREAT TO GLOBAL DEMOCRACY?

Presented at the 2004 South Carolina Political Science Association Conference, February 21, 2004.

Student: Niki Barber (2004)
Faculty Mentor: Dr. Jennifer Leigh Disney
Department: Political Science

Multinational corporations are accepted at each of the three levels of analysis used to describe the international political economy. Individuals express their acceptance of multinational corporations by purchasing products sold by the business enterprises, as well as by purchasing stock in the corporation. At

the state level, the United States in particular, recognizes the importance that multinational corporations have on the domestic economy. Multinational corporations are accepted actors in the international system as they have begun to dominate global economic activities. The acceptance of multinational corporations as political entities has allowed these enterprises to use their advantages in production, finance, security, and knowledge to subvert democracy.

In the quest to meet their goal of maximizing profits at minimal costs, multinational corporations operate in manners such that monopolies are created, policy-making decisions are influenced, populations are segmented, and economies are disrupted to the point where countries struggle to provide jobs at suitable wages for their people.

UNITED NATIONS: PAST, PRESENT, FUTURE

Presented at the 2004 South Carolina Political Science Association Conference, February 21, 2004.

Student: Aset Abdualiyeu (2004)
Faculty Mentor: Jennifer Leigh Disney, Ph.D.
Department of Political Science

As liberalist Francis Fukuyama argued in his book The End of History that disintegration of the USSR will expand liberal and democratic values to the post communist countries. He gave one of the leading roles to the international institutions; especially, he outlined the key position of the UN. In my opinion, the United Nations was created and suited under the bipolar division of the world. Today, it is incapable of dealing with many international issues that arise. Many of the UN resolutions and sanctions are not obeyed by member countries. For example, even though UN Security Council was ready to veto intervention in Iraq, the US did not obey. In addition, the UN General Assembly has overwhelmingly passed a resolution demanding that Israel halt construction and remove existing stretches of fence of a huge barrier in the West Bank. But as we can see, Israel not only disobeyed but continued the construction of the wall on the Palestinian territory which is in direct violation of principles of international law.

UN Peacekeeping operations are another critical issue in assessing the role of the UN. Definitely, "Blue Helmets" have had a great impact on the establishment of peace in the world's hot spots like Somalia, Bosnia and Herzegovina, Macedonia, etc. But they are not as efficient as they are supposed to

be. For instance, peace establishing operations in India and Pakistan have lasted since 1949. After more than 50 years, UN diplomats cannot establish peace between these states. In Rwanda, the war between Tutsi and Hutu tribes caused over 800,000 deaths, most of whom were civilians.

In addition, structural adjustment policies (SAPs) of the IMF and the WB often contradict the social policies of the ILO, FAO, UNESCO, and UNICEF. I do not want to lessen the role of the UN in establishing peace and principles of international law, setting democratic basics, helping developing countries, and so on. But it is obvious that the modern world with its complicated political and economic issues needs a more perfect and efficient supra-state organization, the organization of a new millennium.

THE IMPACT OF GLOBALIZATION ON THE NATIONAL VALUES OF CENTRAL ASIAN STATES

Presented at the 10th Annual Conference of Central and Inner Asia Seminar "The Domestic Environment Of Central And Inner Asia," University of Toronto, April 16, 2004.

Student: Aset Abdualiyev (2004)
Faculty Mentor: Jennifer Leigh Disney, Ph.D.
Department of Political Science

In present days, one of the most important processes in the world is *globalization*. Originally, globalization was described as a process of economic integration and cooperation. But now, globalization touches every aspect of our lives including education, culture, policy, entertainment, security, environment, international relations, etc. The main goal of globalization is the creation of the so-called "Global Village," where the world would be one big community of people, without any borders and obstacles. But many scholars argue that this kind of "community" may lead to the disappearance of the cultures and traditions of the developing countries. The people and governments of the developing states are more concerned with economic development, sometimes neglecting national and cultural parts of life. Because of that, they are more prone to the so-called "westernization" of their societies. Once, Lenin proclaimed that imperialism is the highest stage of capitalism; today, many scholars agree that globalization is the highest stage of imperialism. Hence, globalization has a negative impact on the cultures of developing countries.

But how can an inescapable and permanent process of globalization preserve those great national values of developing states? In my opinion, the answer is glocalization; formed by the merging of the words "globalization" and "localization." Glocalization means that neighboring states or states that have common roots should first integrate among themselves and then integrate globally. For example, states like Kazakhstan, Kyrgyzstan, Uzbekistan, and Turkey have the same Turkish origin. They have a common ancestry and history. In my opinion, glocalization of these states may help to form a Common Turkish culture and traditions with different country specifications. This type of integration will help to preserve the many great national values of developing states, the Turkish states in particular, and confront the process of westernization. In the future, only several cultures will remain, whereas others will dissolve forever. National identity is directly connected with national culture. And I truly believe that glocalization will help to preserve the national values of developing states and make the global world appreciate and respect them.

BLACK WOMEN AND BLACK NATIONALISM

Presented at the 2004 South Carolina Political Science Association Conference, February 21, 2004.

Student: Lakeyta Bonnette (2004)
Faculty Mentors: Michael Lipscomb, Ph.D., and Jennifer Leigh Disney, Ph.D.
Department: Political Science

This study examines how black females feel about nationalist ideology. The study hypothesizes that younger, urban, black women will accept nationalist views more quickly than older, rural, black women. The predictions were confirmed, by running a regression model using questions from the 1993 National Black Politics Study. The younger a woman is and the larger the city in which she lives, the more accepting she is of nationalist ideas. Michael Dawson completed a similar study in which he examined class status and Black Nationalist ideas, and he learned the younger and poorer one is, the more accepting he is of group autonomy. The weakness of the study is the insufficient supply of a concrete nationalist question for my dependent variable. Although there was not a question, an index was created to answer how black females feel about nationalist ideas.

THE ECONOMIC SPIRAL OF SILENCE: A MODEL FOR EVALUATING CLASS CLEAVAGES

Presented at the 2004 South Carolina Political Science Association Conference, February 21, 2004.

Student: John Cryderman (2004)
Faculty Mentors: Jennifer Leigh Disney, Ph.D., and Scott Huffmon, Ph.D.
Department of Political Science

On both a global and state level, the world in which we live is marked by huge income and power gaps between the rich and poor. These gaps tend to create pyramidal socio-political-economic system structures that perpetuate, and in some cases, expand the gap between the haves and have-nots. The question we are forced to ask is why this system continues to exist in a world with abundant resources, and why there is little ground swell to overcome this system of control.

In this paper, I will argue that Noelle-Neumann's conceptual model of the Spiral of Silence, modified by the Downsian costs of participation and conceptions of political and economic sophistication, creates a foundation to explain why class cleavages exist in society. Furthermore, I add public opinion literature to this model to explain why the silence perpetuates itself in the long term by discussing the gap between the rich and the poor in regards to political sophistication that is used to perpetuate the pyramidal establishment within society.

THE NEGATIVE EFFECTS OF THE NORTH AMERICAN FREE TRADE AGREEMENT (NAFTA) ON MEXICO

Presented at the 2004 South Carolina Political Science Association Conference, February 21, 2004.

Student: Matthew Sutherland (2004)
Faculty Mentor: Jennifer Leigh Disney, Ph.D.
Department of Political Science

This paper examines the negative effects the North American Free Trade Agreement (NAFTA) has had on Mexico. The myriad of negative effects of NAFTA on Mexico is a direct result of two preliminary factors. The first is the growth of global trade and regional trading blocs since World War II. Also, the economic downturn that struck Mexico in the 1980's forced President Salinas to seek aid from the International Monetary Fund and their structural adjustment policies, which sets up for NAFTA. Since its 1994 activation, Mexican farmers, workers,

and citizens have suffered. Multi-national corporations have violated worker rights and environmental standards for American profit in general. Furthermore, the Chiapas Zapatista movement has been fighting against NAFTA since its beginnings. Overall, the inherent greed of capitalism has caused NAFTA to have a detrimental effect on the Mexican people and economy.

THE WORLD TRADE ORGANIZATION: HOW EVIL IS IT REALLY?

Presented at the 2004 South Carolina Political Science Association Conference, February 21, 2004.

Student: Glynda J. Daniels (2004)
Faculty Mentor: Jennifer Leigh Disney, Ph.D.
Department of Political Science

The World Trade Organization is a highly controversial entity today. It sets the standards for what and how we trade with most other countries around the world. What exactly is the World Trade Organization? How was it created? Who makes the rules? Why is it so controversial? This paper explores the World Trade Organization: its history, structure, and policies. The policies that make the WTO so notorious are also examined. In this paper, I make a critical analysis of the policies of the WTO, as well as investigate how these policies are meant for good. I ultimately assert that the intentions behind the WTO are good, but upon implementation, the WTO actions are fatally flawed.

WHAT WOMEN WANT: ATTRIBUTES VALUED IN MALE AND FEMALE FRIENDS.

Donna Webster Nelson, Holly Sullivan, and Roger Baumgarte.

Presented at the Southeastern Psychological Association Conference in Atlanta, 2004.

Student: Holly Sullivan (2004)
Faculty Mentors: Donna Webster Nelson, Ph. D., & Roger Baumgarte, Ph. D.
Department of Psychology

Relatively little research has examined why some women prefer the friendship of males to the friendship of females. This study was designed to explore the qualities valued in male and female friends by women who prefer either males or females as close friends. Respondents filled out open-ended surveys listing characteristics valued in their male and female friendships. Responses were coded by two independent raters with sufficient inter-rater

reliability (89% agreement rate) and placed into categories such as agreeableness, closeness, trust and fun. Inspection of the frequencies indicates that qualities perceived and valued in friends varied as a function of the sex of the friend. In general, men were perceived to be more agreeable, trustworthy, and fun and to meet narcissistic needs (i.e., for attention) to a greater degree, while female friends were more often cited as providing empathy and closeness. Women who prefer male friends cited agreeableness and trustworthiness as valued characteristics more often and saw their male friends as more close and helpful than did women who prefer female friends.

TRACKING: UNDERSTANDING SEGREGATION WITHIN AMERICA'S SCHOOL SYSTEMS

Presented at the Southern Regional Honors Conference

Student: Bobbi Gentry (2004)
Mentor: Stephen Smith, Ph.D.
Department of Political Science

Fifty years after *Brown v. Board of Education* the question still arises about the segregation within America today. Has *Brown v. Board of Education* been successful in educating all children when schools still segregate children into separate tracks? School systems throughout the United States participate in a tracking scheme, though differences occur in the methods. Research with race percentages in particular tracks has possible harmful costs to level of education received. This paper takes a closer look at race and tracking within schools and evaluates the tracking classification as another level of segregation within school districts of the South.

ON PEOPLE, POWER AND POLITICS

Presented at the 2004 South Carolina Political Science Association Conference, February 21, 2004.

Student: Manning B. Shaw, III (2004)
Faculty Mentor: Michael Lipscomb, Ph.D.
Department of Political Science

Among attempts to explain our world, the starting point for many remains the discussion over human nature. For sure, few political theorists of the modern and contemporary age have neglected this topic in various attempts to answer the query, "What is politics?" The author's answer, that politics, as human nature, can best be described as a struggle for

power, is derived from a discussion of people and power, which leads to the conclusion that it is precisely human nature that defines politics. Such a condition is characterized by the struggle for power taking place internally, manifesting externally in every individual or collective action.

DESTRUCTIVE CYCLES: NON-TRADITIONAL STUDENTS IN THE WRITING CENTER

Presented at the Southeastern Writing Centers Association Conference, 2004.

Student: Karen E. Jones (2004)
Faculty Mentor: Jane B. Smith, Ph.D.
Department of English

Despite the increasing numbers of non-traditional students participating in higher education, writing centers tend to see only a small percentage of these students. Why do non-traditional students not visit the center as often as traditional students? What can be done to bring them in? A complication to this problem is that tutor training seems to grant little time to this group of learners, and research devoted to the difficulties that non-traditional students face in the writing center is sparse; for example, the idea of generational contrastive rhetoric is only hinted at in Marion Bowl's paper "Experiencing the Barriers: Non-Traditional Students Entering Higher Education," and tutor training only mentions the fear of failure cited by Charlene A. Hirschi, a non-traditional student, in her essay "The Re-Entry Student: On Both Sides of the Table." Tutor education should include information on how non-traditional students differ from the majority of students seen in the writing center, and subsequently, how to tutor these students effectively.

DEATH OF THE GOOD CITIZEN: OBSTACLES YOUNG PEOPLE FACE IN DEVELOPING A POLITICAL IDENTITY

Presented to the South Carolina Psychological Association Conference

Student: Bobbi Gentry (2004)
Mentor: Timothy Daugherty, Ph.D.
Department of Psychology

Many researchers in the field of Political Science question the dwindling civic engagement of young people. Where the answers may lay is in the field of psychology. Young people, ages 18-24, are developing an identity and exploring their roles in

society. At this point in time, they're at a developmental disadvantage, which can hinder their political acquisition. Looking towards developmental scholars such as Erikson and Marcia, I hope to probe the questions of identity acquisition in relationship to political acquisition.

**LEGALITY OF YOUTH VOTING:
UNDERSTANDING YOUTH NONVOTING
THROUGH A CASE STUDY OF WINTHROP
UNIVERSITY STUDENTS**

Presented to the South Carolina Political Science Association

Student: Bobbi Gentry (2004)
Mentor: Scott Huffmon, Ph.D.
Department of Political Science

Understanding the complexities of youth voting leads to a more pragmatic way of looking at a democracy as a whole. In America, the concern over lower levels of civic participation and engagement has caused a stir in modern politics. The dismal statistics for 18-24 year olds in the 2000 presidential election were 32.3% of the eligible voters actually showed up (Scammon et al, 2003). Even though much of the case law on students' rights and voter registration was decided in the 1970's and 80's, problems still occur. By taking a closer look at York County, South Carolina, this study looks at previous cases involving college students and voter registration laws and some of the current obstacles in South Carolina.

**DESIGNING AN UNDERGRADUATE
FORENSIC SCIENCE LAB MODULE**

Presented to the Department of Chemistry, Physics and Geology, Winthrop University April 28, 2004

Student: Laura Herman (2004)
Faculty Mentor: T. Christian Grattan, Ph.D, and Cliff Calloway, Ph.D.
Department of Chemistry, Physics, and Geology

The goal of this research is to design an undergraduate laboratory experiment emphasizing forensic science. The lab will focus on Luminol's use in identifying blood residue at a crime scene. Initially, the luminol and two other derivatives were synthesized following literature procedures. Once prepared, these molecules were analyzed to evaluate the efficiency of the luminescence as compared with the luminol standard. Once the most effective luminescence was decided upon we sought to determine the accuracy of blood determination. This

determination was made using fluorimeter absorbance measurements as compared with literature values. We determined that luminol was in fact the most effective luminescent molecule and conclusively identified the blood residue over other interferences.

**SYNTHESIS AND PURIFICATION OF
DILAZEP, A NUCLEOSIDE TRANSPORT
INHIBITOR**

Presented to the Department of Chemistry, Physics and Geology, Winthrop University December 2003

Student: Antuan Herriott (2003)
Faculty Mentor: T. Christian Grattan, Ph.D.
Department of Chemistry, Physics, and Geology

Dilazep, a nucleoside transport inhibitor, is involved in the prevention of cancer growth and treatment effectiveness in the human body. The nucleoside transport inhibitors, NTIs, are able to block transporting proteins by preventing the extracellular nucleosides from entering the cell thereby enhancing the effectiveness of the treatment to the cancer cell and preventing uncontrollable growth. Our project focused on the synthesis of dilazep and its derivatives to explore increased effectiveness of cancer-related treatments. Once synthesized, these derivatives will be evaluated by collaborators to determine the change in effectiveness *in vitro* and *in vivo*. These results will be used to synthesize other derivatives in an attempt to maximize the drug's ability.

**WHEN IGNORANCE IS BLISS: HONEST
QUESTIONS AND THE AUTHORITY OF
WRITING CENTER CLIENTS**

Jeffords, K. Presented at the Southeastern Writing Centers Association Conference, 2004.

Student: Kristin E. Jeffords (2005)
Faculty Mentor: Jane B. Smith, Ph.D.
Department of English

The nationwide push toward greater occupational specificity requires universities and colleges to provide more specialized training. Some critics suggest that centers respond by providing specialist tutoring. While in many cases this method is effective, not all writing centers have the budget or staff diversity to facilitate it. In addition, since every client's needs are different, both generalist and specialist tutors may still encounter unfamiliar territory. Ignorance of content need not hinder tutorials, however, but can serve instead to make

sessions more client-centered and clients more thoughtful and self-critical. The use of “honest” questions, rather than only “designed,” or leading questions, places authority on the client. While allowing the client to be an expert in the field, a tutor should strive to be an expert writer, gaining exposure to as many different forms as is possible. Academic harmony occurs when the tutor better acquaints the client with writing, and the client educates the tutor about a particular subject matter. Case studies and surveys of Winthrop University tutors indicate that despite some initial trepidation, “honest question” sessions are both collaborative and beneficial.

PLATO, NIETZSCHE, FOUCAULT, AND A FEMINIST CONCEPTION OF THE BODY

Presented at the 2004 South Carolina Political Science Association Conference, February 21, 2004.

Student: Catherine Luepkes (2004)
Faculty Mentor: Michael Lipscomb, Ph.D., and
Jennifer Leigh Disney, Ph.D.
Department of Political Science

Thinness is established in white Western society as being an attribute of beauty. This is problematic because it not only forces a criterion on women leading to such diseases as Anorexia Nervosa but it also homogenizes race, sex, and class. It reveals a gendered culture that needs to be dissected. What can be the approaches to this dissection? Can a comparison be drawn between the Platonic notion of the form and the female beauty standard of thinness that has been imposed on women historically? What role does Nietzsche's deconstruction of Plato's realm of the forms play in cultivating a critique on thinness as a component of beauty within society? How has thinness as a beauty ideal wedged a gap between the perception of the female body and the reality of the female body? How does the form manifest itself within the intersectional subject analyzing race, ethnicity, and socioeconomic status? Is thinness a normalizing institution for the female subject, and what are the possible socio-political and economic objectives for preserving the female beauty standard of thinness?

By utilizing the theorists Susan Bordo, Elizabeth Grosz, Judith Butler, and Michel Foucault, this paper intends to draw similarities between the beauty standard of thinness that can be associated with perfection and the Platonic form which insinuates a certain identity that the framework of Nietzsche and the lineage of Nietzschean thought have challenged. However, in that same lineage, it can be shown that

women have agency as a subject to re-form images of the female body. It is out of this exploration that feminist theory has displayed that out of a specific situation women have been able to cultivate a standpoint. Within the example of body image, standpoint is important if women are going to try to reclaim the language that can alienate the subject. The standpoint is necessary because it questions the role of personal identity and the longing for group solidarity. It also explores tensions within the feminist "we" that work to preserve differences and find a common political ground.

IMPROVING FEEDBACK IN THE WRITING CENTER: CREATING A TUTOR EVALUATION FORM

Sims, R.
Presented at the Southeastern Writing Centers Association Conference, 2004.

Student: Rebecca Sims (2004)
Faculty Mentor: Jane B. Smith, Ph.D.
Department of English

After completing a tutorial, tutors may wonder how successful the session was. Did the writer learn strategies he or she will be able to use in the future? Did the writer feel the tutor took too much control of the paper? Writers seem reluctant to verbalize their answers to these questions. This lack of client feedback is significant because in order for tutors to improve their tutoring skills, they need to know in what areas they are effective or ineffective from the perspective of their clients. The evaluation forms currently used in many writing centers tend to focus on the overall effectiveness of the center, not on the tutors' performances. Because of the importance of client feedback about tutors and the lack of effective evaluation forms, there is a need for a well-designed tutor evaluation form. The tutor evaluation form I have designed is a formative evaluation; its goal is to help tutors see where they need improvement. The form is intended to be read only by the tutor. The evaluation is also atomistic; it looks at several different aspects of tutoring: tutor attitude, tutor involvement, tutor strategies, and the effectiveness of the strategies. The detailed questions and answer choices allow tutors to receive specific feedback about their effectiveness or ineffectiveness from an important source: the writers who seek help.

REGULAR CUSTOMER OR ONE-TIME SHOPPER? AN EXAMINATION OF WRITING CENTER USAGE PRACTICES AT WINTHROP UNIVERSITY Evans, M.

Presented at the Southeastern Writing Centers Association Conference, 2004.

Student: Mark T. Evans

Faculty Mentor: Jane B. Smith, Ph.D.

Department of English

This paper will examine the benefits and drawbacks of “long-term tutoring,” which is characterized by repeat visits with the same tutor as opposed to a one-time or otherwise ephemeral collaboration. The familiarity that develops between tutors and tutees during long-term tutoring can be favorable. As the two participants become mutually comfortable with one another, sessions become more productive; the writer takes a more active role in negotiating the tutorial and his or her concerns are brought to the forefront. In addition, the tutor is already aware of the writer’s strengths and weaknesses. Conversely, long-term tutoring can prove to be counterproductive. As a tutor becomes habituated in dealing with certain issues, he or she becomes inclined to overlook problems that might have been noticed by a tutor who is unfamiliar with the writer. Long-term tutoring can also lead to dependency. Through interviews with tutors and clients of the Winthrop University Writing Center, examination of the Center’s records, and analysis of tutorial transcripts, two central questions shall be answered: what creates the “drop in” atmosphere at Winthrop University, and should the Center work to encourage long-term tutoring?

WE, THE PEOPLE, CHOOSE CHOICE: A LOOK AT THE INJUSTICES ASSOCIATED WITH AGRICULTURAL SEED PATENTING AND GENETIC MODIFICATION

Presented at the 2004 South Carolina Political Science Association Conference, February 21, 2004.

Student: Bethany Waggoner (2004)

Faculty Mentor: Jennifer Leigh Disney, Ph.D.

Department of Political Science

The right to life: we declare it to be unalienable. That is, we the people of the United States of America declared in 1776 that we believe life is the most basic and unalterable right which can be given to a human being. Therefore, the ability to choose life is a highly contested issue in this nation, whether the topic is abortion or assisted suicide, because its value is so great. But evidently, where the real world begins, that

right ends. And so does the right to pursue a happy life, one where the freedom to support oneself in an appropriate manner is never in question.

If we look beyond the words of our nation's founding creed, we see a different world, a world that is oppressed and held under a sovereignty, which has not been accepted willingly. From India to Brazil, the right to choose *how* life is lived is quickly being taken away. Cultures are being replaced by capitalism and diversity by monotheism. Power is no longer held by men so much as corporations. And economic policy is now the driving force behind political success. This paper explores the political, economic, social, and cultural aspects of the genetically modified food industry. It explores the powers of the central MNCs in the global market, as well as the indigenous acts of resistance occurring to challenge such practices as seed patenting and self-terminating seeds.

OTHER STUDENT-FACULTY COLLABORATIONS

THE WILLIAM CULP/WINTHROP UNIVERSITY ORAL HISTORY PROJECT

Student: Whitney Carter (2005)
Faculty Mentor: Rory T. Cornish, Ph.D.
Department of History
Project Director: Lee Miller
Department of Chemistry, Physics, and Geology

For nearly fifty years Mr. William Culp worked at Winthrop College/University and every building on campus was at one time under his care as Assistant Vice President for Renovations and Special Projects. In these years following the Second World War Winthrop underwent not only many physical changes, but also many academic and social changes including the first African-American woman to be enrolled in 1964, to the beginning of co-education in 1972. During the fall 2003 semester Ms. Carter, a psychology major, interviewed Mr. Culp upon the physical development of the campus as well as his own personal reflections on this period. Their conversations were taped and then transcribed for the new Culp Archive to be deposited in the Dacus Library. This ongoing project, it is hoped, will constitute an important body of information for future researchers into the history and development of Winthrop University.

During the spring semester 2004, Ms. Carter widened the scope of her research to complete an academic paper on the wider Winthrop/Rock Hill community during the 1950's to the 1970's. Written for History 550, Special Topics in History, her research, based upon primary source newspapers and periodicals, as well as the work of secondary authors such as Ross A. Webb, Lynn Willoughby, and Walter Edgar, will explore the local impact social change, especially the women's movement and the civil rights movement, had on our local community. It is hoped that this paper will be presented at the South Carolina Historical Association Conference, March 2005.

BRIEF HISTORY OF SURVEY RESEARCH IN EUROPE & THE U.S. AND A REVIEW OF LITERATURE REGARDING "FINE GRAINED" PUBLIC OPINION SURVEY RESEARCH IN THE U.S. FROM 1980 TO 2000 (2004) Bramlitt, J., Dezendorf, P., and Huffman, S.

Student: John Bramlitt (2004)
Faculty Mentors: Paul Dezendorf, Ph.D., Scott Huffman, Ph.D.
Departments of Social Work and Political Science

There is a growing use of "fine-grained" public opinion research studies to inform local governments, not-for-profit organizations, and other groups concerned with less-than-county size geographic areas. This research was performed to help explain the use of public opinion surveys to prospective clients of the Winthrop University Social and Behavioral Research Laboratory. This work also serves as the first step in the "Social and Behavioral Research Laboratory Archive Project" funded by the Winthrop University Research Council 2004-2005

PREVALENCE, TREATMENT, AND CONTROL OF HYPERTENSION AMONG AFRICAN-AMERICANS AND CAUCASIANS AT PRIMARY CARE SITES FOR MEDICALLY UNDERSERVED PATIENTS Nina Sheats, Yan Lin, Wenle Zhao, DeAnna E. Cheek, Brent M. Egan

Student: Nina Sheats (2004)
Mentor: Brent M. Egan, MD
Medical University of South Carolina

Hypertension is a major contributor to ethnic disparities in cardiovascular disease. Health disparities are magnified in the Southeastern U.S., particularly for low-income African Americans living in rural areas. To assess ethnic differences in the prevalence, treatment and control of hypertension in clinics for medically underserved patients living mainly in rural South Carolina. A random sample of outpatient charts (~5%) on adults was abstracted from 20 primary care clinics providing healthcare for ~80,000 medically underserved patients. Data included dates of visits, blood pressures, diagnoses of hypertension and related cardiovascular risk factors and complications, and medications. Data were abstracted on 2481 African Americans and 2010 Caucasians. The prevalence of hypertension was greater in African Americans than Caucasians (46.4% vs 30.7%, $p < 0.001$), and these differences remained significant in young (<35), middle-age (35-50), and older (>50 years) adults. The percentages of African

Americans and Caucasians receiving antihypertensive medications were similar (85.5% vs 83.5%) as were rates at which hypertension was controlled to <140/90 mmHg on the last clinic visit (25.7% vs 25.0%). African Americans were more likely ($p < 0.05$) to receive, angiotensin receptor blockers, dihydropyridine calcium channel blockers and diuretics than Caucasians, whereas Caucasians were more likely to receive α_1 - and β -blockers. In these healthcare settings for medically underserved patients, the greater prevalence and possibly earlier onset of hypertension contribute to higher rates of cardiovascular disease among African Americans than Caucasians, whereas differences in hypertension treatment and control do not appear to foster these health disparities.

CONGAREE SWAMP NATIONAL MONUMENT: A TERRITORIAL APPLICATION OF SUSTAINABILITY

Presented as a Module for GEOG 500, Global Environment and Sustainable Development, Fall 2003

Student: Alexander W. Gregg, 2005
Faculty Advisor: Mabaye Dia, Ph.D.
Geography Program/Department of Human Nutrition

The purpose of our research is to illustrate a framework within the concept of sustainability for viewing man and nature relationships associated with Congaree Swamp National Monument. The framework proposed is a very simplified picture of a more complex and deeper system. Our research is part of a field-laboratory of natural resource sustainable use at Congaree Swamp National Monument. This is a module of the geography course GEOG 500, entitled Global Environment and Sustainable Development. Our research begins with knowing where Congaree Swamp National Monument is located. More importantly, it examines why this Monument is located where it is; how this Monument influences our lives – especially those of visitors to the Monument and of people living in the surrounding area; and how we in turn affect the ecological health of the Monument. As results, our research affirms that several factors, such as knowledge of local people, socioeconomic context and modern techniques, influence differently the sustainability of renewable natural resources. Our research provides a better explanation of the complex relationships Congaree Swamp National Monument has in local, national, international, and global contexts. It concludes that sustainability requires reconciling the long-term vision of national and

international interests in protection of natural resources and the short-term needs of local communities.

PROMOTING POLITICAL ACTIVISM AT WINTHROP UNIVERSITY

Student: Tyler Dumas (2004)
Faculty Mentor: Gerry Derksen, Department of Visual Communication Design;
Jennifer Leigh Disney, Ph.D., Department of Political Science

Much has been said of the apathy of college students today, but little has been done to encourage their participation, especially from those among their ranks. A majority of college students are preoccupied with more immediate concerns and fail to see how politics can affect them directly or how they can have an influence in political decisions. This project is to launch a student-run political activism newspaper, entitled "Active Campus", to encourage free thought and free discussion about issues that are not incorporated into the mainstream media. Mainstream media is the only contact point most college students have with national or international issues. Through the omission of several key issues in the mainstream media, these issues cease to exist, despite their importance or relevance to the college student. By showing the power the individual can have in transforming their political environment, I hope to encourage students to become informed and active participants in the world around them.

"Active Campus" is designed, through drawing, collage, and handwritten type, to look personal and passionate. The project, newspaper content, and design elements chosen were inspired by several acts of civil disobedience and other unique forms of protest. One of the purposes of this project is to assess the effect of "Active Campus" on the student body at Winthrop by measuring student feedback to a forum that aggressively promotes political discussion and involvement. Interest will be measured through feedback from an open-ended questionnaire and submissions to the newspaper. By raising awareness among Winthrop students, they will hopefully become actively involved in questioning issues and shaping events, and thus, "become the change they wish to see in the world."

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